Title: Building bridges in the post-Trump era: can conservation scientists help recover bipartisan support for U.S. environmental protection?

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Abstract

Nearly three-fourths of U.S. citizens support strong environmental protection, yet the U.S. Congress has passed little momentous environmental legislation since 1980. This dearth of new bipartisan environmental policy has coincided with increasing political polarization, which has risen to historic levels in the United States. Though broadly supported by the U.S. public, environmental protection has wavered as the Trump administration has left the Paris Climate Agreement, lifted oil and gas regulations, and deprioritized endangered species conservation. This discordance between U.S. public opinion and policy action leads us to ask: How did environmental conservation become so polarized, and how can the U.S. environmental movement recover broad bipartisan support? As conservation scientists in academia, we believe our community has contributed to the partisan breakdown over the environment. We also believe that scientists have a critical role to play in bridging this divide. In this essay, we consider how "the environment" has become a political wedge issue in the United States and identify opportunities for conservation scientists to: (a) better respond to public needs and values; and (b) build support for bipartisan conservation policies through greater proximity with local communities, re-structured academic advancement policies, and 21st century approaches to training environmental science students.

I. Introduction

The United States is currently at one of its most politically polarized moments in history (Pew 2017), a phenomenon that has attracted significant scholarly and journalistic attention (e.g., Thurber & Yoshinaka, 2015; Frankovic, 2019). This polarization has recently manifested itself in the hyper-partisan impeachment of President Trump, the protracted wars over Supreme Court Justice nominations, and the bitter divide between the Democrat-controlled House of Representatives and Republican-controlled Senate. As political psychologist Lilliana Mason (2018) notes: *"In this political environment, a candidate who picks up the banner of 'us versus them' and 'winning versus losing' is almost guaranteed to tap into a current of resentment and anger across racial, religious, and cultural lines, which have recently divided neatly by party."* Many feel that these currents of resentment—expressed in partisan ways—have spilled into traditionally bipartisan policy areas, such as infrastructure and immigration reform, and led to stagnation in political momentum on widely shared policy goals (e.g. Rice, 2018).

Environmental management and conservation have not been spared from the stagnating and undermining effects of U.S. political polarization (Turner & Isenberg, 2019). With only a few

exceptions, there has been limited landmark legislation on U.S. environmental policy since 1980. For example, despite numerous calls by state and local leaders as well as voters and activists for updates to the Endangered Species Act and the passage of federal climate legislation, neither measure has garnered sufficient political support in Congress for passage into law. In the United States, costs of this inaction come in the form of wildlife population declines (e.g., Rosenberg et al., 2019), reduced protections for wildlife conservation (e.g., U.S. Department of the Interior, 2019), and an accelerating climate crisis (e.g. Hsiang et al., 2017). These costs are borne by all but fall disproportionately on economically and politically disenfranchised communities.

As conservation scientists, we invest significant time into understanding and quantifying relationships between human society and the environment, and making recommendations for improved management of natural habitats. In fact, the research output of the conservation community has increased dramatically in recent decades (e.g., Griffiths & Dos Santos, 2012). However, this research is not always communicated robustly or effectively to stakeholders (Dahlstrom, 2014; Moser, 2016), or conducted in response to their expressed needs (Roux et al., 2006). With some notable exceptions, we believe the academic-public disconnect is both cause and effect of insufficient understanding—and goodwill—between conservation scientists and diverse groups of stakeholders (Figure 1). We suggest that our science community has contributed to this alienation, primarily by choosing questions and modes of communication that reflect a pursuit of impact factor over meaningful impact. This is not a new observation; our conservation community has struggled since its inception with the often conflicting benchmarks of academic achievement (e.g., peer-reviewed publications) vs. measurable conservation outcomes (e.g., tangible conservation actions) (Arlettaz et al., 2010). However, as our goal of conserving resilient and diverse ecosystems is overwhelmingly shared by the U.S. public (Bonnie et al., 2020), there is great potential for building new bridges and sustained engagement with stakeholders. Therefore, we ask: how did conservation, or 'the environment' broadly, become a politically divisive and partisan issue, and how can we move towards meaningful consensus?

II. How did we get here?

In the second half of the 19th century, in the wake of George Marsh's *Man and Nature* in 1864, conservation awareness in the United States burgeoned into a major social and political force.

