Bobowski, B., and M. Fiege. 2023. Elegant conservation: reimagining protected area stewardship in the 21st century. Ecology and Society 28(1):25. https://doi.org/10.5751/ES-13788-280125

Insight, part of a Special Feature on Collaborative Management, Environmental Caretaking, and Sustainable Livelihoods

Elegant conservation: reimagining protected area stewardship in the 21st century

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ABSTRACT. We present an approach to the conservation of protected areas that aligns cultural truths with scientific truths to increase community capacity for conservation. This alignment, which we call elegant conservation, asks protected area managers to reimagine how conservation can be inclusive of cultures and subcultures whose members value protected areas, but not in the same way. Reimagining how protected area managers approach conservation requires them to observe closely and holistically, with fresh eyes, human consciousness and behavior as well as relationships between people and between people and nature. Our approach connects the humanities, Western sciences, and other forms of knowledge, including Indigenous knowledge, in a manner that more sustainably builds social support for conservation. We first offer a heuristic of seven conditions that protected area managers can analyze when sizing up conservation issues and the people involved. We then propose a heuristic of five human tendencies—elements of human consciousness—that can help protected area managers and their partners organize constructive responses to any conservation issue. Our model of elegant conservation offers a pragmatic, holistic, inclusive alternative to top-down, reductive management approaches and is an outgrowth of modern American intellectual history, especially since the end of the Cold War, ca. 1989–1990. Elegant conservation presents an opportunity to help people find common ground and move protected area management beyond its origins in settler colonialism at a time of national and planetary crisis.

Key Words: *conservation; cultures; elegant conservation; heuristics; holism; humanities; pragmatism; resilience; science; settler colonialism*

A PATH FORWARD

I received a call from my chief ranger last night. State troopers asked him to assist on a 911 in which a citizen forewarned him to come with a body bag. No one had died, just yet, but this call, like all the calls, was sobering. It reminded me that the innocence of managing a protected area was lost a long time ago. The week was unusually busy with emergencies. We had already experienced four fatalities, a bear mauling, and two medivacs. The cumulative fatigue was catching up with the small staff—I could see it in their eyes. It was not quite mid-summer.

Such events are common for protected area practitioners and their staffs. We live amidst breathtaking natural splendor but also in the presence of lightning strikes, fires, avalanches, rockfalls, precipices, extreme weather, bear attacks, and other violent conditions or situations that almost always involve the uncertainty of the human factor. This is not a new concept, but it deserves much more attention than it typically gets from agencies, academia, and citizens. This is indeed where actual conservation—not just the idea of it—occurs in all its fast-paced, contingent, real-world messiness. We write as practitioners and scholars from settler backgrounds who serve in a federal land management agency and a land-grant research university. Following decades of experience engaging deeply with diverse communities, including Indigenous leaders, we seek to move beyond settler colonial histories of protected area management and share our insights with professionals, peers, and fellow citizens.

For protected area practitioners and staff, those individuals tasked with the on-the-ground job of caring for our natural and cultural resources, the pressure of people and their issues dominates the workday. Conservation is a human construct with complicated human entailments. Communities of people have claims, often conflicting, on protected areas and the resources they contain. The creation of protected areas also invites visitors who regularly get into trouble, as my rangers know all too well. More problematically, conservation, conventionally defined, asks all of us to give up something today so that we and future generations might benefit tomorrow. Giving up something for tomorrow is profoundly ethical and responds to a societal desire for a sustainable future, but layers of history and human self-interest complicate the practice.

Over the past 150 years, efforts to inspire support for the conventional Western model of conservation—to shape hearts, minds, and values—have yielded achievements of global significance, but have shortcomings. Progress of late has become incremental and short of goals indicative of an adaptive and sustainable society. Recent conservation proposals, such as Half Earth (Wilson 2016), 30x30 (Biden 2021), the Paris Agreement (United Nations Conference of the Parties (COP) 2015), Green New Deal (Aronoff et al. 2019), and continued calls for the repatriation of national parks to Native communities (Treuer 2021) underscore a range of issues that need to be addressed. Perhaps most important, despite efforts to acknowledge and incorporate Indigenous cultures into conservation programs, much conservation still remains premised on the figurative if not literal removal or elimination of those cultures. Some Native people, moreover, resist inclusion into government conservation because, they assert, diversity programs integral to it extend an assimilationist model the purpose of which is to blunt Native demands for land restoration while reinforcing the power of colonial states. "Diversity," "equity," and "inclusion" in this sense represent a form of soft liberal meliorism that does nothing to fundamentally challenge the enduring structures of power and oppression characteristic of colonialism (TallBear 2019).

Exacerbating the many obstructions to conservation is the scholar–practitioner gap, or space (e.g., Jarvis et al. 2015, 2020,

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Evans et al. 2017, Toomey et al. 2017, Lawler and Benson 2022), which appears to have grown larger as the information age has intensified, resulting in greater disconnects between central offices, universities, the public, and conservation practitioners in the field. It is important to acknowledge that a practitioner's decision space is different from that of the scholar or central office staff member. That decision space requires insights and tools to adapt local conditions to an ideal, often informed by scholarship and policy, that may not fit local circumstances. From our experience, a general pattern that we've observed is that practitioners are on-the-ground with the resources and the people who use them, whereas scholars and central office employees often are distant and removed from local conditions and imperatives. That separation can add value (e.g., through alternative perspectives and depths of understanding) but is typically of limited utility in the face of the varied conditions and needs that inform a practitioner's decisions. Additionally, a practitioner's decision space typically can be described in seconds, as illustrated by the ranger who is requested to bring a body bag, or it may be up to years; whereas scholars (including those who conduct long-term monitoring) act within longer time horizons of decades to centuries, and central office employees act across diverse protected areas within their region or nation. These important differences of time and space define the gap that must be spanned (sensu Wasserman and Kram 2009) if innovative ideas are to influence local conservation (e.g., Arlettaz et al. 2010, Cook et al. 2013, Jarvis et al. 2015, 2020, Rose et al. 2020).

For many years, scholars have focused on human values to bridge this gap. Working with values has been effective on field-level conservation issues (Stewart et al. 2009), but those approaches have limitations. Values often are slow to change (Schwartz 2006, Manfredo et al. 2016), durable through generations (Manfredo et al. 2017), and composed of concept clusters (sensu Peters 1991) that are difficult to understand and apply. Fragmented social science and psychology disciplines (Bandura 2001, Henriques 2003, Bennett et al. 2017*a*) limit one's ability to programmatically operationalize any one method, and this fragmentation may offer insights as to why social science (Bennett et al. 2017*a, b*, Wallen 2017, Niemiec et al. 2021, Sanborn and Jung 2021) and the humanities (Holmes et al. 2021) are not mainstream in conservation practice today.

All of this is not to say that working with values, ethnographic research, long-term monitoring, and similar scholarly efforts are unimportant. Indeed, just the opposite, they remain vital for protected area management. However, placed in context, longer-term investigations and scholarship address scales of time and space much differently from actions necessary to address day-to-day challenges and needs. As such, longer-term perspectives orient practitioners much like a compass. They provide direction for the practitioner but offer few if any clues to navigate and adapt to the difficult terrain ahead: the daily complexity and volume of issues, multiple levels of politics and policies, the limitations of data and science, the need to reconcile disparities among diverse user groups, and, importantly, the need to shift organizational and community capacity in the short term to be in alignment with the direction set on the agency administrative compass.

Indeed, practitioners face issues that pose complex if not wicked problems in the classic sense (Churchman 1967, Rittel and Webber 1973, Peters 2017) or as a reality of compressed decision spaces and a high volume of demands. Wicked issues may not readily be solved with more research, but instead require deliberative engagement (Head 2008, Carcasson 2016) and moving beyond simple linear decision making to transformative processes (Weber and Khademian 2008, Laurance et al. 2012, Game et al. 2014, Zivkovic 2015, Mason et al. 2018, Grewatsch et al. 2021) inclusive of diverse stakeholders. These realities prompt an important question: if people's values and other long-term investigations are so important but are of limited or incomplete effectiveness to a practitioner at the field level of conservation, then what? The answer to that question is of utmost importance. At this moment in our collective history, protected area management is at a crossroads that presents an opportunity to reimagine conservation in theory and in practice and on terms appropriate to the immense challenges of the 21st century.

The path forward proposed here aligns cultural and scientific truths, scholarship and practice, central offices and field units, to enlarge the adaptive capacity—the resiliency—of communities of people to support conservation and, in the process, redefine it to meet new and changing social, cultural, and environmental conditions. My co-author Fiege and I call this alignment "elegant conservation," and it requires us to reimagine how conservation can be inclusive of cultures and subcultures whose members value protected areas, but not all in the same way. Indeed, elegant conservation requires practitioners and their staffs to have a "Beginner's Mind" (Suzuki 2020) that can help them to observe relationships among people, and relationships between people and nature, anew.

Here, we outline two heuristic models—holistic, pragmatic, flexible—as steps toward elegant conservation. The first heuristic enables a practitioner to understand and contextualize resource management and the people invested in it in a manner that increases the body of information necessary to reimagine what conservation might be. The second heuristic—the essence of elegant conservation—then offers a holistic model of human consciousness that a practitioner can use to bring people together in a practical, timely fashion to create more effective, non-violent responses to any resource problem. Throughout, we emphasize the usefulness of the humanities—history, philosophy, and other fields—which require skills and knowledge that complement those of the conventional Western sciences.

Our observations originate from authentic experiences and relationships developed over many decades, in many settings across varied landscapes, seascapes, and hemispheres. Our primary experience is in the United States of America. We are public servants, one of us primarily in a federal land agency, the other primarily in a land-grant research university. We have sat with elders, leaders of nation and state, business leaders, and many community members who struggle to make ends meet. We have engaged Indigenous members of tribes as our neighbors, for their wisdom of traditional ecological knowledge, and through government-to-government gatherings as sovereign nations, and we have heard and accepted their stern critiques of conservation and Western scientific methods. We have ridden with cowboys and boated with fisherman, cut logs with foresters, negotiated with miners, and worked on wildland fires. We have supported recreationists and been inspired by those who seek re-creation of

the soul. We have received death threats, gotten our hands dirty, and managed programs large and small providing oversight for countless operations. We have mentored, coached, celebrated successes, and mourned colleagues lost in the performance of official duties. We have rescued many from the elements and some from the darkness and despair that comes with public service and the bodily and psychological trauma and failure that such commitment often entails.

