

## Perspective

## Understanding hope and what it means for the future of conservation

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## ABSTRACT

Academic papers and media commentaries frequently appeal to hope as a necessary bulwark against despair for the conservation community. Such claims are often made in the absence of a rigorous discussion of the nature of hope. In this review, we investigate the importance of hope as it applies to conservation workers, educators, and others involved in environmental protection. We define hope in its many dimensions, ask whether having hope is necessary to motivate people to engage in environmental action, and inquire whether hope can be revived or reframed when conservation actions fail. Hope is a multi-faceted emotional state or motivational attitude with many subtypes, including authentic (or active), passive, false, and radical hopes. The conservation literature generally refers to active hope, although the type of hope considered is often left unstated. Whether hope leads to environmental engagement or action depends on many factors, including goal orientation and feasibility, societal and personal norms, personality traits, and group identity. Organizational attributes like leadership, consistent vision, and interpersonal communication affect the experience of hope among conservation practitioners, environmental educators, and the public. Grief and hopelessness are frequently part of the “emotional labour” of conservation and environmental work, but these may be buffered by a sense of agency and feasible objectives, which encourage authentic hope. Although there has been progress in understanding the role of hope in conservation, conservation communities can continue to learn from the rich body of psychological theory and practice that has been used to study hope in other fields.

## 1. Introduction

Hope seems to be everywhere these days. Hope has been listed as a “top ten positive emotion” (Henley, 2017) and is suggested to be critical to human survival (Cohen-Chen et al., 2017). Individually and collectively, we hope for all sorts of things. On any given day we may hope for good weather, for peace in the Middle East, for favoured candidates to win elections, or for successful collective action to limit climate change. Within the conservation community, hope has been described as a necessary bulwark against the despair that many feel over the current state of the environment (Kelsey and Armstrong, 2012; Swaisgood and Sheppard, 2010). Narratives of hope suggest that hope “is the elixir action” (Morton, 2017), while hopelessness will paralyze people into inaction on conservation and environmental issues (Hance, 2016b) or even become “a driver of extinction” (Balmford and Knowlton, 2017).

Assertions about the benefits of hope have generated vigorous (if sporadic) debate within the conservation biology community (Lidicker,

2011; Ogden, 2016; Orr, 2004; Patten and Smith-Patten, 2011; Swaisgood and Sheppard, 2011; Swaisgood and Sheppard, 2010), but until recently, have been subjected to little empirical investigation. In particular, the importance of hope for promoting pro-conservation actions, or for encouraging conservation workers to persist in their work, has been relatively under-investigated (Ogden, 2016). By contrast, the role of hope and hope-related constructs in mobilizing personal action to reduce carbon emissions or support pro-climate policies has been extensively studied by psychologists (Chapman et al., 2017; Gifford, 2011; Hornsey and Fielding, 2016; Mossler et al., 2017; Ojala, 2012). Public message framing that promotes hope about climate solutions is often viewed positively (Myers et al., 2012).

Feeling hopeful does not always translate into individual action (Chapman et al., 2017; Hornsey and Fielding, 2016). For example, “shallow” hope based on over-optimistic appraisals of our climatic future may reduce incentives for taking positive action (Ojala, 2012). Likewise, some environmentalists see shallow hope as a self-deceiving obstacle that actually inhibits environmental action (Kingsnorth, 2010);

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Mattis, 2018). Furthermore, hope may be subverted by the tension that often exists between the provision of basic needs and engaging in pro-environmental behaviour. People faced with extreme poverty may be forced to engage in environmentally unfavourable behaviours to satisfy basic human needs (Sandhu and Sandhu, 2014). Or they may be forced to engage in the unsustainable harvest of a threatened species, even when they know that this behaviour is detrimental to its ultimate survival (Weinbaum et al., 2013). Hope may therefore be undermined when people feel that they are forced to choose between their livelihoods and the environment. Hope may be reclaimed when it is attached to pro-environmental behaviours that favour long-term sustainability. Initiatives like local reforestation schemes rely on local people maintaining the hope that the effort spent replanting trees will be worthwhile, because they will lead to positive outcomes for future generations (Lawlor et al., 2013).

Hope has therefore been burdened with both great expectations and considerable skepticism among conservation workers and environmentalists. But what exactly is hope? Like many terms dissected and analyzed by academics, “hope” often has rather loose, colloquial interpretations among the general public. Hope may be interpreted as a positive state of mind to be contrasted with negative (and undesirable) moods of hopelessness, despair, or cynicism (Govier, 2011; Solnit, 2016). In the conservation literature, hope is often treated as if it were a singular emotional condition (Orr, 2004) and is sometimes conflated with a general sense of optimism (McAfee et al., 2019). By contrast, multiple definitions (Schrank et al., 2008), interpretations (Kretz, 2013), and personality traits (Alarcon et al., 2013) associated with hope are offered by psychology and philosophy. Hope may be seen as an individual attribute, a state of mind, an energy, or even an inner power (Schrank et al., 2008). Hope may spur people to action (Ehrenfeld, 2009; Orr, 2004) or excuse inaction (Schrank et al., 2008).

In this review, we explore the available evidence on the importance of hope among people who are involved in conservation and environmental issues. Our primary focus is on those who have a level of professional involvement in these issues, namely conservation and environmental workers, students, academics, and activists. We also review empirical studies of educators (particularly in the climate sector), volunteers, and financial supporters of conservation-related causes, where such studies illuminate linkages between issues, hope, and actions.

We seek to answer the following questions: 1) What exactly is hope, and can it be distinguished from related emotions and attitudes, such as optimism? 2) Is hope a necessary and sufficient condition to motivate people to engage in environmental action, especially in the realm of conservation? and 3) Can hope among conservation and environment workers be revived or reframed after it has been undermined by significant events (e.g. species extinction or loss of critical habitat)?