New state and federal parks and reserves were established[1], culminating in the inauguration of the U.S. Forest Service in 1905 and the National Park Service in 1916. This political momentum produced some of the first federal laws to protect wildlife—e.g., the Migratory Bird Treaty Act of 1918—and to fund wildlife and habitat conservation, such as the Pittman-Robertson Federal Aid in Wildlife Restoration Act of 1937. In 1962, biologist Rachel Carson's *Silent Spring* became an instant best-seller, warning of the health and ecological costs of the increasingly widespread use of pesticides (Griswold, 2012). Shortly thereafter, Congress passed the Clean Air Act (1963) and Water Quality Act (1965). Several years later, in 1969, the impacts of industry on vital natural resources grew in the public eye after Cleveland's Cuyahoga River caught fire—not for the first time—the image of the river in flames plastered across *Time* and *National Geographic* (Boissoneault, 2019). Watching powerful, for-profit corporate actors harm communities from Cleveland to Santa Barbara renewed public recognition of environmental protection as a populist cause. This swell of grassroots support inspired the inaugural Earth Day in 1970, the creation of the Environmental Protection Agency by Republican President Richard Nixon that same year, and a wave of federal environmental legislation through the 1970s. The U.S. environmental movement had well and truly swept the country.

While new environmental laws passed in the 1960s and 1970s were rightly hailed as major victories for conservation, they also came with economic costs for businesses and rural landowners (e.g., Brown & Shogren, 1998). For example, for many rural farmers, ranchers, and landowners in the Western U.S., the Endangered Species Act of 1973 became a mechanism for exclusion from decision-making on their own lands, and the most salient symbol of federal government overreach. Enforcement of top-down federal environmental laws—while successful in helping species, lands, and waterways recover—also contributed to the increasing alienation of rural communities from the mainstream U.S. environmental movement, dominated by scientists, activists, and politicians in urban areas. This alienation, as well as the economic stress of the 1970s, helped stoke a base of rural support for the growing conservative movement (Turner & Isenburg, 2019). In addition to its agenda built on faith and family values, belief in the free market, distrust of scientific elites, and anti-federalism, this new brand of conservatism would now reverse course on many issues of environmental protection (Turner & Isenburg, 2019). As Turner & Isenberg (2019) powerfully summarized: "*The conservative*

[1] The establishment of U.S. parks was not without controversy, leading to disenfranchisement and conflict with Native American communities, among others (Merchant, 2002).

abdication of environmental concern stands out as one of the most profound turnabouts in modern American political history, critical to our understanding of the GOP's modern success."

The rising influence of corporations, PACs, and lobbyists in the U.S. political system from 1990 - 2010 further underpinned the disaffection of the Republican Party with many environmental issues (Ard et al., 2017). Corporate influence on political leaders throughout the country has promoted a powerful anti-federalist ethic of limited government regulation of industry, and individuals, as the path to a strong U.S. economy and a return to American ideals of liberty. Moreover, in many ways the political gridlock on environmental issues has become more about cultural values than about science. For example, for many rural voters in the United States, protection of farmlands—symbolic of a way of life—is a more important environmental issue than climate change, whereas the reverse is true for urban and suburban voters (Bonnie et al. 2020). Intensifying contexts and socio-political narratives across the rural-urban divide have driven the transformation of U.S. environmental policy into a "wedge" issue, alienating conservative communities closest to wild places from liberal communities fighting to protect those same lands and waters. In the process, we have too often lost a shared sense of partnership in caring for our landscapes, and for one another.

III. Soul-searching within the conservation science community in academia

Following the last several decades of increasing political partisanship and limited federal action on environmental protection, now is an important moment for conservation scientists in academia to soul search about our role in U.S. public and policy spheres. We believe we are not blameless in the polarization of environmental policy - our community has had a role in fanning partisan flames and allowing the concept of "environmentalism" to become synonymous with out-of-touch urban elites and narrow-minded scientists. In prioritizing international venues for information-sharing over conversations with local stakeholders, and by targeting federal funding opportunities before local needs, we have helped create an association between environmental conservation and heavy-handed federal overreach in the minds of many stakeholders. In our efforts to help protect species, habitats, and processes, we have too often forgotten the perspectives of rural communities, fueling the sentiment that neither environmental scientists nor laws passed in Washington, D.C. reflect the interests, values, and realities of those who live within and around the most environmentally intact regions of the United States.

So we ask ourselves and our academic colleagues: Are we, conservation scientists in academia, truly among U.S. environmental leaders? If so, how can we more fully consider diverse stakeholders, and our collective cultural, spiritual, and economic connections to natural landscapes? What are the relevant implications for how we move forward as a community? (Figure 2)

As conservation scientists who have each spent numerous years in academia, we believe that we must continue challenging ourselves to grow in these areas of service to the U.S. and global public. We therefore suggest some opportunities that we see for ourselves and our conservation science community to grow in our engagement with the U.S. public, and thereby work towards a bigger, more diverse "environmental tent" in the United States and abroad. We hope these suggestions will serve as just one starting point for a robust conversation that improves the political future of the environment.