We will share insights, reflections, observations, and patterns of behavior observed through "a scholarship of the trenches"; we will not, however, identify individual people. Those people—with whom we have worked, from whom we have learned, and with whom we sustain valued relationships—require us to uphold reciprocal obligations of trust and care without which we could not do our best work and without which we could not, in turn, honor and assist them. We refuse to exploit and violate those people and our relationships with them by treating them, characteristic of the Western scientific method, as objects of study, as distanced "others" whose lives, concerns, and fates are unconnected to ours, and over which ours are superior.

Our path to elegant conservation originated in the institutions and constructs of settler colonialism and its characteristic cultural, intellectual, and political frameworks. Settler colonialism is a structure of power composed of ideas, languages, policies, practices, conventions, and technologies that marginalizes and eliminates Native people so that colonists can take their land (Wolfe 2006, Red Nation 2021). Virtually everything in settler society—including every park and protected area, resource agency, land-grant university, and the ecological and anthropological sciences that it promotes, even this journal and the methods by which we, our editors, and our peer reviewers produced this article—have been influenced by, and to varying degrees are outgrowths of, settler colonialism. We acknowledge that we are settlers, that our ideas and practices emerged from the Western knowledge systems that inform colonialism, and that it is an open question among some Native scholars as to whether any settler colonial institution, this journal and the disciplines that it serves included, ultimately is capable of decolonization (TallBear 2019, 2022). In writing from our settler colonial background, we are mindful of the hazards involved in any attempt to engage Indigenous knowledge systems without tokenizing and stereotyping Native people and without appropriating their knowledge and practices in ways that reinforce the injustices of the settler colonial state.

With these admissions in mind, and with great humility, we make no apology for what we offer here. "You carry with you your own limitations, biases and unawareness, and that of the organizations into any new relationship," advises the Black geographer Carolyn Finney (2014: 132). "It's not that you need to be perfect; but you need to know exactly where you're at in your own growth in order to meet someone else with honesty and clarity, and in order to do no harm." We came to our concept of elegant conservation in ways authentic to our study, our work, our lives, our mistakes, and our sincere conviction that we can work with others to create more effective, useful, fair approaches to conservation. When we cite the scholarship of white men or settlers such as ourselves, we do so honestly, because those sources helped us get to where we are at right now. In no way do we mean to imply that those sources necessarily are the only, or the best, with which to grasp the possibilities inherent in elegant conservation. We believe that our sources potentially overlap with, connect to, and complement the works and knowledge systems of many other scholars and people, and we hope that others adapt and modify our ideas in ways consistent with their own experiences, perspectives, and knowledge backgrounds.

We believe that elegant conservation is an open-ended, flexible model that can help field-level conservation practitioners negotiate the vast differences among the people whose interests and claims intersect in parks and protected areas. We often do not have the academician's privilege of a relatively neutral study of people in place; in my case, I often arise in the morning faced with the prospect of bringing together or listening to angry Native people on one end of the human spectrum and angry settlers on the other. It is from such conflicted circumstances that my co-author and I gradually formulated our concept of elegant conservation.

These difficult matters are the "tough stuff" of conservation (sensu Horton and Horton 2006) in which virtually all practitioners are implicated, but cannot afford to be paralyzed by if we are to realize a more sustainable, just future. Deconstructing or neutralizing settler colonialism—or any related forces that impose unjust power structures—requires us to do one of two things: assert a greater force than the one extant, or imagine an alternative. Often, both must be advanced at the same time to grab the attention of the powerful so that they might consider an alternative way forward. Moreover, there are no panaceas, and as we appropriately wrestle with finding reciprocal or community-based conservation to amend or replace outmoded government structures at multiple vertical and horizontal levels, there remains the human factor in social-ecological systems (Berkes 2007, Corson and Campbell 2023). Elegant conservation addresses the human factor, across cultural contexts, and we offer it not merely from a position of experience or authority, but also from humility and the faith that all people can find an adaptable way forward to the durable, livable world that we believe is possible.

CONSERVATION EXISTS IN AT LEAST TWO WORLDS

> *There are two worlds: the world we can measure with line and rule and the world that we feel with our hearts and imagination.* - Leigh Hunt, 1891.

Why elegance? Let us follow up that question with other questions from a different yet common experience—in the work of conservation do people play notes, or do they make music? How well do scholars harmonize with actual work being done in a community? How about central office staff—are they acting in harmony with field practitioners or trying to compose their own melody? Within a field unit staff and the community it serves, what are the sounds people hear? Any of us who have been involved in "durable" on-the-ground change for conservation (not simply a statement, but an action) know that it is most often characterized by harmonious effort—coordination, cooperation, co-production, incentives, disincentives, vision, humility, etc. These actions bring people into an alignment—the stars align, to use that turn of phrase. The notion of elegant conservation is to not leave this alignment to chance, but to invite us to be deliberate about aligning the good intentions of many to have a positive, useful outcome, not just the idea of such an effect—to compose our conservation notes into song.

The pathway to elegance begins with an acknowledgment of the many ways that human beings see, make sense of, and describe reality. Like the English critic and intellectual Leigh Hunt, European and European-descended people often have divided human comprehension between reason and emotion, enlightenment and romanticism, utilitarianism and aestheticism, ideas and reality. Another English critic and intellectual, C. P. Snow (1959), expressed it similarly in his notion of the "two cultures" of science and the humanities—the incompatibility of physics and Shakespeare, for example—as a means of understanding the world. In protected area management, the division continues in the conceptual and administrative separation of natural and cultural resources, use and preservation, recreation for today or conservation for tomorrow and very commonly between scholarship and practice.

In our experience, "in at least two worlds" is a significant point of emphasis for practitioners. When stated or construed as a dichotomy, duality is a simple, sharp description of opposed alternatives, one or the other, and often engenders us-vs.-them power struggles that can be asymmetrical. Yet that is an incomplete description of the ideas we advance here. Duality as a dichotomy indeed has a place in protected area management, in the field or in the courtroom. For example, did the horse graze illegally on public land, or legally on private pasture? In such situations, practitioners often make use of academic science and formal law to arrive at some standard of objectivity, truth, and fairness in managing protected areas. We assert, however, that if practitioners conceive of duality only in such reductive, simplistic terms, they become vulnerable to the "god trick" in which seemingly omniscient scientists and lawyers become the ultimate arbiters of truth. That mistake is harmful to the communities that practitioners serve and reinforces the white, male, heteronormative, patriarchal, colonial power structure (Haraway 1988, Thompson 2015, Rogowska-Stangret 2018).

Although the duality of Hunt's two worlds is true and useful enough, it often loses its validity and utility upon closer examination or when people try to bridge its seemingly insuperable divide. Beneath the superficial division exists a richer world of many cultures and subcultures, including those of scientists and humanists, that make up a continuum of perspectives that all of us encounter every day. Language is central to this wonderfully diverse and evolving mix. Each culture or subculture has its own language to describe the world and find meaning in it, and which often collapses simplistic dualities. As the anthropologist Wade Davis (2003) explains, "language is not just a body of vocabulary or a set of grammatical rules," the instrumentalism of line and rule. "A language is a flash of the human spirit. It's a vehicle through which the soul of each particular culture comes into the material world. Every language is an old-growth forest of the mind, a watershed of thought, an ecosystem of spiritual possibilities ... and these observations remind us ... that the world in which we live does not exist in some absolute sense but is just one model of reality, the consequence of one particular set of adaptive choices that our lineage made ... many generations ago" (Davis 2003).

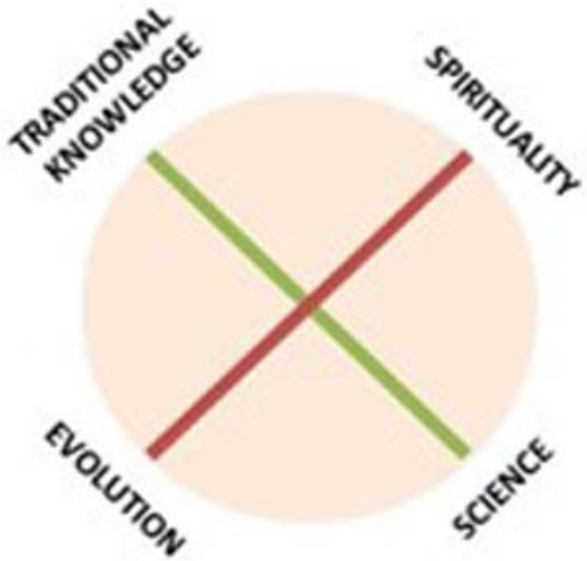
Elegant conservation recognizes that these novel languages, including dialects and vernacular expressions, do not exist in some abstract sense or on some distant continent, but in pockets and expanses of contemporary society all around us. Each language, each manner of explaining, expresses a unique story that may be place-based and ancient, generational and new, disciplinary, or even institutional. The multiplicity—the great diversity—of stories that people tell about themselves and the world is of immense importance to protected area management. If there is more than one model of reality as expressed in culture and language, then there is likely more than one model of conservation, if only we could see them. Reimagining conservation thus becomes not only possible, but also a necessary adaptive response to rapid cultural and environmental change. As we reflect upon factors that inform the growth, trials, tribulations, resilience, and collapse of civilizations (e.g., Toynbee 1987*a, b*, Tainter 1988, Perlin 1989, Ponting 1991, Diamond 1997, Gunderson and Holling 2002), it seems prudent that conservation remain relevant to the diversity of peoples it serves if it is to be adaptive and resilient for the future. In this regard, protected area practitioners should recognize that one of the beauties of conservation is that it has been, and can be, impressively capacious and flexible. People have recreated it, and still can recreate it in new forms.