## 2. Methods

For the purposes of this review, we use “conservation workers” to signify those who are professionally involved in species conservation and restoration, and “environmentalists” to encompass those engaged in a broader range of activities, including environmental advocacy, environmental education, restoration, and climate change. We have a two-fold justification for this approach. First, there are relatively few peer-reviewed surveys of attitudes among those whose primary aim is species conservation, though there are many more papers dealing with climate change and environmental issues such as recycling. Secondly, leading conservation organizations, such as the World Wildlife Fund and Conservation International have expanded their traditional species conservation programs to incorporate climate change, habitat protection, and social issues into their missions.

We finalized a list of literature to review using WEB of Science Boolean searches for titles that included “hope and conservation”, “hope and environment”, and “hope and environmentalism”. We then

conducted subject searches within a subset of leading conservation journals, using “optimism” in place of “hope”. We also searched “hope and health” and “hope and climate change” to include research areas with longer histories linking attitudes and behaviours (see supplemental file S1 for a more complete description of our literature search). Fig. 1 summarises the results from these searches. Over 150 papers refer to hope or optimism in the context of felt emotions or attitudes, and there is an increasing, albeit uneven trend in the numbers of papers through time. To acquire a more complete understanding of hope and its history, we reviewed the general philosophical and psychological understanding of hope as an emotion or attitude.

## 3. Results

### 3.1. Defining hope

Concepts of hope and its relative value to humanity have changed and proliferated over time. In the classical world, hope was portrayed as a refuge for wishful thinkers, the gullible, and those who underestimate the gravity of their situations (Bloeser and Stahl, 2017). In ancient societies that were high on uncertainty and low on advanced medicines and diplomacy, such a skeptical attitude probably made a lot of sense. Later Christian philosophers thought hope was a virtue that helped to underpin religious belief. These philosophers also introduced the idea that the objective or target of hope, whether an earthly one or the afterlife, had to be uncertain as to its ultimate outcome.

Concepts of hope became more fragmented during the Enlightenment. Some philosophers reiterated the classical model of hope as a delusion. Several thought of it as a “passion,” which could either be rational, irrational or some mixture of both. Hume foreshadowed contemporary accounts of hope when he described it as being produced through contemplation of events whose probability of occurring varied between certainty and impossibility (Bloeser and Stahl, 2017).

This conceptual drift towards thinking of hope as a possibility rather than a delusion became formalized in more recent definitions of hope. The contemporary “standard account” of hope is described as “a wish or desire for an outcome and a belief concerning the outcome’s possibility” (Bloeser and Stahl, 2017). This standard account does not imply any action on the part of individuals, only that they desire the outcome and believe in the finite probability of success, *however small it may be*. This finite probability of success is now a feature of most writing on the subject of hope.

The positive psychology movement has augmented the standard account with the attribute of personal agency, interpreted as having the ability and will to proactively pursue the object of hope. (Snyder, 2002) defines hope as “a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals)”. The combination of a concrete objective, finite probability of success, and personal agency in pursuit of the objective now comprises a generally accepted definition of hope in contemporary psychological and environmental literature (henceforth referred to as “authentic” or “realistic” hope, see Table 1). A variety of qualifiers have been tacked onto this definition – for example, the relative strength of the hope, forestalling negative outcomes (Snyder, 2002), the emotional content of hope (Kretz, 2013), the experience of unsatisfactory baseline conditions (Schrank et al., 2008), and the critical assessment of multiple future possibilities (Downman, 2008). Experimental and correlational psychology studies using self-reported hope indices have associated authentic hope with beneficial outcomes in fields as diverse as athletic performance and psychotherapy (Snyder et al., 2002).

A wide variety of subcategories of hope have proliferated from the general definition of authentic hope outlined by Snyder et al. (2002) and others. One recent review found 49 different definitions of hope in the mental health literature (Schrank et al., 2008). These can, we

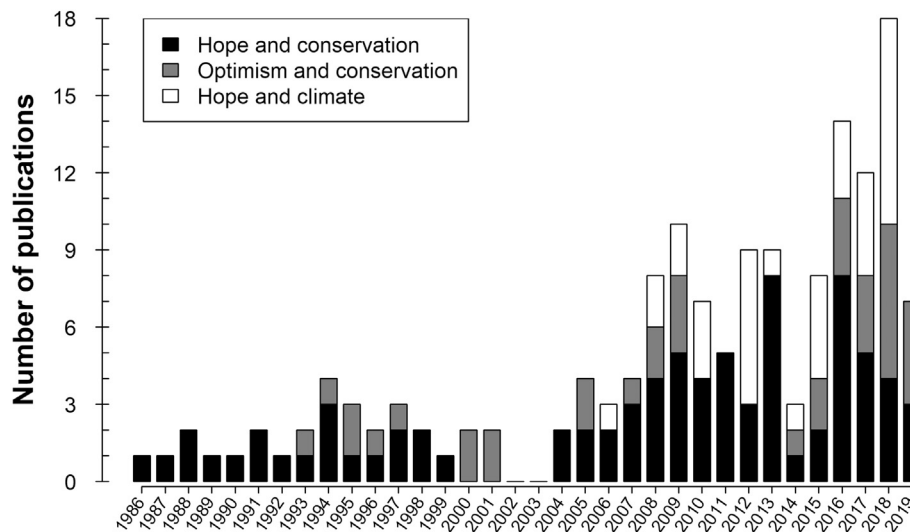


Fig. 1. Numbers of papers from the WEB of Science data base that used combinations of “hope”, “conservation”, “environment”, “environmentalism”, and “health” as search terms.

believe, be reduced to a smaller number of categories that capture common elements from these multiple definitions. In Table 1, we describe these general categories, as well as some of the major conceptual dimensions associated with contemporary definitions of hope and its allied concepts.

### 3.1.1. A taxonomy of hope

Authentic hope differs from optimism (Table 1). Whereas authentic hope emphasizes that a successful outcome has to be possible, even when deemed unlikely, optimism appears to assume that the odds of a successful outcome are a near certainty, or even absolutely certain (Alarcon et al., 2013; Orr, 2007). The objectives of optimism may therefore be rather generalized and vague (beyond the notion that “things will be OK”), while personal agency may play a limited role or no role at all in realizing optimists’ expectations (Alarcon et al., 2013).