IV. Pathways for academic conservation science to engage with the U.S. public

Prioritizing proximity in engagement with the public on conservation

Holistic outreach—truly connecting the academy with the public—requires radical creativity and intentionality throughout the research process. This reorientation begins with proximity (Figure 3). Face-to-face engagement allows an irreplaceable cultural cache to be built between researchers and stakeholders, and helps researchers develop a more intimate knowledge of the socio-cultural realities of a study context or constituency (Roux et al., 2006). What climate change-related issues cause ranchers and farmers to lose sleep? What social, economic, and environmental futures do hunters and fishers envision? What environmental information is most important to rural, religious communities?

Like many conservation scientists, we have often abdicated our responsibility to engage local stakeholders on the grounds that our work is based in parks, reserves, or other protected areas that do not rely on local engagement or governance. However, landscape ecology taught us long ago that no habitat operates in isolation from those around it; we must embrace a similar perspective when considering the far-reaching social and economic implications on, and of, our work. This 'beyond borders' approach to engagement is improving conservation science, communication, and outcomes in some of the largest and most iconic protected areas on our planet, such as Serengeti and Yellowstone National Parks (e.g., Middleton et al., 2020).

In addition to conceiving and designing research in tune with societal needs, proximity also entails leadership in communicating our research to the public (Lubchenco, 1998). Specifically, we challenge ourselves and others in academia to communicate our science in ways that are not only "accessible", but socially and culturally embedded. In order to inspire long-term sacrifice and allegiance to conservation issues, scientific arguments should be expressed within communally accepted ethical frameworks and existing social traditions (Van Houtan, 2006). For example, rural voters often have sophisticated environmental views, but disagree with some environmental policies due to other socio-cultural values, such as low trust of the federal government (Bonnie et al., 2020).

We believe science communication cannot be limited to extension specialists and science journalists—critical as those roles are—as public communication is part and parcel of being an academic. What could this outreach look like? A few ideas, some of which we have implemented ourselves, include workshops, public lectures, town halls, novel conferences, newspaper op-eds, podcasts, museum exhibits, collaboration with religious groups, participation on boards with diverse stakeholder representation, and art shows. For example, one of us (ADM) communicated research on ungulate movements in the Greater Yellowstone Ecosystem through not only peer-reviewed reports (e.g., Middleton et al., 2020) and national op-eds (e.g., Middleton, 2018), but also through an innovative traveling museum exhibit. The exhibit included interactive maps of ungulate migrations, photo and video media showcasing dramatic long-distance wildlife migrations, and original paintings of Wyoming wildlife. This outreach helped thousands of people engaged with important conservation research and helped launch new bipartisan initiatives to protect ungulate migration corridors in Western states. These kinds of initiatives, while significant commitments of time and resources, are necessary to build the trust and cultural legitimacy that must undergird broad conservation policy support.

Valuing service in academic advancement decisions

Another major step forward toward an academy in service of the public would be a re-orientation of the incentive structures of academia to more fully include and value public engagement (Alperin et al., 2019). For the academic conservation science community to be fully committed to creative forms of public engagement, this service value must be grounded in tangible structures and incentives, including greater weight in advancement, particularly in tenure review. For example, participation at a rural stakeholder meeting or an influential op-ed in a small newspaper ought to carry similar weight as a presentation at an academic conference or

comment in an academic journal. Of course, advancement standards vary widely across institutions, necessitating a variety of approaches to update policies. Some universities may need to start encouraging public outreach in their promotion policies for the first time, whereas others may need to weigh public engagement more heavily (Doberneck, 2016). As shown by powerful calls for diversity recently within academic science, e.g. #BlackinSTEM, as well as more attention in the literature (e.g., Smith-Doerr et al., 2017), awareness is rapidly growing that science is more creative and innovative when diverse voices are at the table. By widely re-emphasizing the centrality of "service" in the "Teaching-Research-Service" paradigm, we will further the mission of the academy and find touchpoints to build broader coalitions for bipartisan conservation policy. These points of connection become exponentially more elusive without institutional mechanisms to mark public outreach as a tangible, highly valued, and indispensable part of the academic endeavor.