In our experience working for settler institutions and pursuing their missions with reasonable objectivity and fairness, we have learned that academic science and formal law can be useful tools that bring clarity, context, and opportunities to problems or conflicts in protected area management. They can bring a general framework of understanding and negotiating that transcends particular political positions and cultural perspectives. We are aware of, and have witnessed, Native groups that employ academically trained scientists and lawyers, themselves in some cases Native, to advance Indigenous interests in land and resource management. Such circumstances are particularly powerful and transformative when all citizens participate in science and policy processes. There are pitfalls, to be sure. Colonial domination is perpetuated when science and law are not questioned, adapted, understood in context, exclusive, or drive decisions that disregard the people and communities they are supposed to serve.

To this point, inspired by Eastern, Western, and Indigenous philosophies, we call out the significance of approaching duality, not as an absolute division, but as a unity of opposites leading to a plurality of perspectives and potential solutions to problems. In our experience, often on a daily basis, someone begins a conversation by presenting a request or demand from a singular position, such as "more x," "less y," or "protect z." Not acceding immediately to the request or demand instantly sets up a duality that can harden into dichotomy and conflict. In such circumstances, how might a practitioner open a dialog that moves beyond singular to dual positions, and from there to a plurality and the possibilities they present? We believe that most people have the capacity for pluralism, but that their personal circumstances often pressure them to focus on a singular position or objective. A practitioner can advance the conversation by opening a safe space—physical and imaginative—that honors or validates the singular position through active listening; shares an alternative, even opposite perspective that does not devalue the singular; and, working from a unity of opposites, moves on to offer alternative perspectives or co-produces alternatives with the potential for mutual understanding, shared vision, and alignment.

Figure 1 illustrates a heuristic developed at a biodiversity workshop at the outset of which the singular authority of "science" (conventional academic Western science) drove the conversation regarding biodiversity conservation. The figure was co-produced in collaboration with a member of the Crow Nation in an effort to transform the dialogue from a singular perspective to dual perspectives, then intentionally visualizing "connections" within a circular form in order to convey a plurality of alternatives and their connectedness. The figure incorporated as many singular perspectives as possible and then helped everyone sitting at the table to recognize plurality as they discussed the figure. However crude or simplistic the figure might seem, its creation and the dialogue that it fostered was a breakthrough in a fraught, potentially divisive and conflicted moment. Thus, we agree with Haraway's (1988) dissatisfaction with duality, most often expressed as dichotomy, and have found in practice that an approach based on a unity of opposites leading to pluralism offers a pragmatic pathway towards common ground and an alignment of situated knowledges and visions.

Fig. 1. Adapted from a workshop on biodiversity (NPS 2016) as a representation of how we may connect singular perspectives to become pluralistic in our approach to integrating biological diversity with cultural diversity. The co-production reflects that "There can be at least two ways of knowing (through science and traditional knowledge) and at least two ways of understanding (through spirituality and evolution)." Singular positions connected visually in a unity of opposites heuristic allowed the conversation to pivot from an individual to a collective approach through mutual understanding.



So, how does one reimagine conservation in an elegant form? And how does one put it into practice? First, we introduced two important distinctions between scholarship and practitioners—the notion that decision time and space are often meaningfully different depending upon the particular people involved. Practitioners often make decisions in relatively short periods and have to live among the local communities of people their decisions impact. Additionally, practitioners often have incomplete information along with high volumes of decisions required in a relatively short period. As such, it is difficult to impossible to optimize each decision across a protected area—there simply is not enough time, nor people, data, models, computational power, etc. to do so, except in specific circumstances. Consequently, heuristic approaches to management are a normative response that addresses (Gigerenzer 2008) the practitioner's need to orient local conditions toward a sustainable future.

Over the last centuries, scholarship has developed systems of logic and probability to reflect cognition of mind and inform the practitioner of management options, through research, statistics, optimization, and so forth. Although heuristic models generally are not well developed (Gigerenzer 2008) and certainly not within the realm of common conservation practice (a notable successful exception is the Wildland Fire Decision Support System), heuristics can be more accurate than other approaches in practitioner circumstances (Kurz-Milcke and Gigerenzer 2007, Albar and Jetter 2009, Gigerenzer and Gaissmaier 2011). We are familiar with a rich literature that investigates heuristics for environmental decision making and acknowledges their potential for bias but recognizes that such devices are a necessary part of managing cognitive load (e.g., Gsottbauer and van den Bergh 2010). Heuristics address the real world and a messiness that complex models, including optimization, do not assume. Heuristics may be biased, but it is important to remember that their accuracy has not been thoroughly assessed (e.g., Blumenthal-Barby and Krieger 2015). Regardless of one's perspective, practitioners are using heuristics, and must use them. They are forms of situated knowledge (sensu Haraway 1988) that assist incompletely informed practitioners in making decisions required by their particular reality (Thomas 1979).

Additionally, intellectual endeavors—logic, probability, and heuristics—complement each other as systems of rationalizing problems, and if aligned around a specific purpose, can assist and enhance evolving concepts of conservation, including moving it in decolonial directions. Heuristics are a way to connect characteristics of our hearts and imaginations to the demands of line and rule—in sum, to practice the art and science of management. Efforts to clarify these heuristics and their usefulness to conservation practitioners and the local communities they serve can only improve conservation and the ability to achieve a more sustainable, just future.

A BEGINNER'S MIND: SEVEN COMPETENCIES FOR THE INITIAL ASSESSMENT OF PEOPLE AND ISSUES IN PROTECTED AREAS MANAGMENT

Equipped with an awareness of the multiple possible worlds of conservation and the usefulness of merging the sciences and the humanities through heuristics, we suggest that protected area practitioners and staff can size-up or assess any conservation issue in light of seven conditions broadly present in ground-level social and political situations centered on protected areas or public resources and the people involved in them. Exploring these conditions will assist in opening a practitioner's mind—a beginner's mind—to a new discipline (e.g., Senge 1994, Borrell-Carrio et al. 2004, Soule 2007).

In the case of elegant conservation, the new discipline begins with an assessment of people using the analytical categories of knowing, understanding, situational self-awareness, paradigm, continuum, systems, and scale in space and time, all of which are potentially present in the content or the context of the matter at hand. Exploring one or more of these conditions has proven reliably insightful as a practitioner to illuminate the situated knowledge (sensu Haraway 1988) of community members and participants. Situated knowledge is "embedded in, and thus affected by, the concrete historical, cultural, linguistic, and value context of the knowing person" (American Psychological Association 2022). These competencies approximate how we see and think about the world, perhaps what Smith (2006) calls "disciplinary cultures"; Kuhn (1962) identifies as "paradigms"; Fleck (1979) describes as "thought collectives" influenced by "thought styles"; and what Haraway (1988) refers to as "situated knowledge." Our experience suggests that competence in recognizing and analyzing these conditions, including their presence in, and relevance to, the practitioner's own life and conservation practice, assist a practitioner in seeing and thinking about the world in a more holistic way. These competencies necessarily overlap, which enriches opportunities for recognizing potential alignment. When used as a heuristic, the competencies immediately redefine an issue broadly and assist with reimagining the issue; when a practitioner develops skill with these competencies, a reimagined scenario may be actualized.

These context competencies (National Park Service (NPS) 2016), serve as a heuristic framework that can help conservation practitioners foster conditions necessary for disparate people to reach a mutual understanding of potential solutions to protected area problems. These competencies are not fixed, absolute, or definitive, in the sense that all must be put into practice, or all put into practice in a sequential order. Exercised singly or in combination, they offer a means to begin sizing up a situation and the diverse people involved in it. As noted by Smith (2016) "becoming acculturated [in any discipline] is not a just a matter of mastering a set of canonical ideas, texts, images or techniques... it is also a matter of knowing a set of tacit but crucial norms...it is a matter of knowing what matters...it is having a fund of informal know-how acquired through a personal history of active practice, precisely, as a practitioner."

The goal of size-up is not to control or manipulate people. Rather, the elegant conservation goal is to listen empathetically as a means of identifying the common ground necessary to form a loose, pragmatic consensus with which to move toward a democratic, just, workable solution to a problem, conflict, or crisis. The challenge is to acknowledge and honor the diversity of positions on a given issue while integrating those positions in pluralistic dialog and deliberation with the objective of finding a common path forward. A colleague and friend in the National Park Service calls this pluralistic group process "enlightenment by discovery."

Knowing

What we call "knowing," or knowledge content, is at the heart of how people, protected area practitioners included, experience the world—both the biosphere and the world of culture, or what Wade Davis (2003) calls the "ethnosphere." Knowing is a key piece of the consciousness that all people bring to bear when they address conservation issues.

Virtually all people draw on various kinds of traditional, informal, or practical knowledge. These forms of knowledge may be different from the types of knowledge of persons in positions of authority (e.g., protected area managers, policy makers, university researchers, or agency professionals), which can serve to invalidate and exclude many people's situated knowledge. It is vitally important, however, for conservation practitioners to honor and engage the diverse ways of knowing characteristic of the many kinds of people who might be involved or implicated in conservation and who do not participate directly in policy, research, or protected area management. The literature on these forms of knowing is immense (but see, for example, Basso 1996, Scott 1998, Cabin 2011, 2013, Kimmerer 2013, Stilgoe 2015, Langlands 2017). These alternative forms of situated knowledge are experiential, sensory, and empirical, sometimes but not necessarily informed by larger systems of belief and meaning (see our following explanation of "understanding"), and usually not mediated or controlled by specialized professional "experts" in authority (e.g., academia or in government). Traditional knowledge can be imparted by elders, family or community members, co-workers, mentors, or passed from generation to generation. Informal or practical knowledge can be learned from important events, planned or contingent, along the life course or in relation to a career, trade or other line of work, or lifeway.