Alternative definitions and subcategories of hope can either complement or contrast with the definition of authentic hope (Table 1). Govier (2011) defines passive hope, in which personal agency is either absent or not exercised. Passive hope appears to be related to generalized societal hope and, perhaps, the philosophical concept of radical hope (see Table 1). Radical hope is essentially a “post-apocalyptic hope” in which “virtue” — that is, what is deemed morally desirable — must be redefined in the face of irrevocable change (Thompson, 2010). Faced with intractable baseline conditions, or the certainty of a profoundly unsatisfactory future, radical hope is hope for future revival or redemption, albeit in a form that eludes current conception, and for which no current pathway exists (Kretz, 2013; Lear, 2008). The archetypal example of radical hope may be Plenty Coups, the last principle chief of the Crow Nation. Plenty Coups’s radical hope consisted of leading his people through a period in which the deep Crow traditions of hunting and warriorship were destroyed, and the nation was forced to adapt to an unknown, unimaginable future (Lear, 2008).

Thompson (2010) draws a direct parallel with the example of Plenty Coups by suggesting that future humans will have to redefine what it is to live well on a planet irrevocably altered by climate change. He describes radical hope as an act of pushing back against despair, even “well-justified despair”. An analogous argument to that of radical hope could be seen in David Orr’s addendum to authentic hope, which states that with authentic hope, we will “do the things before us that need to be done ... without worrying whether we will win or lose” (Orr, 2004).

Radical hope resonates with “positive reappraisal”, in which individuals re-evaluate stressful events or negative outcomes as being benign, beneficial, or even presenting opportunities (Barnett, 2018;

Garland et al., 2011; Rand et al., 2011). Both Rand et al. (2011) and Bryan and Cvengros (2011) report that positive reappraisal is more strongly associated with optimism than with hope. Positive reappraisal also accompanies transitions from particularized to generalized hope among family members of cancer patients (Kellas et al., 2017; Wiles et al., 2008). Particularized hope is geared towards specific outcomes, such as the ability of doctors to cure a loved-one’s cancer (Kellas et al., 2017). Generalized hope is a state of mind that can give life meaning, such as the hope for a “good” death, faith in an afterlife, or the graceful acceptance of an inevitable outcome (see also Cunsolo, 2017a, for the relationship of hope to environmental mourning). In palliative care, generalized hope is usually adopted after particularized hopes have been exhausted (Garrard and Wrigley, 2009).

Regardless of how it is conceived, hope cannot be seen in isolation from other personality traits. A meta-analysis of the mental health literature showed that having an internal “locus of control” (a sense of personal agency), religious faith, strong interpersonal relationships, and positive personality traits (e.g. inner strength, health, motivation) were all positively correlated with hope (Schrank et al., 2008). A similar meta-analysis of literature in psychology, social sciences and medicine found strong multivariate relationships among hope, optimism, and several personality traits (Alarcon et al., 2013). In this study, hope and optimism were negatively correlated with stress, depression and negative affect, but positively correlated with positive affect and happiness. Being hopeful, in this study, did not equate with being optimistic. Specifically, correlations between optimism and positive affect, negative affect, and self-esteem were substantially larger than the corresponding correlations (positive or negative) with hope. Negative correlations with stress and positive correlations with happiness were larger for hope than for optimism (see Table 1 for distinctions between hope and optimism).

## 3.2. Hope: a necessary and sufficient condition?

### 3.2.1. Attitudes, norms, identity, and circumstances

Hope, then, is a multifaceted motivational state (Snyder, 2002), whose character and strength covary with personality traits and individual circumstances. Most of the conservation literature neglects these emotional nuances to focus on active (or authentic) hope, treating it as if it were an essential prerequisite to pro-conservation or pro-environmental action (Hance, 2016b; Kretz, 2013; Krupnick and Knowlton, 2017; Orr, 2007).

But is active hope necessary and sufficient for promoting and

**Table 1**  
Dimensions of hope and related emotional attributes.

Hope category	Definition	Primary Citations	Unsatisfactory baseline	A desired outcome	Success possible	Personal agency	Specific, limited outcome	Generalized global outcome	No specific outcome defined	Success certain (or felt to be)	Original objective unattainable	Redefined / New objective
<b>Authentic / realistic / particularized hope</b>	<b>Hope:</b> Positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy), and (b) pathways (planning to meet goals) <b>Authentic hope:</b> acknowledges truth of current reality, but to act proactively to defy or change the odds. <b>Realistic Hope:</b> Scaling objectives to those with a chance of actually be realised. <b>Realistic Hope:</b> Involves assessment of the range of future possibilities and their consequences, perseverance in realizing chosen option, and expectancy. <b>Hope:</b> The emotional means required for action. Justified by potential attainability of objectives, which initiates cycles of expectation, planning, and action. <b>Particularized hope:</b> mentioned specifically in context of palliative care. Here agency, if present, is shared with medical profession.	Snyder, 2002	✓	✓	✓	✓	✓		?			
		Orr, 2007	✓	✓	✓	✓						
		Webb, 2005	✓	✓	✓	?	✓				?	✓
		Downman, 2008		✓	✓	✓	?	?				
		Kretz, 2013		✓	✓	✓	?	?				
		Kellias et al., 2017	✓	✓	?	?	✓					
<b>Ground level, "latent", or generalized hope (potentially conflated with optimism)</b>	<b>Latent hope:</b> resilience to overcome disappointment when hope objectives not achievable <b>Hope:</b> "Willing what we care for to come to pass". Latent because objectives may be unattainable but overlaps with authentic because "willing" implies proactivity. <b>Positive reappraisal:</b> an effective coping mechanism when desired outcome not achieved (but related by author to optimism). <b>Hope:</b> A life affirming coping mechanism, which gives meaning and protects against despair. <b>Hope for an (often generalized) outcome (e.g. solve global</b>	Govier, 2011, see also positive reappraisal (Rand et al., 2011) Webb, 2005		✓	✓	?	✓	?			✓	✓
		Rand et al., 2011		✓	?	✓	✓				✓	✓
		Kellias et al., 2017, Lazarus, 1999.			?	?		?	✓			
<b>Passive hope (also called generalized hope,</b>	<b>Hope for an (often generalized) outcome (e.g. solve global</b>	Govier, 2011	✓	✓				✓				

