

OPINION ARTICLE

A longing for the natural past: unexplored benefits and impacts of a nostalgic approach toward restoration in ecology

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Nostalgia has endured a negative societal perception since its inception, which influences how it is deployed in ecological restoration. However, the emotion has undergone a paradigmatic shift over the past 15 years with new quantitative psychological research providing insight into complex and oftentimes positive effects. In particular, personal nostalgia can increase social connectedness, optimism, self-esteem, inspiration, openness, creativity, and charitable giving. Here, we view ecological nostalgia, which we define as a desire to return a degraded ecosystem to a past state that complements bittersweet memories of a better ecological period, as an accompanying motivator for applied ecological restoration. However, some restoration ecology circles presently reject the connection with nostalgia, which excludes potential benefits for restoration practices. We provide a survey of recent psychological nostalgia research to critique and reevaluate the stigma surrounding nostalgia in restoration. By doing so, we are optimistic that more informed views of nostalgia will be adopted by the restoration community to cautiously embrace a connection that can help motivate ecological restoration activities.

Key words: history, nostalgia, past, psychology

Implications for Practice

- Given the most recent psychological definition of nostalgia (sentimental longing for the past, Simpson & Weiner, 1998), we suggest ecological nostalgia complements and relates to ecological restoration.
- Recent research exhibits nostalgia as an emotion with positive emotional benefits and negative misconstrued memories that shows greater complexity than indicated by current ecologists' perceptions.
- Rejecting nostalgia in restoration ecology means ecologists exclude increases in social connectedness, optimism, inspiration, openness, creativity, and charitable giving that nostalgia can induce.
- If appropriately adopted, ecologists can use nostalgia's benefits to motivate restoration projects focused on improving ecological health, tourism, ecosystem services, and other goals for restored ecosystems.

Introduction

Since its inception in the late twentieth century, ecological restoration has maintained an eye on the past to identify historical ecological conditions that determine appropriate methods to help recover degraded or destroyed ecosystems (Balaguer et al. 2014; Higgs et al. 2014; Desjardins 2015; Corlett 2016). Because of this, many restoration practitioners have expectations that ecological precedent should inspire reference-based

restoration targets (Higgs 2003). This, in turn, may invoke nostalgia that has been dismissed by members of the ecological restoration community (Choi 2007; Corlett 2016; Elkin 2017; personal experience of the second author). Negative associations of nostalgia within certain circles of restoration ecologists likely developed from negative perceptions of the emotion over the past four centuries (McCann 1941; Davis 1979). However, a paradigm shift in psychological nostalgia research over the past 15 years has strengthened a murkier definition of nostalgia, defined as a sentimental yearning or longing for a past that involves a period or place with positive memories and associations (Simpson & Weiner 1998; Hepper et al. 2014; Sedikides & Wildschut 2016). Given this definition, we view historically oriented ecological restoration as a concept related to ecological nostalgia, which we define as: a desire to return a degraded ecosystem to a past state that complements bittersweet memories of a better ecological period (Higgs 2003).

The overall goal of this commentary piece was to redefine and reshape the stigma surrounding nostalgia in the

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ecological restoration community, improve awareness of nostalgic emotional affects—immediately expressed and observed emotions—that influence people’s attitudes and behaviors surrounding past-oriented objectives, and for researchers and practitioners to recognize the varying psychological effects that nostalgia may cause in restoration applications. Specifically, we surveyed restoration and recent nostalgia research to ask and answer two questions: (1) Can nostalgia play a role in the future use of history in ecological restoration? And, if so, (2) How might it be used to benefit future restoration research and practices? By presenting quantitative research that counteracts current misconceptions, we are optimistic that more informed stances of nostalgia may be adopted to cautiously embrace the connection between ecological restoration and nostalgia that augments how ecologists and managers approach past-oriented, reference-based ecological restoration. For the purposes of this article, we partitioned nostalgia into two antithetical pieces: the beneficial emotions discovered in controlled experiments and the detrimental visions of a perceived, and oftentimes misconstrued, past described in observational studies.