The historian Richard White (1995), for example, described this kind of knowledge content when he wrote of "knowing nature through labor" as different from Western science or what people learn through leisure. People who work on the land learn the characteristics of wood, water, soil, stone, weather, flesh, fur, and feather, but not in the same way as a scientist or a person with binoculars and field guide. Natives or other people involved in subsistence, family farmers and ranchers, and wageworkers, for example, do not necessarily reject scientific or other official methods and information, but they tend to merge those approaches with what they know of the world through first-hand, practical experience—through "knowing."

An example of knowing might be when a rural person says, "I know that spring like the back of my hand. I remember when my dad brought me to it for the first time. I have drunk from it, camped by it, and watered my horses there. The creek that flows from it has kept my family's cattle alive for generations. When I studied range management at the state college, I learned how important springs are in any desert country like this."

Protected area practitioners and staff (as well as community members) also engage in the practice of knowing as a means of generating knowledge content. Agencies are often mandated by law or policy to use science as the basis of management. But often this is not enough, and out of necessity, protected area practitioners develop experiential, trial-and-error, practical knowledge about dealing with the resources and people within the bounds of their stewardship. Knowing and the methods of science usually operate in relation, as on a continuum, with practitioners and staff partaking of both, as when agency professionals refer to "the art and science" of management.

Knowing of this sort also stands in potentially uneasy relation to methods characteristic of official science or official management criteria (e.g., Cabin 2011, 2013). When a forest ecologist and Native staff figure out, in a practical boots-on-the-ground way,

how to re-establish native vegetation, they are generating local knowledge—agency local knowledge—that might invite criticism because it is "unscientific." These protected area staff members sometimes differentiate between the imperatives of "practitioners," the people charged with getting something done, as apart from those people with the privilege, resources, and time that enable them to conform to official or conventional methods of science.

This analytical category is important—and will be important in the future—to protected area management because it helps conservation practitioners piece together different ways of knowing into a more cohesive and useful understanding of the people involved in any situation, problem, or issue. A range of works are relevant here. Cronon (1995, 2003), for example, challenges the culture/nature dichotomy of humans separate from pure nature, with important implications for protected area management; knowing what to do in an uncertain future in landscapes in which nature and culture are mixed must and will rely on what people learn experientially in daily life, in practice, and not just in the realm of Western science. A hugely important—and potentially rewarding—part of this process will be the relationship of Western scientific knowledge and the traditional knowledge of Indigenous cultures. Scholars such as Mazzocchi (2006), Kimmerer (2012), and Whyte (2018) open a conversation about the importance of, and obstacles to, bridging these knowledge systems through mutually respectful learning (Whyte 2013). Cole and Yung (2012) address the need to reconcile this divide in the context of 21st century uncertainty and definitions of naturalness. The classic account of Berkes (2018) emphasizes knowledge as a relational process and makes a powerful case for the importance of traditional ecological knowledge as a complement to Western science, especially ecology. Awareness of how people know the world and what they know about it will be crucially important to conservation practitioners seeking elegant pathways out of our troubled present into a better, more adaptive, resilient, potentially decolonized future (Armitage et al. 2010).

Understanding

From a protected area practitioner's perspective, conservation also involves what we call "understanding." More than knowing, more than knowledge content, understanding is context—it is a larger framework of explanation that a person uses to make sense of what that person knows. Most important, it is at the root of a person's origin story and is that person's means of organizing and expressing values, attitudes, and beliefs.

In our experience, people often express understanding in the form of spirituality or in a commitment to scientific theory. Spiritual pathways to understanding the world make sense of life's situations and often are manifest in a "connection to place" that can have profound implications for how people relate to one another and to the Earth. Similarly, people primarily oriented to natural, material, biological, or physical processes often understand the world around them by invoking Western science. In most cases, science expresses a relationship between people and between people and the Earth that is profoundly different from that of spirituality. Spirituality and scientific theory, however, are best assessed not simply as dichotomous positions, but as along a continuum in which one or the other might be more important to a person depending on the issue, with a full range of beliefs and value systems in between, including seeing no conflict at all between the two (e.g., Lewontin 1991, Armstrong 2007, Rolston 2010, Rudwick 2014).

A rural person might express understanding along these lines: "I know what the science says. I took geology and ecology courses at the state college. But here's the thing—here's what I believe. I believe the spring is God's gift to us, and that He intended for us to use its waters to the fullest for our security, our prosperity, and our enjoyment." Comparably, a protected area practitioner might say something quite similar, but with emphasis on the science of evolution and the ethical argument that species are part of God's creation and have intrinsic value unto themselves (e.g., Rolston 1988).

Situational self-awareness

Every person brings unique, often fragmented or shifting combinations of knowing and understanding to any conservation issue. A person's ability to communicate a connection to land and resources will depend upon that person's "situational self-awareness" (sensu Goleman et al. 2002). The ability to communicate also will depend on the situational self-awareness of every person receiving that person's message. Situational self-awareness functions along a continuum of responses ranging from those that arise instinctively from within the subconscious to those that are transparently conscious thoughts and actions. A person's situational awareness—of self, others, nature, and the relationships among them—is a composite of knowing and understanding and the ability to express it, through narrative, symbols, and action. Situational self-awareness is important because a protected area practitioner's recognition of it helps them understand the limitations—the blind spots—in how people define an issue, what they propose as sources of solutions, and what partnerships and paths might be necessary to bring disparate individuals and groups toward a common objective.

By observing these three aspects of consciousness and communication—knowing, understanding, and situational self-awareness—a protected area practitioner, drawing on the sciences and the humanities and other knowledge systems, can identify and articulate a context that more fully describes an issue from multiple perspectives and that more closely approximates social reality (sensu Berger and Luckman 1966). Awareness of the context opens opportunities for the protected area practitioner to help seemingly disparate individuals and groups listen to one another, discover common or similar interests, and maneuver together toward an objective. Alignment, as we call this convergence, is a crucial part of elegant conservation.

Competent awareness and analysis of the following interacting conditions potentially at work in any situation—paradigm, continuum, and system—enhance the opportunities for building bridges and achieving elegant alignment:

Paradigm

A protected area practitioner's ability to size up a conservation issue is both enabled and limited by how the practitioner and other people see the world. The metaphor of looking through a lens (sensu Jones 2010) to reimagine conservation is important and cannot be overstated. Thomas Kuhn's concept (1962) of "paradigm" and the structural shifts—revolutions—in how people conceptualize the world is of immense importance in assessing how anyone sees. Carl Jung's contributions to

archetypes of consciousness (e.g., Jung 1990) along with Joseph Campbell's identification of mythological archetypes (Campbell 2003) reveal a great plurality of patterns in how people see and interpret reality. Anthropologists and linguists such as Wade Davis point out the vast array of cultures around the world and their particular interests in conservation.

Indeed, the ability of protected area practitioners and anyone else to reimagine conservation depends upon the lens through which they look at it and the archetypes that help them do that work. Limiting the lenses, constraining the ability to see possibilities, diminishes the potential for finding elegant alternatives to a conservation status quo. Situational self-awareness is one means by which protected area practitioners and other people can rectify this problem. A protected area practitioner who sees the world through the lens or paradigm of natural selection—evolution—should be cognizant of alternative lenses, such as the Original Instructions of Native people or Christianity, an awareness of which should help prepare the practitioner to bridge differences and establish the basis for elegance.

Or, in illustration, the protected area practitioner might assess situational self-awareness of their own adherence to the paradigm of settler colonialism. A powerful structure of thought, language, and action, settler colonialism seeks to eliminate Native people—rhetorically and actually—in service to the expropriation of their lands (Estes 2019, TallBear 2019, Wolfe 2006). Settler colonialism undergirded the creation of many protected areas, including many national parks and the land grant universities (e.g., Spence 1999, Lee and Ahtone 2020), institutions we hold dear and to which we have devoted our working lives. We propose elegant conservation as a practical means for protected area practitioners to address the paradigm of settler colonialism on a day-to-day, issue-by-issue basis. Elegant conservation was envisioned and tested within the settler colonial fabric of the United States of America. It is premised on people being part of the landscape consistent with the United Nations Biosphere Reserve Program and those protected areas in Alaska created under the Alaska National Interest Lands Conservation Act (ANILCA). Using its concepts, protected area practitioners can help foster the tolerance and cultural awareness necessary to abate the degradation of the ethnosphere (Davis 2003), help create the conditions of justice for Native communities, and in the process, revise and enlarge conservation as it outgrows and moves beyond its colonial past.

Continuum

Another potentially useful way to sort out resolutions to conservation problems is to think of how things in the world express a "continuum." Protected area practitioners seeking more elegant solutions to issues might imagine either/or propositions as bookends to a range of possibilities, not a duality. Duality expresses what is black and what is white; a continuum, a unity of opposites, draws attention to the shades of gray that lie between one bookend and another and that better approximate how conservation works in the field. Sciences and humanities—or sciences vs. humanities—suggest a classic Western "two cultures" duality of methods in assessing a conservation issue, but thinking about the sciences and humanities as bookends opens a range of possibilities for reimagining the issue and potential resolutions of it. Elegance thus recognizes not just two paradigmatic, different, opposed, and all-too-often boring textbooks, but an entire shelf of volumes packed with useful and exciting ideas.

Systems

Reimagining conservation in elegant forms also draws on the strength of linear thinking and enlarges it into thinking in terms of "systems." Linear thinking—chronological reasoning, thinking in time (e.g., Neustadt and May 1986)—assists in assessing cause and effect, but systems thinking (e.g., Gaddis 2002) helps the protected area practitioner to see connections, to identify social and ecological structures and networks that inform those connections, and to evaluate what happens when those connections do not exist or fail. Linear thinking helps with detail complexity; systems thinking helps practitioners navigate dynamic complexity (sensu Senge 1994). The systems approach has given practitioners useful tools with which to understand human problems. For example, thinking in terms of motivations (Maslow 1943), archetypes (e.g., Jung 1990), personality types (e.g., Myers and Myers 1995), circles of influence (Covey 2004), and the ways that the consequences of past events accumulate in human lives (Sheehey 2019) helps the protected area practitioner navigate the shades of gray when working with people on management issues.