(continued on next page)

Table 1 (continued)

Hope category	Definition	Primary Citations	Unsatisfactory baseline	A desired outcome	Success possible	Personal agency	Specific, limited outcome	Generalized global outcome	No specific outcome defined	Success certain (or felt to be)	Original objective unattainable	Redefined / New objective
<b>societal hope, and absolute hope</b>	warming) in absence of individual agency. Specifically opposed to despair.		✓	✓				?			✓	
	<b>Hope:</b> Longing for an imaginary future over which you have no agency	Jensen, 2006										
	<b>Societal hope:</b> A generalized hope in an outcome that exists outside the individual (e.g. The American Dream)	Govier, 2011		✓		?		✓				
<b>Radical Hope: Hope lacking a specific or general object</b>	<b>Absolute hope:</b> Unconditional hope in face of the inevitable. A specific objective or expectation is excluded	Reviewed in Garrard and Wrigley, 2009				?			✓			
	<b>Radical hope:</b> Sense of a future in which "something good will emerge"	Lear, 2008 (94)	✓			?					✓	
<b>Optimism: a state overlapping with hope but not redundant to it (Alarcon et al., 2013)</b>	<b>Radical hope:</b> A commitment against (what may be) justifiable despair	Thompson, 2010	✓			?					✓	✓
	<b>Optimism:</b> A generalized expectation for future outcome without regard to personal control	Rand et al., 2011		✓		X		✓		✓		
	<b>Optimism:</b> Belief that the odds are in your favour (success more probable than not or even certain)	Orr, 2007, Alarcon et al., 2013			✓			✓		✓		
<b>False Hope/ Fake Hope</b>	<b>False hope:</b> Expectations and response strategies based on illusions rather than reality, inappropriate goals, or poor strategies used to pursue goals.	Snyder et al., 2002 (review), Kingsnorth, 2010, Jensen, 2006, Kellas et al., 2017	?	✓	X	✓	?	?	?		✓	

eliciting action? Progress on pressing environmental issues necessitates action and commitment at different scales and across domains of action. Individual and collective action, policy initiatives (Zelezny et al., 1999), and cross-disciplinary collaboration (Gifford, 2011; Zelezny and Schultz, 2000) are all needed for conservation to succeed. The actual actions of conservation and environmental workers must take place in and balance the different demands of these arenas.

A variety of theoretical approaches have been deployed to further our understanding of factors that influence or limit environmental action. For example, appraisal theories of emotion seek to understand how individuals appraise and filter emotional stimuli in relation to their motives, goals, wants, and needs, and have been used to investigate the effects of climate message framing on hope (Chadwick, 2015). In one application of appraisal theory, Chadwick (2015) tested the effects of weak and strong appeals to hope among undergraduate students. Each message had four components that targeted four dimensions of hope: consistency of future outcomes with goals, relative probability of the desired outcome, the relative importance of a goal, and achievement of a better future (if the goal is attained). These components were combined factorially to test each combination of strong and weak appraisal. A global analysis found that strong hope appeals were significantly more motivating than weak ones (see, Chadwick, 2010, Appendix U). Of the four dimensions of hope identified by this author, only strong future expectations (that protecting the climate would greatly improve the future) significantly predicted undergraduates' hopes for the future.

In a similar vein, the Theory of Planned Behaviour (Ajzen, 1991; Ajzen, 2011) is used to explore links between attitudes, norms (behavioural and social), and subjective perceptions of personal control over a given pro-environmental behaviour (i.e., locus of control). Although it does not directly address hope, the Theory of Planned Behaviour (TPB) has been used to investigate links between attitudes, self-identity, and pro-environmental actions, which potentially influence the experience of hope. Studies that use TPB framework show that, on their own, attitudes are poor predictors of pro-conservation behaviour. Normative beliefs (whether societal or personal) are more important than attitudes in predicting behaviours ranging from farmers' adoption of forestry practices to public adherence to speed limits in manatee protection zones (reviewed in, St John et al., 2010). Among undergraduates at a sustainability conference, self-identification as an activist and activist group membership were stronger predictors of participants' intentions to take part in future activism than general (positive or negative) attitudes to activism (Fielding et al., 2008).

Recent literature on conservation leadership acknowledges the importance of personal agency, goal directed action, and establishing future expectations for workers in conservation organizations. The importance of establishing a vision that can be realised is emphasized by several sources (Bruyere, 2015; Saul, 2018; Black, 2019), and this can therefore be related to those aspects of hope that relate to goal-realization. Bruyere (2015) makes the vision-goal-hope connection explicit in this quote from a conservation worker who described his supervisor's vision: "He would remind me ... that there's this mountain goat that someday will have big herds that roam these mountains again ... He made us believe these dreams could someday be true." As important as vision may be, Saul (2018) concluded, based on interviews with 116 Canadian environmentalists, that many environmental organizations lack a unifying vision around which such forward looking hopes could coalesce.

In part, the lack of shared vision observed by Saul (2018) reflects an anthropocentric to ecocentric spectrum of attitudes. Environmentalists and conservation workers differ in their approaches and in the philosophies they adopt. But even the most frequently mentioned goal, namely human survival, generated internal tensions for some respondents, who felt that such talk "trafficked in catastrophe." Perhaps significantly, the one word that none of the 116 respondents to Saul's (2018) survey mentioned was "hope".