Survey of Restoration Ecology Literature

Many ecological restoration projects have focused on improving ecological health in altered and degraded ecosystems by using historical precedent to help guide reference-based wetland (Day et al. 2008; Erwin 2009; Stagg & Mendelsohn 2011), river (Bernhardt et al. 2005; Palmer et al. 2005) and forest restoration (Covington et al. 1997; Allen et al. 2002; Higgs 2003; Van Lear et al. 2005; Jacobs et al. 2013). However, many authors have disagreed with nostalgically inflected restoration objectives because global anthropogenic change has made any return to historically exact, pristine “wilderness” prohibitively expensive and potentially impractical or impossible (Kellman 1996; Cole 2000; Choi 2004; Harris et al. 2006; Richardson et al. 2007). In short, dissenting ecologists argue against using historically oriented nostalgic visions as the end goal of restoration projects, in which decisions are made to recreate a past landscape that fulfills a perceived vision of how the landscape used to exist.

To this, we partially agree. Furthermore, we contend that nostalgic reflection can create visions of an incorrect past that do not accurately portray the previous ecosystems that naturally occurred there (such as dense, overcrowded forests in parts of western North America that never existed before fire suppression, see Higgs 2003). Restoring ecosystems to historical conditions for the sake of historical accuracy or for a perceived past that never existed does not account for the anticipated ecological changes from climate change (Choi 2004; Corlett 2016), could cause people to demand “ecological restoration” that further degrades the ecosystem, and/or leads to largely unproductive questions surrounding “to what timeframe should we restore the ecosystem?” (Alagona et al. 2012; Desjardins 2015), among a myriad of other issues.

However, we also agree with other authors who contend that the history of a landscape should still be used as a guide and

anchor point for restoration objectives (Higgs 2003; Alagona et al. 2012; Balaguer et al. 2014; Higgs et al. 2014; Desjardins 2015; Corlett 2016). Higgs et al. (2014) indicated that historical knowledge can be used as information and references to enrich cultural connections to, and reveal the future for, ecosystem. Balaguer et al. (2014) similarly argued for the use of locally tailored historical references and “ecological memory” in restoration that integrates past known ecological and human-cultural processes to derive a reference model that aptly sets project goals and evaluates project outcomes. Combined, these authors make the point that history can be used for location-based and process-oriented goals and emphasize greater consideration toward human stakeholder needs and interests. These analyses of historical knowledge in restoration indicate that nostalgia should similarly be explored as an emotional, motivational, and possible delusional force that can affect reference-based restoration, similar to how nostalgia provides unique psychological responses for the individual and collective groups (Sedikides et al. 2009; Farrar 2011; Routledge et al. 2013; Mols & Jetten 2014; Wildschu et al. 2014; Sedikides et al. 2015).

Nostalgic Research Survey Past 2000

Ecologists have often held negative views of nostalgia and nostalgia-inflected objectives while determining restoration project goals. However, early quantitative psychological research on nostalgia provided evidence that nostalgia is a complex, nuanced experience that occurs relatively frequently (three times a week on average) for most people (Sedikides et al. 2004; Wildschut et al. 2006). Furthermore, nostalgia was shown to be a potential coping mechanism for fear, anxiety, alienation, and loneliness (Wildschut et al. 2006). Within the past decade, experimental studies determined that nostalgia is an emotion that increases positive self-regard (Routledge et al. 2011), furthers a sense of life meaning (Baldwin & Landau 2014), induces greater optimism and inspiration/goal motivation by fostering social connectedness to increase self-esteem (Cheung et al. 2013; Stephan et al. 2015). Research also indicates that nostalgia increases creativity and behavior associated with future reward by increasing openness and willingness to embrace new experiences (Stephan et al. 2014; van Tilburg et al. 2015). Sedikides and Wildschut (2016) concluded that nostalgia can act as a motivational force that prepares and strengthens individuals for an uncertain future.

However, recent psychological research has also indicated that personal nostalgic reactions may depend on individual circumstances and mental states. Verplanken (2012) found that habitual worriers had increased signs of anxiety and depression after becoming nostalgic, possibly caused by the comparison of current levels of stress to a carefree past. Those who are not comfortable sharing and showing their private feelings become less inclined to orient themselves toward relationships when they feel nostalgic (Juhl et al. 2012). Furthermore, acceptance and commitment therapy suggests that holding on to positive experiences of the past might also function

as a maladaptive strategy to avoid facing difficult memories (Freene & Hayes 2016).