Scale in space and time

The notion of scale as it applies to space and time assists the protected area practitioner in thinking about and visualizing alternative ways of reimagining a conservation predicament. In its simplest form, "scale in space" offers a means to scan the planet to see if other sites of conservation have similar problems (i.e., space for time substitution). Or "scale in time" can be used to explore history to assess the roots of a problem or to grasp origin stories and their implications more thoroughly (Bobowski et al. 2016). In its more complex forms, scale adds richness to models of origin stories and the potential for their enlargement into future possibilities.

These, then, are the seven conditions present in any resource issue in which a protected area practitioner has the opportunity to grow competence in "sizing up" a situation:

1. "Knowing" is the content knowledge drawn from our experience of the world around us.
2. "Understanding" is the context that illuminates how we know and provides insights into origin stories, values, attitudes, and beliefs.
3. "Situational self-awareness" enlarges upon knowing and understanding and identifies a person's place in the scheme of things and in relation to how others see the world.
4. "Paradigm" specifies a specific lens, that informs the pattern of organized thought and meaning, through which a person sees and understands the world.
5. "Continuum" reminds us that conservation issues usually are not binary.
6. "System" identifies connections, feedback loops, and other multiple, interdependent, interacting variables that drive change.
7. "Scale" enriches awareness of the number and kinds of potential possibilities or resolutions.

A protected area practitioner who exercises these seven competencies regularly and in dialog with the communities with whom they work will be better prepared to reimagine conservation

and, more often than not, will be headed toward an elegant outcome to the resolution of any protected area problem.

ELEGANT CONSERVATION

After a protected area practitioner engages in size-up and develops the intellectual space—the consciousness—with which to reimagine conservation, opportunities emerge to build elegant bridges between once seemingly disparate perspectives. Gestalt psychology, which took shape during the early 20th century, offers a useful paradigm (Wood 2010). Gestalt is a German word that means form, configuration, or pattern. Gestalt psychology's premise is that people see individual things in patterns, and indeed, that those patterns influence how people see individual things. Not only is the whole greater than the sum of the parts; the whole constitutes the parts. Gestalt psychology counteracts a tendency in modern Western science toward a reductive atomism that addresses problems by identifying their individual pieces and by focusing on those pieces separately from the wholes that contain and shape them, their context. Elegant conservation asks the protected area practitioner to retain the analytical power of Western scientific reductionism but not elevate it above the need to see the world in wholes. Holism is the transcendent goal of building bridges between differing human perspectives.

The elegant utility of Gestalt psychology arises from its historic relationship to conservation. Both were part of a broader movement to see and describe the world in wholes greater than the sums of their parts. The conservationist Aldo Leopold is an outstanding example. Leopold was born in 1887, in the same decade as the founders of Gestalt psychology. Leopold's land ethic, his concept of the land community, and his vivid and deeply moving essays—such as "Great Possessions," "Round River," "Marshland Elegy," or especially "Thinking like a Mountain"—expressed a powerful awareness of a beautiful and mysterious ecological holism (Leopold 1970), a kind of ecological Gestalt. Later, field naturalists developed the Gestalt-like technique of GISS (general impression of size and shape) for the identification of birds and other organisms (McDonald 2016, Peterson 1990). The fire management concept of the "size-up" similarly manifested similarities to Gestalt through heuristics and mental models (National Wildfire Coordinating Group (NWCG) 2004). At its core, elegant conservation seeks and acts upon Gestalt.

Protected area practitioners commonly use heuristics and mental models to address high volumes of information in relatively short periods, especially in moments of urgency and danger. Although these heuristics and mental models often are not articulated or described, a well-developed example for land managers within the USA is illustrated by wildland fire management and its use of heuristics to aid firefighters in their safety, such as the 10 Standard Firefighting Orders, the 18 Watch Out Situations, the "Incident Response Pocket Guide"—the "IRPG" (NWCG 2022), and the Wildland Fire Decision Support System (WFDSS) (Calkin et al. 2011). Those heuristics are not premised on the colonial belief that wildfire and other forms of nature can and should be totally controlled and eliminated. Their purpose is not to dominate nature or to exercise power over human beings; it is to smooth the flow of information to enable the safe, efficient allocation of firefighting resources, protect human life and possessions, and, as much as possible, ensure that firefighters return to their loved ones. All wildland firefighters in the USA, for example, including Native American firefighters, Native American hotshot crews, and others units, use the IRPG and other methods while managing fires that threaten homes throughout Indian Country (Indian Affairs n.d., Associated Press 2008, Brown and Weber 2021). They also use it while tending prescribed fires and collaborating with Native elders on cultural burns (KQED Arts 2021). The IRPG emphasizes the need for clear communication in all directions; it gives subordinate firefighters the decidedly unmilitary authority to "refuse risk" and "turn down" an order if they deem it necessary for their safety (NWCG 2022: 18–19).

Wildland fire management heuristics enable practitioners to make sense of overwhelming amounts of environmental and cultural information under extremely dynamic, stressful, hazardous conditions. The WFDSS gives practitioners a set of prompts and data-informed models that assist decision making. It includes a diverse set of variables, from politics to practices, and offers a mental model of response that can be adjusted as situations change. The tool is effective and gives practitioners an adaptive process to evaluate circumstances and make decisions about wildfire. The WFDSS was developed in response to incidents that threatened life and possessions. Imagine if practitioners emulated fire management practices to create heuristics and mental models to deal with many other issues typical of their work.

Over the last 30 years of field experience, we have developed an elegant Gestalt approach to conservation issues and the people involved in them by applying a simple yet powerful system. Drawing on our experiences and observations in the USA and abroad, including the analytical thinking of the size-up, we propose that ground-level conservation efforts systematically appraise the human tendency to (1) act instinctively, (2) control and win, (3) have a purpose, (4) express a personal truth, and (5) demonstrate a tolerance for others. Assessing these tendencies holistically is more useful to understanding the Gestalt of a conservation issue, and the paths forward it suggests, than any other set of tools. As a heuristic, it can assist with a rapid assessment of where to focus limited time and resources. As a mental model, it can assist with evolving a situation to improve organizational or community capacity.

Our observation is that each of these five tendencies, alone or in combination, is rooted in every person and serves some contribution in motivating action. Each person has a subconscious or instinctive source of behavior; each has a desire or felt need to control a situation and prevail over competitive forces; each has an identity grounded in an ideology, belief, or paradigm that imparts a sense of purpose; and each is committed to a personal truth derived from knowledge and understanding about how to perceive the world and act in it. And each person has the potential for situational self-awareness and the ability to tolerate difference and recognize the diversity of ways that other people see truth in the world—and how those multiple perspectives might be integrated in a constructive pluralistic dialog.

Through an in-depth literature search, we have found that these five tendencies best relate to the work of the philosopher Jean Gebser (1905–1973), whose experience of war and social upheaval —and their dislocations, alienations, and uncertainties—shaped

Table 1. Operationalizing elegant conservation requires an ability to see when opportunity for change exists, what the barrier or glass ceiling is that prevents change, and skill in breaking the cycle that keeps one from changing.

Human tendencies	Change occurs when:	Glass ceiling	Breaking the cycle
Instinct	Reason for change may not be readily apparent. Fight/flight reaction will be consistent with one or more of the elements below	Subconscious vs. conscious	Create the time and space to develop a dialog
Control	Dead body count, literally or figuratively	Finite games vs. infinite games	Position vs. interest—explore mutual interests to build connections and coalitions
Purpose	Mutual interests become apparent	I or me vs. we or us	Develop a shared purpose to bring people together
Truth	Being able to see there is more than one right answer and those answers are often not mutually exclusive, creating opportunity for a shared answer	Right vs. wrong; one truth vs. multiple truths	Finding a common truth
Capacity	Openness to change	Recognition that there is more than one way to be	Practice—tolerance and inclusiveness

his effort to compose a unified, integrated explanation of thought and action. Gebser began and ended life in Germany, but as a refugee and as a scholar also lived in French, Spanish, Swiss, and Indian societies and studied their respective cultures and languages. He embraced reason but rejected the dominance of its reductive, dualistic categories, which, in his view, fragment consciousness. Instead, he argued that multiple archetypal structures of consciousness—archaic, magical, mythic, rational—and their origins are ever present, all at once, in the minds of human beings. Seeing through things and their categories to the truths they represent, and finding their complementarities, brings people to a new, intensified holistic structure of consciousness that he called "integral" (Cheak n.d., Gebser 1985, Jean Gebser Society (JGS) 2017, Combs 2018, Wilber 2000).

Gebser's ideas informed the works of several notable scholars including Ken Wilber and his contributions to a contemporary philosophy of consciousness (Prinsloo 2018, Duffy 2020). Wilber's work (e.g., Wilber 1997, 2001) integrates numerous ancient and contemporary philosophies into an integral work of human development (e.g., Wilber 2001) to reimagine disciplines (e.g., psychology, medicine, education, and ecology) through his model of consciousness (Wilber 2005).

The science of consciousness also has blossomed in the 21st century. After decades of focus in the 20th century on behaviorism, the concept of consciousness was reborn through the urging of Crick and Koch (1990) among others. This renewed interest has informed great progress as "consciousness science encompasses a rich interdisciplinary mixture drawing together philosophical, theoretical, computational, experimental, and clinical perspectives, with neuroscience its central discipline" (Seth 2018), artificial intelligence and robotics (e.g., von Braun et al. 2021) along with robust debates over the very nature of consciousness (e.g., Dennett 2002, 2008, 2018, Chalmers 2010, 2013, 2018).

Our work, observations, and introduction of elegant conservation best approximate Gestalt and Gebser and serve as an entry point into a rich and emerging science and philosophy of consciousness. This bridge is crucial for conservation as the insights of consciousness are fundamental to our understanding of people's actions in the material world. Focusing on consciousness as the root of values, beliefs, and attitudes offers the possibility of new insights and understanding. At a minimum, through heuristics and mental models, we can begin to approximate consciousness as it manifests itself in the material world, thus offering an opportunity to reimagine conservation.