Although expressions of hope may be imperfect predictors of

environmental action, hope can act as both a mediator *and* product of pro-environmental behaviour. Pro-environmental behaviour is influenced by a panoply of personal and social factors in addition to authentic hope. These factors include life goals, personality traits, self-construal, sense of responsibility, cognitive biases, place attachment, personal and cultural values, proximity to degraded environments, childhood experience, age, gender, religion, urban or rural location, social class, and cultural/ethnic identity (Gifford and Nilsson, 2014; Vannelli et al., 2019). For those who work in conservation and environmental organizations, clear vision, inspirational leadership, and being empowered or educated to address difficult conservation issues (see Section 3.3 below) also seem to encourage hope.

### 3.2.2. The importance of framing

The public's adoption of pro-environmental behaviours is affected by message framing. Whether initiatives are presented in weak or strong frames (e.g. Chadwick, 2015) or are seen as positive versus negative (or sacrificial) may modulate subjective feelings of hope and subsequent action. Positive framing of climate mitigation actions (e.g. taking public transport or composting) improves perceived competence (ability to act), intention to act, and engagement in climate mitigation compared to a sacrificial frame (e.g. having less money, driving less), (Gifford and Comeau, 2011). By contrast, decisions framed as dichotomous choices (sacrifices versus gains), may oversimplify the inevitable trade-offs and compromises between gains and sacrifices that characterize the real world. A more realistic framing strategy would acknowledge that living sustainably involves both sacrifices and rewards, and will require us to make choices between desired ends (Hall, 2013). Under this scenario, authentic hope would be encouraged by the realization that current sacrifices (e.g. adopting a low carbon lifestyle or reforestation a watershed) will be balanced by long-term, collective gains flowing from the sacrifice (e.g. mitigating climate change or stabilizing soils and water supply).

Feeling hopeful in the absence of motivation, agency or vision can discourage action. Messaging designed to provoke anxiety about carbon emissions elicited greater motivation for collective social action among adults from the USA, UK and Australia than hopeful messages emphasizing recent reductions in emissions intensity (Hornsey and Fielding, 2016). A hopeful message frame encouraged complacency about the relative seriousness of climate change, a state of mind we could relate to passive hope (Table 1). Similarly, young Swedes, whose hopes for finding climate solutions were based on selective attention to positive climate news, were unlikely to engage in pro-climate environmental behaviour. By contrast, those with "constructive" hope, based on positive personal attributes of altruism, environmental knowledge, and biospheric values encouraged pro-environmental behaviour (Ojala, 2012). The induction of complacency by hopeful messaging is also consistent with optimism bias: the tendency to discount personal and environmental risks while believing in technological salvation (Gifford, 2011).

### 3.2.3. The perils of false hope

Thus far in our review, we have focused on authentic hope, its defining attributes, and whether or not it is essential to environmental action. But authentic hope has a dark mirror image, namely false hope, which is characterized by inappropriate (unattainable) goals, illusory future expectation, and poorly thought out action strategies (Snyder et al., 2002).

High profile environmentalists have written extensively on false hope in blogs and grey literature, and inveigh against what they see as its negative consequences for conservation (Jensen, 2006; Kingsnorth, 2010). By contrast, discussions of false hope are quite rare in the academic literatures reviewed here. Orr (2004) sidesteps the issue of false hope after eschewing techno-optimism and 'gloomy' realism alike. Webb (2005) addresses the issue directly by alluding to false hopes of arresting tropical deforestation in his commentary on widespread land

conversion in Indonesia. In a critique of Swaisgood and Sheppard (2010), Patten and Smith-Patten (2011) suggest that "... if spreading hope becomes the new mission, let us not overdo it. False hope is worse than no hope." Swaisgood and Sheppard (2011) counter this viewpoint by enjoining conservation biologists to adopt a glass-as-half-full attitude. More explicitly, McAfee et al. (2019) suggest conservation workers need to "strike a balance" between unrealistic optimism and realistic appraisal, because optimism unfiltered by realism risks "setting up an audience for disappointment."

Some psychologists debate whether false hope exists, and deny that "high hope" people engage in the type of reality distortions implied by accounts of false hope (Snyder et al., 2002). In their view, false hope is simply hope in which goals are poorly chosen or too big (Snyder, 2002). However, analyses of false hope among terminally ill patients (Garrard and Wrigley, 2009; Ow and Woo, 2004; Pattison and Lee, 2011) and their families (Kellas et al., 2017) strongly support both the reality and negative consequences of false hope. Particularized hopes (e.g. for a cure or therapy) communicated by medical professionals, family members, and even among patients, are sometimes false hopes. In terminal patients, particularized hopes (e.g. for a cure or therapy) may inflate a very small probability of a cure to appear much greater than it actually is (Garrard and Wrigley, 2009). Such false hope may be accompanied and reinforced by denial and even 'faking' hope for the sake of loved ones (Kellas et al., 2017). Being encouraged to entertain such irrational hopes can place intolerable pressure on patients who do not entertain them. Barbara Ehrenreich rails against false hope as a cult of positivity in cancer treatment, that marginalizes and isolates sufferers who refuse to sign on to the hope 'agenda' (Ehrenreich, 2007).

Some environmentalists, notably Paul Kingsnorth and Derek Jensen, are unable to see the conservation glass as half full. To them, most hope as false hope, and characterize false hope as both naïve and mired in the system justification of current politics. Kingsnorth describes his environmentalist colleagues as wanting to hear that, "though things are bad, there is still hope, if we act now" (Kingsnorth, 2010). Kingsnorth's response to this message mirrors the comments of Patten and Smith-Patten (2011): "... false hope is worse than no hope, and false hope is precisely what we are dealing with here". Derek Jensen is even more explicit. After a blanket condemnation of hope as the passive "longing for an imaginary future over which you have no agency", he gives it a political twist: Hope, he says "... is nothing more than a secular way of keeping us in line". In this interpretation, false hope does not merely encourage complacency, it is a necessary component of maintaining a destructive political status quo (Jensen, 2006).