Training the next generation of conservation leaders

Another key pathway to build support for conservation policy among stakeholders is robust, relevant training for environmental science students entering a 21st century world dominated by messaging, social media, branding, and digital experience. The environmental science field is growing quickly, with jobs in the field expected to grow 8% between 2019 – 2029 (U.S. Bureau of Labor Statistics, 2019), and the most fundamental obligation of our academic institutions is to train that workforce. Yet, environmental science students are often unprepared for the types of modern communication they need to be effective. Within undergraduate and graduate degree programs, we can better integrate training on messaging to help students practice more clear, accessible framing of conservation research and applications. For example, the Trump administration recently expanded logging access in Alaska's Tongass National Forest. A student hoping to help sustainably manage the Tongass needs to understand not only the political, social, economic, and environmental dimensions of logging in Alaska, but also how to communicate meaningfully with local and national audiences in a world rife with prominent ideologies and narratives that powerfully shape public discourse. In the modern United States, framing an issue often carries as much—or more—weight as understanding the issue itself.

V. Conclusion

As conservation scientists in academia, we have a powerful opportunity to build bridges between the public and the existing environmental movement in the United States. Most U.S. voters want stronger environmental protections, but the aversion of many constituents to

environmental legislation shows we must do more to build solutions on shared values. Conservation scientists in academia have a key role to play in finding this common ground: by seeing ourselves as integral to society, and seeking proximity with community stakeholders, we can be more relevant, collaborative, and impactful. By increasing proximity with the public, re-structuring criteria for academic advancement, and revamping our training approaches, we can help increase public support for science-based and socially-informed conservation solutions on wilderness preservation, recreation, animal migrations, economic development, emissions regulations, and other salient challenges.

As conservation scientists we have tremendous potential to set the tone and lay the groundwork for a more inclusive U.S. environmental movement that recovers the broad bipartisan support of the 1960s and 1970s. By learning from our constituents and seeking their good in our work, we can be an academy that more fully serves people and the environment.

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Figure 1.

"Are we, conservation scientists in academia, truly among U.S. environmental leaders? If so, how can we more fully consider diverse stakeholders, and our collective cultural, spiritual, and economic connections to natural landscapes? What are the relevant implications for how we move forward as a community?"

Figure 2.

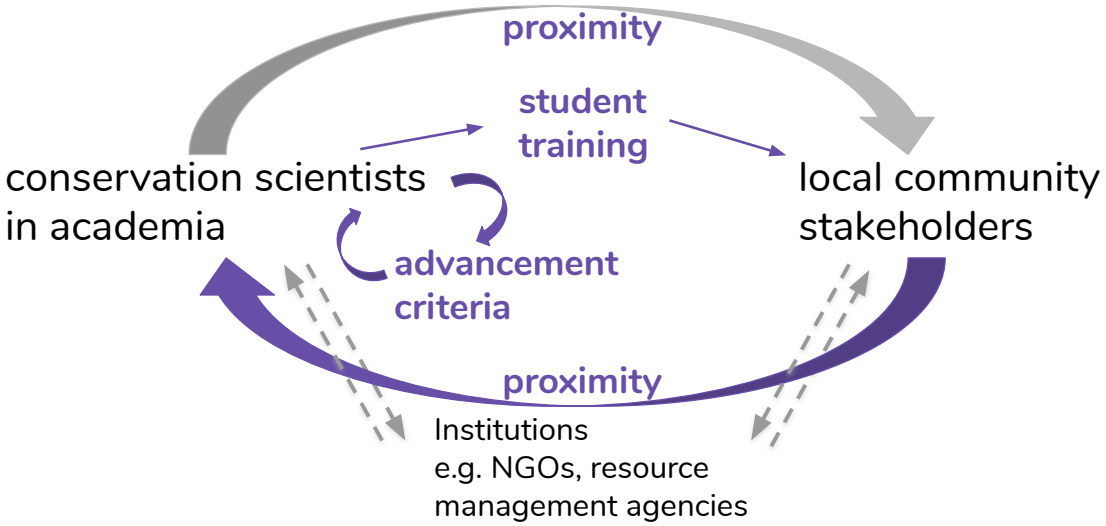

Figure 3. While the literature calls for more progress in all areas of the "knowledge-action boundary" (Cook et al., 2013), the conservation science community within academia has made significant strides in translating and communicating our research to the public (large solid gray arrow). However, we have often relied heavily on outside institutions, such as conservation NGOs and resource management agencies, to robustly incorporate needs of local communities into our work (dotted gray arrows). We call for a more integrated connection between local communities and academia, in which conservation scientists in academia directly respond to stakeholder needs (large purple arrow), and prioritize proximity with the public, the value of service in advancement decisions, and student training for the 21st century (purple text and small purple arrows).