Elegant conservation functions as a holistic system that works best when its parts are in alignment, when the parts express a pattern that reciprocally gives depth and meaning to the parts, and when the parts intensify into a resilient structure of integral consciousness. Alignment—seeing the complementary parts and their interrelatedness through the integrated whole—creates elegant opportunities and capacities for conservation. Conversely, misalignment—seeing elements in the typology dichotomously, in pieces—constrains those opportunities and capacities. Often an individual is "stuck" or prefers to operate from one element over the others. In such a case, we contend that breaking the "glass ceiling" creates opportunities for elegance. The radical, violent metaphor of the shattered glass ceiling indicates the way change can remain within view, yet unreachable, until a status quo barrier is demolished, and people suddenly break through and see possibilities—recall our friend and colleague's notion of enlightenment by discovery—for practicing an integral, elegant conservation (Table 1).

Elegant conservation, then, seeks the alignment of five elements of human consciousness, described here in detail:

Instinct

> *"I won't be able to guarantee your return," the livestock permittee said to the young government official. "If you come onto the allotment with me, I can't guarantee that you'll make it home."* - Livestock permittee to Bobowski, ca. 1999.

In our experience, death threats are uncommon when we are in the field, but they are an extreme example of how people often react instinctively when confronted with the threat that change poses to them. It is imperative for protected area practitioners to recognize instinct at work, and to grasp the significance of instinct and its place in a program of elegant conservation.

On the surface, the idea of instinct is self-evident as a response to an immediate stimulus that provokes a visceral, default reaction,

such as fight-or-flight. The behavior has biological origins and appears across the biological world. People have been aware of it for a long time. "Self-preservation is the first law of nature" was a common saying during the American Revolution (Fiege 2012: 74, 84).

Instinct is manifest when people respond to conditions by showing signs of mental, emotional, and physical stress, which they communicate in words, in tone of voice, and in gestures and bodily movements that convey profound alarm, fear, anger, and hostility (e.g., de Becker 1997).

Instinct is human "first nature," the source of being, the source of the soul, and it informs, shapes, and is present in human second nature, how people learn to know and understand themselves and the world. Most often abrupt and intense, we have observed the reaction can be more measured in a wise "old soul" or in someone with a more developed second nature.

"Second nature"—learned behaviors arising from knowing and understanding oneself and one's place in the world—can become a new default reaction to a threatening stimulus, and protected area practitioners are advised to understand this variation, too. First responders are an example of second nature at work when they demonstrate calm in emergency situations, the opposite of how most people react. Likewise, skilled wildland firefighters, or incident commanders and dispatchers who communicate orders under extreme pressure to other first responders, demonstrate second nature when they slow down, focus, and speak in a lowered, measured voice, becoming a center of calm in a mad adrenaline rush.

Often such people are well-adjusted old souls whose talents led them to such crucially important positions. But even old souls, like ordinary people, must practice and learn to calm and direct their instinctual reactions and respond thoughtfully and with restraint (Hahn 2001, 2017). Any skill that is practiced can become second nature.

In striving for elegant conservation, it can be difficult to know what is causing the instinctive reaction or how to adapt it to your circumstances. To prevent instinctive reactions that can lock you and the people with whom you are involved into a cycle of misunderstanding and mistrust, it's important for a protected area practitioner to understand how first and second nature manifest. You can learn a lot about yourself, your colleagues, your staff, and your community members by observing instinct in action. When you are faced with stressful situations, observing instinctive reactions in yourself and others can help you identify non-negotiable positions, shared interests, and possibilities in between.

In addressing instinct, it is helpful to manage expectations and to focus on the space and time necessary to allow for a more conscious response—especially time and space to listen, talk, and reflect—unless confronted with a dire need to react in the moment. Instinct is not something to be eliminated, banished, or decommissioned; it is something to be cultivated, nurtured, cared for, and enlisted in an integrated, transcendent program of elegance (e.g., Hahn 2001).

Control

> *Fragrant and calming, the pinyon pines made the summer heat tolerable as scientists, ranchers, and government practitioners stood by the spring, or what remained of it after the cattle had been there. The conversation began as they often do, assigning blame and arguing over water rights while forgetting the beef dinner we enjoyed the evening before. One participant defused the anger by drawing attention to our shared interest in keeping the water flowing. As we talked, it became clear that every one of us cared deeply for the spring. That sudden recognition enabled us to find an elegant path toward a mutually acceptable conservation objective.* - Bobowski ca. 2001.

> *We sat with the Native elders, historians, and anthropologists and introduced ourselves. When my colleague, a young British historian, spoke, an Arapaho elder—tall, lean, weathered, tough as nails—interrupted him: "English! English is not an Indigenous language! English is a colonial language!" The challenge caught us off guard and made us recognize that he wanted us to listen and take him seriously. Soon we found ourselves in a respectful conversation about the ways that Indigenous understandings could enlarge the meaning of the park's resources while involving Native people in their management.* - Fiege ca. 2014.

The notion of control is as simple as it sounds; a person feels compelled to control part or all the surrounding social and even physical environment, often through expected social norms, competition, influence, manipulation, intimidation, coercion, or violence. Control comes into play when a person crosses the threshold from the unconscious, reactive self to the conscious self that responds with a degree of awareness beyond the instinctive. In our experience, control behaviors still are largely emotional more than cerebral, but involve some measured consideration. Often, a person will speak of listening to their gut—the classic "gut check." The response is elemental and visceral, but the person is aware of it, thinks about it, and enlists it in analysis.

In terms of conservation, one end of a continuum seeks to control the Earth for the ostensible benefit of humans as exemplified by mining, industrial agriculture, or predator control. The other end of the continuum seeks to control the Earth in spite of—and yet to the benefit of—humans, as exemplified by wilderness or the concept of natural regulation. The origin story at each end of the continuum arises from the same source, the desire to control. Although each has a different objective of what and who to control, both are fundamentally the same to work with, as each tries to control the other.

The source of power struggles varies, and change often occurs only after significant damage and loss—figuratively and even literally, after a body count. To break the destructive cycle in advance of loss, or to help turn a situation during a loss—to take advantage of an opportunity that a crisis opens, it helps to think of the situation, and life in general, as a game. According to the historian James Carse (1996), there are two types of games in life, the finite and the infinite. The finite game is the world of rules, hierarchies, distinctions, conventions, and final outcomes, the purpose of which is to produce winners and losers. The infinite game, however, is much more holistic and, like the thought of Jean Gebser, sees through the surface of things to the deeper truth of what really matters: to keep the game in play, to create and

recreate endless possibilities for human flourishing, regardless of religion, ideology, political regime, or other structures. The essence of elegance is the infinite—the perpetual opening of possibilities for humanity and all living things in their earthly home.

To break the cycle of opposed control, a struggle over position, the protected area practitioner can reframe an understanding of the problem from position to that of interest (e.g., Fisher et al. 2011). Interest—what is at stake for a person involved in a conservation issue—opens the door to understanding that individual's purpose and pivots the game from finite to infinite as we'll see in the next element.

Purpose

> *"What are you for and what are you against?" asked the rancher of the young biologist.* - Livestock permittee to Bobowski ca. 1998.

Someone's purpose gets to the heart of the matter. It is an affirmation of a person's beliefs and is more tangible than "values" because it can be translated into a specific situation that involves physical action. Purpose is about actually doing something in the world. A purposeful life carries a person forward during difficult times and involves values, beliefs, and attitudes. The danger is that through hyper-focus—"mission drive," "target fixation," "action tunneling," or "escalation of commitment" (NWCG 2022: x-xi)—a person can become so resolute in following a purpose that they are blind to the purposes and interests of others and even to dynamic environmental conditions that are integral to the context.

A focus on purpose orients the protected area practitioner to the heart of elegant conservation. Change often occurs when people begin to see a commonality of purpose. At that moment, mutual interests among otherwise disparate and even opposed people begin to align. It can be a simple discovery involving one person and another, or it can involve a group—enlightenment by discovery. Or it can be more complex when one group allies with another to form a coalition.

To offer an example, in our experience addressing resource conflicts, backcountry travelers were at odds with a rancher because of cattle that ruined their hiking experiences. Yet both the rancher and the hikers had an interest in the same landscape and thus both had an interest in finding a resolution. A closer look at backcountry use revealed that there were two primary times when large numbers of hikers used the area. By working together to understand mutual interests, the timing of grazing was modified to improve backcountry hiker experience without compromising the rancher's operations.

In illustration, be careful with the terms you use, we often advise our students. Whereas environmentalism and sustainability have currency on university campuses, a greater range of possibilities exists in the word conservation, which has much wider usage and connotes greater degrees of community, commonality, and cooperation. Use the lightest, most flexible and expansive term. Use a wand, not a club. Use a scalpel, not a dull knife. Use a tool kit, not just a hammer. Be purposeful but be elegant.

Truth

> *"You're a conservationist, aren't you?" asked the old rancher of the young historian.* - Fiege ca. 1984.
>
> *"Is seeing, believing, or is believing, seeing?" asked the old biologist of the old historian.* - Bobowski to Fiege ca 2009.

There is more than one singular truth for a practitioner. Practitioners gain insights into how people (including themselves) see and think about the world through "size up." Truth, facts, beliefs, paradigms, etc.—how people know and understand the world—are powerfully interrelated and contingent and dependent upon the experiences and circumstances of every human life. In our experience, the truth about any issue can be better understood in context, through shared observation of facts. This requires groups of people meeting face to face and observing and reflecting together on physical reality. Mutual understanding of what facts mean enables an understanding of each other's instinctive tendencies, desire for control, and sense of purpose.