Both Kingsnorth and Jensen see giving up on false hope as a path to liberated action rather than a road to despair. To Jensen, hope is an impediment to action. By letting go of false hope, "... when we stop hoping the situation will somehow not get worse, then we are finally free — truly free — to honestly start working to resolve it." Jensen also sees false hope as a barrier to feeling the full range of human emotions that are appropriate to ecological crises. Such barriers, in his view, promote passivity: "Many people are afraid to feel despair," fearing "... that if they allow themselves to perceive how desperate things are, they may be forced to do something about it."

Others have picked up this train of reasoning. The slogan of the activist group Extinction Rebellion's is "Hope dies, action begins" (Ehrenreich, 2019). Greta Thunberg told the World Economic Forum: "I don't want you to be hopeful. I want you to panic" (Hood, 2019). Reflecting this view that cold reality, not false hope leads to action, Mattis (2018) wrote "All those I know who are truly despairing about the environmental situation are the same people who are doing the most about it." Further, the anecdotal evidence for despair leading to action echoes Hornsey and Fielding's (2016) and Ojala's (2012) findings that greater worry correlates with pro-environmental actions. The prevailing view, however, continues to be that worry and despair are negative emotional states that have to be managed for conservation to be effective (see Section 3.3).

### 3.3. Can hope be revived or reframed?

Given the scale and urgency of climate change, biodiversity loss, and a host of other environmental challenges, it is hardly surprising that conservation workers and the concerned public might lose hope, become pessimistic, and even grieve (Gordon et al., 2019; Hance, 2016b; McAfee et al., 2019; Morton, 2017; Swaisgood and Sheppard, 2010). As summarized in Section 3.2.1, we expect that normative beliefs, personality traits, and future expectation would modulate people's responses to bad news. At an organizational level, group membership, vision, and leadership also play important roles in building resilience to ongoing environmental challenges.

Fraser and coworkers used surveys and individual interviews to survey attitudes to environmental and climate challenges among professional conservationists and climate educators. Among conservationists, daily exposure to evidence of environmental degradation led to elevated levels of anger, regret, anxiety, and depression, as well as feelings of hopelessness. Educators had similar feelings about the urgency of climate change, along with the added trigger of encountering climate denial among the public (Fraser et al., 2013). Many of those surveyed felt constant or almost constant worry over the current and future state of the planet, but engaged in coping strategies involving emotional suppression, detachment, and stoicism. Fraser et al. (2013) conclude that many conservation workers exhibit undiagnosed and untreated post-traumatic stress-like symptoms (see also, Nijhuis, 2011).

In Fraser et al. (2013), the authors advocate "active hope", which they describe as "a practice of understanding the power of the collective to tell new stories, in part by honouring and giving voice to the pain environmentalists feel for the world." As a step towards enabling active hope, Swim and Fraser (2013) report on a training program designed to improve educators' efficacy and skills at communicating climate change to the public. A key part of the training was to teach educators to use strategic framing to promote useful discussion and avoid debates around denial. After training, educators were generally better able to discuss climate change with colleagues. They also felt greater hope about their ability to do so because of having increased agency and a plan of action (Swim and Fraser, 2013). Visitors to institutions where this training was conducted also reported feeling more knowledgeable and concerned about climate change, more hopeful in their ability to talk about it, and more likely to address climate change in their own lives (Swim et al., 2017).

An improved sense of agency (a key ingredient of authentic hope) can also flow from engaging less formally with environmental challenges. Volunteers engaged in conservation-related outdoor activities experienced substantial self-reported improvements in happiness, level of interest, and feelings of self-worth compared to their baseline, pre-volunteer state (O'Brien et al., 2010). Volunteers also reported feeling greater control, capability, satisfaction, and calmness, and were less withdrawn and more talkative. Although hope was not mentioned in this study, the emotional states surveyed reflect the attributes of authentic hope revealed in meta-analyses (Schrank et al., 2008; Alarcon et al., 2013) and in the applications of psychological models (e.g. Chadwick, 2015; Fielding et al., 2008).

Positive associations of hope with agency, planning, and the ability to act resonate with anecdotal reports of the hope-inducing effects of taking action (e.g. Knight, 2007). We may also intuit that conservation workers would scour the world for hopeful case studies to counter-balance the general flood of bad environmental news (e.g. McAfee et al., 2019). Laments that Conservation Biology is a "crisis discipline" (Swaisgood and Sheppard, 2010) have led to a pro-active search for conservation success stories with the potential to inspire authentic hope. A Conservation Optimism summit was convened in 2016 (Conservation Optimism, undated). The solutions-oriented collective Ocean Optimism was recently founded as a clearing house for ocean conservation success stories (Ocean Optimism Team, 2017). Ocean Optimism was born, in part, from observations of environmental

hopelessness among children (Kelsey, 2017), and is based on the principle that “doom and gloom won't save the world” (Knowlton, 2017).

Hope may also be reignited through positive reappraisal. Positive reappraisal may enable optimists to view setbacks as temporary impediments to ultimate success (McAfee et al., 2019). Optimists may also use positive reappraisal as a means to deal with the stresses caused by goal failure (Rand et al., 2011, and citations therein).

Conservation and environment workers would seem to be candidates for positive reappraisal, since the risk of failure is always present in their work. Positive reappraisal is clearly in play in naturalist Phil Barnett's blog, in which he contrasts conventional bereavement with the repeated shock of environmental grief: “As soon as we come to terms with a world without such and such a thing, we are confronted with a further piece of bad news” (Barnett, 2018). Without naming it as such, he advocates for positive reappraisal: “... if only for the sake of our mental health, we can accept the reality of a globe, everywhere sullied by man's footprints *and perhaps even learn to love it*” (our emphasis added). Webb (2005) also describes positive reappraisal when he talks about charting a ‘pragmatic’ course of mental action, “recognizing our mourning, forgiving, *identifying realistic hopes, adjusting expectations, and speaking our minds*” (our emphasis added). Patten and Smith-Patten (2011) describe something like positive reappraisal when they suggest that many conservation workers adhere to an “as if” philosophy in which they behave “as if the world were the better place it needs to be.”