Nostalgia's influence on collective emotions, where socially defined groups of people share emotions felt by most individuals of the group (Von Scheve & Ismer 2013), has been found to be different, but complementary to individual emotions. Wildschut et al. (2014) confirmed that nostalgia can be seen as a group-level emotion that provided motivation, adjusted attitudes and behaviors in social groups, and could bring people together to support one another. This article also indicated that nostalgia's impact on collective emotions is likely regulated by the group relationship with and attitude surrounding the time for which they are nostalgic. Baldwin et al. (2018) determined that collective guilt (ingroup guilt for harm done to outgroups) would decrease in groups with high-group glorification (a belief that the ingroup is morally superior to outgroups) by evoking collective nostalgia. Connected to the reduction in guilt was also decreased regret, recognition of harm, and willingness to make reparations.

Past ethnological studies have indicated societal occurrences of collective nostalgia that triggered within-group unity, support, and motivation, as well as outgroup division, dislike, and/or violence in Kashmir (Bhan & Trisal 2017), Eastern Europe (Volčič 2007; Nikolayneko 2008; Goulding & Domic 2009), and Western Europe (Mols & Jetten 2014; Smeekes et al. 2015). Collective nostalgia has also been observed to reshape collective memories (Farrar 2011; Mols & Jetten 2014) that caused a paradoxical wish that habitants wanted to return to pasts known for exploitation and oppression in Zanzibar (Bissell 2005) and South Africa (Coullie 2014). These varying effects illustrate the emotion's complexity and indicate that, although nostalgia is not inherently negative as societally believed, it can have alternating consequences that need to be considered in the context of ecological restoration.

Evaluation, Uses, and Limitations of Nostalgia in Restoration Ecology

Evidence has revealed the mixed and oftentimes positive nature of nostalgia. With indicated changes of nostalgia in psychology, we argue that restoration ecologists should similarly revisit the past subjective stances. Although we agree that “[w]e cannot go back to our nostalgic past” (Choi 2007), we contend that restoration practitioners can use the emotional benefits from a nostalgic approach to empower restoration objectives of future projects. Rather than insinuate that a “romance for the past” and resiliency are antagonizing concepts (Hart et al. 2015), we can view romance (an approach to add meaning and value, see Kitson & McHugh 2015) and resiliency (the application goal) as going hand-in-hand, which can lead to healthier, better functioning ecosystems managed for multiple physical (Vale 1988) and psychological (Sedikides & Wildschut 2016) purposes in the future. By doing so, restoration ecologists can use motivation generated from nostalgic emotions and knowledge from historical ecology and ecosystem modeling to balance past longings with future improvements to restore degraded ecosystems.

However, using nostalgia may also cause unintended consequences that could subvert restoration objectives by imbuing stakeholders with potentially misleading visions of a nostalgic past that never existed (Farrar 2011; Mols & Jetten 2014). In this way, some researchers, such as Choi (2007) and Elkin (2017), have legitimate concerns toward the application of misremembered and uninformed nostalgic visions that have been shown to create false and dangerous narratives in societies around the world (Mols & Jetten 2014; Smeekes et al. 2015; Bhan & Trisal 2017). We are also concerned that these inaccurate visions could unbind projects from fact-based and scientifically oriented restoration goals and instead allow manipulative changes of landscapes under the guise of ecological restoration.

To prevent these problems while still using nostalgic emotions to motivate restoration activities, we suggest that practitioners follow existing SER guidelines and standards to use and present stakeholders with complete knowledge of local, historical ecology to ensure fact-driven objectives that create nostalgic visions accurately representing the past landscape (Keenleyside et al. 2012; McDonald et al. 2016). Baldwin et al. (2018) made similar recommendations surrounding collective nostalgia by citing the importance of critical attitudes and “reflective nostalgia” that use all aspects of history to understand how the present can be improved in the future through knowledge of the past. This is instead of pursuing antiquarian attitudes and “restorative nostalgia” that glorify a selective history and idealize an image of the past. Although ethnological studies have indicated negative applications of nostalgic memories throughout society, we contend that nostalgia in ecological restoration is fundamentally different from these other antiquarian examples because the discipline already advocates using critical attitudes to conduct ecological restoration. Through this key difference, we find nostalgia to be a reasonable and useful tool toward motivating restoration projects without moral baggage that other past-centric uses carry.