In our experience of exploring truth with small or large groups, nothing replaces the experience of field trips when ideas and material reality come together in ways that crack open possibilities for imagining the world anew. They are indispensable, potentially elegant moments in which truth and reality come together. Resource practitioners, ranchers, and other citizens need to be standing and walking together, looking at the same thing and explaining what they see and what it means. The young historian needs to be with the rancher as that old rural Montanan searches for common ground. However small and limited, these acts point to the pathways that lead to growth in the capacity to work together through mutual interest and trust. The experience often makes tangible the alternative truths that exist and lays bare personal truths relative to the truths of others. Being in the physical setting can bring immediate clarity or pose questions to previously held truths as everyone observes and reflects upon the facts of the matter.

Capacity

> *As we drove through the red canyon country, a 3-year conversation on the range came to an emotional conclusion. "I get it!" he exclaimed. "These resources are here not just for us today, but for future generations as well. We need to be thinking about them, too."* - Government range conservationist to Bobowski ca. 2001.
>
> *As we listened, the tribal elders and scholars explained their definition of biodiversity, which went way beyond what academic conservation biologists would say. Not just the plants and animals, but also rocks, soil, and water were interrelated and spiritually alive. The Native people who cared for all those things, moreover, were integral to the totality of the relationships that made the park such a wonderful place. Many left the meeting with an expanded understanding that as important as Western science is, it alone cannot fully define what a healthy landscape contains.* - Fiege ca. 2014.

In the context of elegant conservation, capacity is the learned ability to be open to listening to others, to be tolerant, adaptable, and resilient, and to "keep the game in play."

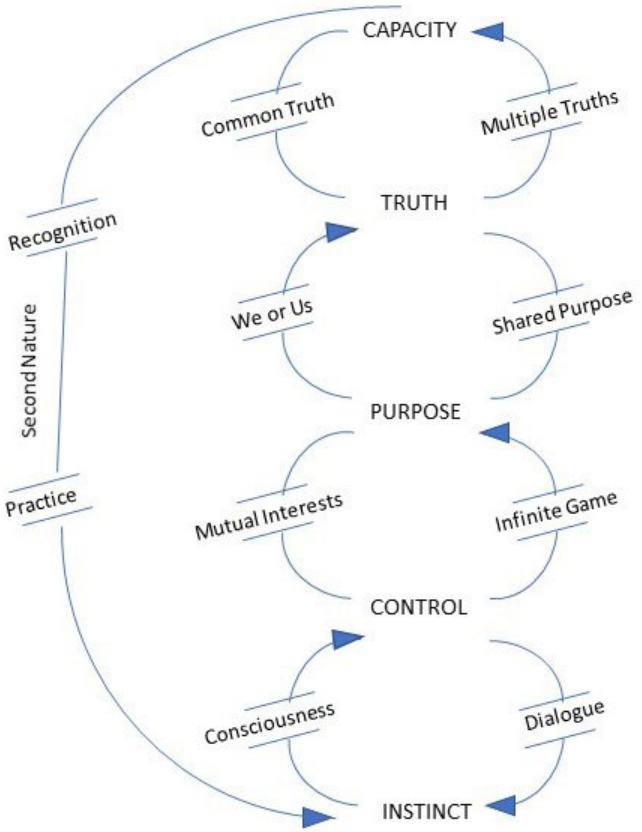
To keep the game in play, to play the infinite game, is to acknowledge that there is more than one truth and that working together toward a clearer understanding of alternative truths might open opportunities for alignment over time. The recognition that there is more than one truth—and, as a consequence, more than one way to be human on this Earth—opens the door to tolerance and a growth in the capacity to accommodate others (e.g., Nguyen 2016).

To gain capacity—to gain elegance—in this manner arises from powerful, all-too-often forgotten invitations from the world's great religions and political and social philosophies. Elegance expresses the spirit of loving and respecting others, particularly those different from you, including other-than-human or more-than-human creatures (Pope Francis 2015). We are all children of God, it says. Follow the Golden Rule: do unto others as you would have them do unto you. It lives in the Dakota concepts of "being in good relation" to all humans and non-humans, and building "caretaking relations" with all things in the world (TallBear 2019: 25). It echoes the modern movement for human rights and its struggle to reconcile the immense range of human belief and behavior with the realization that all nonetheless share a common humanity (Hunt 2007). Its message resounds in the U.S. Declaration of Independence and Gettysburg Address. It dwells in the First Amendment to the U.S. Constitution and says that every human being has a voice that must not be silenced but exercised and heard. It resides in the mission of the United Nations Educational, Scientific and Cultural Organization (UNESCO); The United Nations Universal Declaration of Human Rights; The United Nations Declaration on the Rights of Indigenous Peoples, and the Paris Agreement. Elegance, finally, lives in an awareness of, and responsibility to, the future and its children. It summons the citizenry to take up "the unfinished work" of ensuring "that this nation, under God, shall experience a new birth of freedom" (Lincoln 1863: 536); it courses through the Haudenosaunee concern for the well-being of the seventh generation (Haudenosaunee Confederacy n.d.).

Tolerance and acceptance of the many ways that people imagine being human—and thus deeper alignment and the potential for progress that it promises—come through patience and practice and may require revisiting various elements that make up the elegant conservation constellation. We find that most people think and act on instinct and control, and on their best days, perceive or aspire to a shared purpose with fellow human beings. Harder for them—more difficult for us all—is to come to grips with the problem of truth. Beyond that is the challenge of capacity, but with its potential for the elegant reward of alignment.

When instinct, control, purpose, truth, and capacity align, they interact in an elegant system that reinforces increasing capacity for acceptance and tolerance (Fig. 2) through inflection and transformation (sensu Bobowski 2002). Continual alignment and realignment of mutual interests increases capacity for tolerance of differences and consequently increases the probability of longer-term commitments to each other and to conservation interests. The potential for elegant conservation lies in all of us. We urge everyone who cares about the Earth and protected areas to sense the infinite spirit of elegance, give it voice, put it into action, make it real.

Fig. 2. The capacity of any person, organization, or community is dynamic and increases or decreases within a system. The alignment of the system structures creates the potential for transformation and increased capacity. Transformation requires breaking through the glass ceiling and then working to break the cycle to create a new dynamic. The increased capacity can become the new norm through recognition and practice.



DISCUSSION

> *"We shall never achieve harmony with land, any more than we shall achieve harmony with absolute justice or liberty for people. In these higher aspirations, the most important thing is not to achieve but to strive."* - Aldo Leopold (1970).

Reimagining conservation is as much about knowing and understanding ourselves as it is knowing and understanding others. The pathways to an elegant conservation appropriate to the 21st century can follow multiple albeit still compatible cultural truths about what the problems are and how to solve them. Indeed, there are many more approaches to conservation—of protected areas, species, and the entire Earth—than protected area practitioners and the public often realize. Let us consider an example to briefly illustrate the ideas of elegant conservation in practice.

"Revisiting Leopold: Resource Stewardship in the National Parks" (Colwell et al. 2012) is a document rooted in the colonial

history of the National Park Service. The 1916 Organic Act established the agency and famously laid down its mission for park management, "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as to leave them unimpaired for future generations" (Dilsaver 1994: 46). The 1963 Leopold Report—named for its lead author, biologist Starker Leopold, son of Aldo—redefined the mission to focus on the maintenance of the "biotic associations" that prevailed when Europeans first arrived on the scene (Dilsaver 1994: 239).

The authors of "Revisiting Leopold" elaborated the mission to incorporate 21st century realities: that the National Park Service must think beyond just the official boundaries of parks, that the agency must be inclusive of people, in particular Native tribes, and that parks are not static but are continuously experiencing processes of change. "Revisiting Leopold," furthermore, invoked the precautionary principle—whatever course of action is followed, it first should do no harm—as a hedge against actions that might impair park resources; called for fidelity to the law and for the use of the best available sound science; and asserted the importance of the long-term public interest. The value and wisdom of these recommendations are self-evident.

Elegant conservation, however, frames conservation differently and thus offers additional, and alternative, methods useful to protected area practitioners and other field practitioners, agency central offices, and academia. Consistent with the competency of continuum, a protected area practitioner might reimagine and enlarge the principles articulated in "Revisiting Leopold" in ways that expand capacity and the options that it brings. The precautionary principle can be paired with clarity about what impairment looks like, which can help a practitioner identify actual or probable risk vs. perceived risk. The concept of impairment can consider natural resources in conjunction with the cultures and subcultures that value those resources. Fidelity to law can be linked to an awareness that laws often are flexible and discretionary and can be created or revised with adaptive capacity. The best available sound science can be joined to traditional knowledge to inspire the integration of cultural norms and wisdom into emerging (and elegant) conservation practices. Attention to long-term public interest can be implemented gradually so that it helps cultures adapt to change along a glidepath rather than having to submit to a destructive forced march.

As demonstrated in our reflection on "Revisiting Leopold," our paper introduces a model of practicing conservation that is holistic, integrative and inclusive, process-oriented, pragmatic, and democratic. It is a response to the breakdown of rigid, authoritarian modes of thought and action characteristic of 20th century modernism and statism; to the political, cultural, intellectual, economic, and ecological fragmentation that has divided American society for some 50 years; and to a present and future of enormous social and environmental uncertainty, most unsettlingly in the form of global climate change.

Elegant conservation, our label for this approach, blends scientific and humanistic perspectives, linking geology, biology, ecology, anthropology, and other natural and human sciences with fields such as history, philosophy, theology, Indigenous knowledge systems, and other ways of thinking and practicing. Simply put, it is the continuous search for, and implementation of, pragmatic solutions to management problems that preserve future options while remaining historically rooted, socially acceptable, economically feasible, ethically appropriate, and biologically grounded. It represents a reassertion of a holistic ecology in which relationships among living things are greater than the sum of the individual species, and which understands life in its fullness, not primarily in mechanistic reduction to its bottom-line essentials. Its commitment to holism relates it to a Leopoldian emphasis on the land community—an idea that connotes not just a community of organisms, but also a democratic body of people interwoven into the whole. And it goes beyond Leopold to acknowledge worldviews in which land communities also are inspirited places. The Yanomami shaman and leader Davi Kopenawa, for example, has admonished all settlers to recognize the presence of "xapiri," powerful and sometimes fearsome spirit beings who inhabit the world and with whom all people must have relationships (Ghosh 2021).