A recent, real-world case of positive appraisal concerns efforts to “rewind” the functional extinction of the northern white rhinoceros (*Ceratotherium simum cottoni*). Even before the death of the last male of this subspecies, proposals were made to use novel stem cell and reproductive technology to clone embryos for insemination into surrogate mothers (Saragusty et al., 2016).<sup>1</sup> Despite the extremely experimental, even speculative nature of this technology, an editorial in Zoo Biology described Saragusty and co-workers' proposed technique as providing both hope and optimism against “probably insurmountable odds” (Watters, 2016).

## 4. Discussion

### 4.1. Defining hope

Hope is an emotional (Lazarus, 1999), mental (Govier, 2011), or motivational state (Snyder, 2002) that is subject to multiple definitional variations (Table 1). Its most widely accepted (and analyzed) definition describes it as a positive motivational state in which a person has a sense of agency that enables them to follow a clearly defined pathway (or plan) towards an achievable (but not certain) objective (Snyder, 2002). This is the definition that is either explicitly or implicitly deployed in most of the conservation literature, and which is variously referred to as “active” (Fraser et al., 2013), “realistic” (Webb, 2005), or “authentic” hope (Ehrenfeld, 2009; Orr, 2004).

Subtypes of hope, like radical hope, false hope, particularized and generalized hope have important implications for conservation and the environment. With few exceptions, (e.g. Kretz, 2013), distinctions between these subcategories are neglected or glossed over in the conservation literature. Optimism, in particular, frequently gets conflated with hope (Conservation Optimism undated; Kelsey, 2017; Krupnick and Knowlton, 2017; McAfee et al., 2019; Morton, 2017; Watters, 2016). This occurs despite the fact that optimism — a generic attitude that anticipates certain success without significant effort — is distinct from active hope, which is a “verb with its sleeves rolled up” (Orr,

2007). Instances of radical hope, generalized hope, and false hope can also be identified in the literature, though they are not usually named as such. We believe it is important for conservation and environmental writers to correctly distinguish between these and other hope concepts in both empirical investigations and in commentaries. Failure to do so, in our opinion, could hamper clear analysis of the motivations, emotional states, and subsequent actions of conservation and environmental workers.

### 4.2. A necessary and sufficient condition?

Authentic hope might be thought of as an emergent property of interactions between organizational structures, group membership, personality traits, life circumstances, and societal norms. Congruence of goals (personal or organizational), their perceived importance, and anticipated outcomes of their pursuit affect the quality of experienced hope (Chadwick, 2015). Organizations that articulate a clear, inspirational and achievable conservation vision seem well placed to encourage hope in their workers and members (Bruyere, 2015). Authentic hope can lead to proactive engagement when workers and the concerned public are provided with intellectual ammunition that imbues them with a sense of agency (Geiger et al., 2017; Swim and Fraser, 2013). Improved communication among coworkers (Swim and Fraser, 2013) or among agencies and stakeholders (scientists, government, industry and the public) (McAfee et al., 2019) also encourages greater hope and hopeful behaviour.

Absence of hope, however, does not necessarily lead to disengagement, as implied by Balmford and Knowlton (2017), Swaisgood and Sheppard (2011), and others. Many (but not all) conservation workers and educators persist in their jobs, even in the face of feelings of anger and hopelessness (Fraser et al., 2013). Moreover, lack of hope does not automatically imply that a person is feeling hopeless or in despair. Kingsnorth (2010) describes his correspondents' feelings of liberation on giving up false hopes: “... giving up on that false hope did not leave them depressed, as they'd thought it might, but exhilarated.” Such letting go resembles a transition from particularized to generalized hope (Kellas et al., 2017) and resonates with positive reappraisal (Rand et al., 2011), although positive reappraisal might also be based on wishful thinking (e.g. reading only positive news, Ojala, 2012).

Finally, message framing designed to encourage hope has met with mixed results. A given message frame can induce dramatically opposing responses among people with different pre-existing ideologies or group identities (Chapman et al., 2017). Hopeful framing may induce passivity (Hornsey and Fielding, 2016; Ojala, 2012), and in at least one climate-framing study, hope-related emotions had less influence over the intention to act than risk perception or feelings of distress (Hornsey and Fielding, 2016). Frames that emphasize motivation over sacrifice and risk may be effective at inducing personal climate action (Gifford and Comeau, 2011). Similarly, balancing current sacrifices made for sustainability against future, long-term gains might enable people to think differently about a sacrificial frame (Hall, 2013). The line between hope and action may therefore be filtered through personal attributes, the characteristics of the chosen frame, and even the time scale over which the frame is considered.

### 4.3. Can hope be revived or reframed?

Hope may be bolstered and encouraged by organizational initiatives and leadership. Training to empower conservation practitioners and foster communication among them can buffer the negative effects of constant exposure to bad news or contentious issues (Geiger et al., 2017; Swim and Fraser, 2013). Establishing open lines of communication may be particularly important for conservation workers, who appear to be susceptible to sublimation of the emotional toll of their work (Fraser et al., 2013; Nijhuis, 2011). There is increasing acknowledgement that dealing with this emotional toll is necessary, not merely

<sup>1</sup> In 2016, only three living northern white rhinos remained. One of these was Sudan, an old, probably infertile male; the other two were females (Saragusty et al., 2016).



for the recovery of hope, but to allow for constructive grieving and recovery from environmental losses (Gordon et al., 2019).