Nostalgia can provide positive emotions and unsubstantiated visions that restoration practitioners should be cognizant of within the human aspects surrounding restoration projects. Its psychological affects along with its expanding relevance within conceptual restoration ecology development make nostalgia an emotion that the discipline needs to understand and recognize as an important aspect within restoration (Balaguer et al. 2014) and broader environmental degradation (such as solastalgia, Albrecht et al. 2007). However, nostalgia should not only be recognized as a byproduct of “Restoration v. 2.0” (Higgs et al. 2014), but welcomed as a motivational tool that can increase inspiration, openness, optimism, and a number of other beneficial attitudes that may help support and motivate restoration goals.

Nostalgia, when paired with knowledge of the historical ecology from the area, may also successfully be used as a past-oriented approach that can improve rhetorical arguments, communication, and understanding with stakeholders that uniquely interpret their surrounding landscape (Druschke & Hychka 2015; Druschke & McGreavy 2016). Baldwin and

Lammers (2016) indicated that people that identify with conservative ideology in the U.S. have more past-oriented perspectives that, when framed in the proper context, caused them to adopt more pro-environmental attitudes toward addressing climate change. In this respect, conservatives may similarly become more sympathetic toward restoration projects that emphasize past-driven rhetorical strategies complementing the use of nostalgic pathos. Howell et al. (2019) similarly argued for nostalgia to “mobiliz[e] stakeholders’ identities in relation to agenda-setting goals” in environmental policy and governance. Nostalgia’s capability of increasing charitable giving (Ford & Merchant 2010; Zhou et al. 2012), long used as a marketing tool in advertising (Havlena & Holak 1991; Marchegiani & Phau 2011), echoes data that suggest increased conservative donations to past-oriented environmental charities (Baldwin & Lammers 2016) and could also theoretically increase public support and donations for restoration projects.

Although nostalgia offers potential benefits, there are limitations on its use, of which researchers and practitioners should be aware. Some people may not experience the benefits or could experience negative effects during nostalgic memories (Juhl et al. 2012; Verplanken 2012; Cavanagh et al. 2015; Freeney & Hayes 2016). Researchers have indicated the possibility of nostalgic feelings in groups for previous times in history or cultural patterns (termed historical nostalgia, e.g., Havlena & Holak 1991; Batcho 1995), where the object of nostalgic feeling is oriented toward a past, unexperienced, and idealized perception instead of autobiographical memory (Marchegiani & Phau 2010). Controversial restoration proposals, such as rewilding landscapes with non-native species (IUCN/SSC 2013; Seddon et al. 2014) or returning extinct native species to altered landscapes (Sherkow & Greely 2013), that do not critically and scientifically quantify risk-management and ecological consequences to the broader ecosystem carry a risk of falling into “historical” and “restorative” nostalgia pitfalls. The application of unsupported idealizations from these pitfalls can lead to negative nostalgic outcomes that manipulate visions to become desired “truths” without ecological justification (Baldwin et al. 2018). To combat any nostalgic misuse, ecologists have to ensure that the goal of the restoration project is not to return to a desired past, but a past that ecologically improves future landscapes.

In summary, nostalgia in psychology has undergone a paradigm shift over the past 15 years, with researchers indicating that nostalgia causes many positive emotions, counter to current societal perspectives, which we argue could help motivate ecological restoration. We acknowledge and emphasize that nostalgic visions should not be used to inform historical knowledge and should instead be actively replaced by fact-driven historical ecology to appropriately inform restoration goals. An appropriate nostalgic approach to referenced-based ecological restoration complements the increased acceptance of historical ecology and human influence in ecological restoration and can use the emotion’s positive perspective for psychological benefits in human aspects of restoration projects. However, further research in the forms of case-studies and meta-analyses of past ecological restoration projects should be performed to

verify these effects in ecological restoration (see Howell et al. 2019). By accepting nostalgia as an increasingly important part of ecological restoration, we accept an emotion ingrained in the discipline that connects the past with the present to provide motivation for a return to a better future.

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