Positive reappraisal of hope also appears to be active in conservation science, often in the form of downscaled expectations. You may not be optimistic about saving the world, but you can hope to conserve a watershed (Knight, 2007). More negatively, reframed hopes may, of necessity, focus on caring for the meagre fragments of once-intact ecosystems (Webb, 2005) or the faint hope that novel technology will revive extinct species (Watters, 2016). Barnett (2018) suggests that we will have to reframe our hopes (and affections) to embrace and learn to care for the species and ecosystems that emerge from the Anthropocene. Herein lies one peril of positive reappraisal for conservation; our reframed hopes may end up focusing on managing environmental conditions that would have been viewed as intolerable not so long ago. Patten and Smith-Patten (2011) address this point directly when they ask, “Can conservationists afford to compromise again and again?”

#### 4.4. Improving our understanding of hope in conservation

Based on this review, we tentatively conclude that authentic hope is an important quality to encourage when it provides defined, achievable objectives, and a plan to accomplish them. But one size of hope is unlikely to fit all practitioners (Ogden, 2016). This is especially the case as conservation and environmental movements begin to move beyond their 20th Century roots to embrace a plurality of cultures and perspectives (e.g. Enderle 2007). People from different cultures, ethnicities, and environmental circumstances are likely to experience hope in different ways from the predominantly western populations studied in most of the literature. Indigenous communities and poor urban minorities experience environmental challenges (often called “environmental racism”) in their “backyard” as part of their daily lived experience (Adelabu, 2008; Waldron, 2018). The socioeconomic costs of climate change and biodiversity loss could be superimposed on these pre-existing pressures, thereby making radical hope a more likely response to future expectations than active hope (Hunter, 2009).

We therefore need to understand commonalities and differences in how hope might drive environmental action among individuals in ethnically, socially, and psychologically diverse conservation communities (Lacroix et al., 2019). To do so, quantitative and qualitative research is needed to identify factors that motivate people from diverse backgrounds to work on environmental causes. This research should investigate the personal characteristics, deep motivations, and social circumstances that lend practitioners the resilience needed to keep working on issues characterized by daily bad news.

There is a particular need to understand what happens to people's motivation to act when hopes (authentic or otherwise) are disappointed. For disappointments there will inevitably be. To pick just one of many recent headlines: twenty-six thousand IUCN red-listed species are currently threatened with extinction (Watts, 2018). It will almost certainly be impossible to save them all (Hance, 2016a). What happens to the will and motivation of conservation workers, ENGO supporters, or communities defending cultural roots in a particular landscape, to “stay in the game” when dearly held hopes are snatched away? Will they, as Churchill said, “go from failure to failure with no loss of enthusiasm” (Swaigood and Sheppard, 2010)? Or will they, as Paul Kingsnorth did, give up on hope? If so, would they continue to act, support, and vote for conservation, or would they withdraw? How can authentic hope and action be fostered, while acknowledging reality and guarding against the negative effects of grief, trauma, and despair? The answers to these questions are incompletely understood (Amel et al. 2017, Ogden, 2016), but need to be investigated further.

Disappointed hopes are likely to be accompanied by grieving. Webb (2005) alludes to mourning lost hopes. Indigenous people whose lives are rooted in millennia-old relationships to particular landscapes feel bereaved when faced with irrevocable changes to their lands (Cunsolo, 2017b; Cunsolo Willox et al., 2012). People living in poverty may face a

forced choice between livelihoods and environmental quality (Sandhu and Sandhu, 2014), which seems likely to induce both stress and grief. Conservation scientists report feeling ‘devastated’ and ‘depressed’ (Hance, 2016a) at their failure to save a small, insular rodent, the Bramble Cay melomys (*Melomys rubicola*). Kelsey and Armstrong (2012) mention the need to create space to acknowledge children's feelings of frustration and despair at the state of the planet, and Ashlee Cunsolo suggests that environmental mourning may be a precursor to holding out radical hopes for a better future (Cunsolo, 2017a).

Most of the literature that we reviewed treats mourning and feelings of grief with brevity before moving on to more positive stories. But enjoining people to move beyond narratives of “doom and gloom” (Kelsey and Armstrong, 2012) or stating that “doom and gloom won't save the world” (Knowlton, 2017) risks fostering denial of the very real prospects of worsening doom and gloom that are upon us. Such denial could breed false hope and disengagement (Jensen, 2006; Kingsnorth, 2010), or faking hope for the sake of others (Kellas et al., 2017). It might even pitch over into the sort of relentless but ultimately empty positivism described by Ehrenreich (2007) and hinted at by Patten and Smith-Patten (2011). Or perhaps, looking at today's long odds for the emergence of a global conservation ethic, people might embrace radical hope to keep themselves “in the game”. This type of radical hope was expressed by one environmentalist quoted by Jensen, (2006), who declared “I want to make sure some doors remain open. If grizzly bears are still alive in twenty, thirty, and forty years, they may still be alive in fifty”.

## 5. Conclusion

In a time of multiple, overlapping ecological crises, it is more important than ever to support and encourage those who choose to engage in conservation and environmental action, despite a daily diet of discouraging news. Confronted by these facts and the repeated, cyclical mourning that can attend serial conservation losses, practitioners and organizations stand to greatly benefit by understanding processes of hope, loss, grief, support and healing that are well documented and established in other fields (e.g. Garrard and Wrigley, 2009; Kellas et al., 2017; Kylmä, 2005). Acknowledging and learning from this rich body of theory and practice should enable conservation communities to arrive at a more nuanced appreciation of hope, its place in our endeavours, and the emotional supports needed to maintain it. It is equally important to realise that hope and the willingness to act exist in dialogue with personal objectives and their relative importance, the perceived likelihood of desired outcomes, and future orientation (Chadwick, 2015), as well as with societal norms and personality traits (Lacroix et al., 2019). Therefore, no single frame or mode of fostering active hope will fit all organizations, communities, or cultural contexts. Knowledge of how multiple dimensions of hope interact to encourage or inhibit action and engagement is, however, far from complete, especially for ethnically and culturally diverse communities of conservation. As the global environmental crisis deepens, research to understand hope, motivation, and the unique emotional stresses faced by different conservation communities is more urgently needed than ever.

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