In keeping with the beliefs of conservationists like Leopold and Indigenous people such as Kopenawa, elegant conservation emphasizes experience, relationships, and flows—that life is in motion and defined by its connections to the world. An emphasis on life as process and change in turn orients elegant conservation to history, and in particular, environmental history. Life—human, other-than-human, more-than-human—is not static and discrete, but unites past, present, and future in a continuous unending stream of experience, a "long now" (Robin et al. 2013: 4), an awareness that "we are in the middle of forever" (Whyte et al. 2022).

In practice, elegant conservation assumes that all matter and life are in a process of becoming—of creation and emergence—and that protected area practitioners must act on provisional truths derived from their experience of the world. That experience combines the empiricism of science with what is politically, economically, and administratively possible.

Elegant conservation does not eschew final truth, but neither is it chained to absolutist conceptions of it. Elegance is a prudent process of careful, experimental maneuvering toward truths that must, because of their very nature of the world, remain conditional. Elegance is pluralistic and democratic, it invokes a form of civic virtue (White 2020, Hart 2021) that incorporates diverse perspectives without being broken or defeated by them; indeed, it sees pluralism and complexity as means to empowerment. The term elegance is meant to inspire personal and professional growth of capacity, akin to Maslow's concept of stages and self-actualization or perhaps Posewitz's (1994) or Norton's (2008) invitations that call to our higher nature of hunting and ethics.

Protected area practitioners who adapt elegant conservation to their work should recognize that because process and change are intrinsic to matter and life, their actions cannot be completely contained within legal, political, and administrative boundaries. Practitioners thus should remain open to the world and to change while recognizing the need for decisions in the here and now, involving visitors from afar but especially people who live in and around protected areas. In its emphasis on experience and empirical grassroots process and pluralism, elegant conservation seeks to reimagine conservation, revitalize public institutions,

reenergize democracy, open possibilities for decolonization, and reinvigorate ecosystems (Williams 2004).

Operationally, elegant conservation requires protected area practitioners to understand the multiple ways that the world functions and the many means by which they and their fellow human beings perceive that reality. Context competency requires practitioners to understand, accommodate, and integrate numerous individual expectations, cultural assumptions, social formations, paradigms, scales of space and time, and linear and non-linear spatial and temporal processes, including system lags and gaps and how the past accumulates and thickens in land, water, air, and life, including human life. In short, elegance calls on practitioners to bridge the sciences and the humanities.

Situating conservation planning at the nexus of multiple, shifting contexts reimagines how conservation might be achieved and thus fundamentally changes the outcomes of management decisions. Most important, elegant conservation does not assess actions only in terms of fixed costs or static objectives. Rather, it defines "best value" in terms of ongoing investments and the compound accumulation of results that build capacity. The practice is different from the rigid style of cost–benefit analysis so characteristic of 20th century modernism. In our view, when protected area practitioners work with other citizens to align human tendencies, it takes work, but the result resembles forms of art, such as improvisational dance or music. It becomes light, nimble, adaptable, flexible, inclusive, and beautiful—in a word, elegant.

A key feature of elegant conservation is its origins in history. We believe our approach is the product of the breakdown of older modes of thought and action characteristic of much of the modern world. Global conflicts and the wrenching dislocations of industrialization and urbanization across the 20th century favored approaches to problems that placed immense power in the hands of technocratic elites and centralized leadership. It is no coincidence, for example, that Franklin D. Roosevelt served four terms during the Great Depression and World War II. In effect, the imperatives of the age of total war powerfully defined key aspects of modern life, including agricultural and industrial production, the building of infrastructure, science and medicine, social policy, forest and river management, and conservation itself. These top-down methods were enormously successful in mobilizing people, landscapes, resources, and economic production in service to meeting the exigencies of national emergencies and global conflicts, especially all-out warfare that sought the total surrender if not total destruction of hated enemies. Inevitably, however, such reductive, one-size-fits-all, "command and control" approaches to problems could not address the ecological and social textures of the world, and they began to create as many problems as they solved (e.g., Worster 1985, Scott 1998, Holling and Meffe 1996, Russell 2001, Bacevich 2008).

The failure of these totalizing modes of thought and action became evident ca. 1970, which marked the approximate beginning of a period of deep cultural and political division in the USA, the "age of fracture," in the words of the intellectual historian Daniel Rodgers—that in many respects has continued right down to the present (Putnam 2000, Rodgers 2011, Packer 2013, 20021). Yet even amidst breakdown and fragmentation were signs of a new order that emphasized grassroots, democratic, provisional, process-oriented, holistic solutions to problems. Largely unnoticed by policy makers, pundits, journalists, and much of the scholarly elite, this movement coalesced in the 1990s in the aftermath of the Cold War and was related to a revival of philosophical pragmatism (e.g., Kemmis 1990, Butler 1993, Appleby et al. 1994, Langston 2009, Kloppenberg 2011, Romano 2012, Nguyen 2016).

A key development in the reaction against the authoritarianism, reductionism, and colonialism of the modernist project was a resurgence of interest in Indigenous knowledge systems and practices. By the late 1980s and especially by the 1990s, anthropologists began to reconsider their discipline's role in colonialism, and they took steps to decenter and relativize their discipline and put it in dialog with the people and cultures they often studied (e.g., Cajete 2000, Smith 2021). Most important, the turn toward indigeneity was deeply rooted in the history of North America and the "long tradition of Indigenous resistance," as the Native historian Nick Estes (2019) has stated. Anti-colonial movements around the world drew increasing attention to the sophistication and validity of indigenous ideas and methods, especially as the massive environmental and social interventions that typified modern states and corporate capitalist development began to create more problems than they solved. People who had survived five centuries of efforts to destroy their cultures asserted that "supporting place-based governance systems provides an avenue to address biodiversity loss and social injustices simultaneously" (Artelle et al. 2021). It is impossible to summarize Indigenous knowledge and practices in a few words. In general, however, those ways of knowing and acting were holistic and process-oriented, placed the highest value on the integrity of people and planet, and emphasized the importance of cultivating and nurturing "caretaking relations," as Native scholar Kim TallBear (2019) explains, between people and between other-than-human persons and living things.

The bulk of our professional work has taken place during this roughly three-decade period. Each of us in our own way—my work in resource management on public lands, and Fiege's work in environmental history in the land grant universities (and as a rural firefighter and fire chief)—has tried to find alternatives to bureaucratic inertia and administrative ossification, disciplinary elitism and hyper-specialization, and the cynicism that understandably accompanies the decay of an outmoded order. Like our cohorts and peers, we have been positively shaped by the versatility of disciplines such as ecology and history and inspired by the growing inclusiveness of American society and by Indigenous movements that resist the settler colonial paradigm. The vastly expanded role of women in resource management and academic professions since the 1970s has enlarged our view of the power and potential of democratized decision making. So has the assertion of Native knowledge systems and their necessary role in the decolonization of protected areas. The scientific and humanistic intellectual work embodied in the scholarly references in this paper reflect developments in our respective disciplines and professional experiences. The model of protected area management we present here transcends any one discipline, and therefore we acknowledge and are inspired by the possibility that it will be relevant to many colleagues, friends, and fellow citizens and human beings whose diverse perspectives and experiences will enrich and enlarge what it means to be engaged elegantly in the great ongoing work of conservation.

CONCLUSION

We have introduced the idea that conservation can be more elegant, and needs to be elegant, to adapt to and find durable solutions to an uncertain future. This elegance needs to align with the reality of a practitioner if we are to realize our collective conservation potential on the ground and with the communities we serve. Two fundamental ideas for elegance that we introduced include the notion of a beginner's mind and the idea of consciousness. Reconciling consciousness (intrinsically subjective) with Western science (intrinsically objective in its aspirations) is one part of conservation that most needs our attention. Although consciousness was left to Western philosophers for much of the 20th century, the science of consciousness has expanded in the 21st century. Moreover, thinkers such as Wilber have elaborated upon Gebser's work and aligned more than a hundred ancient and contemporary philosophies recognizing that each bring an element of truth to our worldview (i.e., each can't be all wrong). The beginner's mind heuristic offers a set of entry points common to any conservation issue that meaningfully open one's mind to the opportunity to reimagine conservation and thus find novel and durable solutions.

The consciousness heuristic and mental model, elegant conservation, opens one's mind to the appropriate referent for a practitioner—the source of human awareness as it manifests itself in the physical environment, consciousness. This model of elegance, an approximation of a way forward at this point in our history, not only opens possibilities but has an inevitable probability, if not outcome (at least, through our experiences), of power sharing—a root constraint to our capacity to address equity, equality, and the acceptance of those different than us, be it through conquest (i.e., settler colonialism) or condition. How does this happen? It happens because deliberately exploring consciousness changes you, whether you believe that consciousness is an illusion and we need only to build the blocks of neural networks to understand its form and function (sensu Dennett) or whether you acknowledge, like Chalmers, that consciousness is a datum that may be a fundamental property, if not universal condition-panpsychism (Chalmers 2015). To paraphrase the words of Blackmore and Troscianko (2018), if you study consciousness deeply, it will change your life.

In context, how protected area practitioners, or for that matter anyone, thinks about and practices conservation reflects their consciousness as it manifests itself through the social and environmental context of their lives. Therefore, what does the current trend toward extreme nationalism, political reaction, and civil unrest imply for conservation? We believe current conditions represent another chapter in a decades-long loss of civic capacity, civic virtue, and the ability to work together toward a common purpose (Packer 2021). Too often, the struggle for the control of one truth, one type of conservation, is blind to seeing the value of others and their potential contributions to collective survival if not flourishing. At the end of the day, all humans still need energy, food, fiber, and minerals as well as quiet, undeveloped landscapes and aquatic environments in which to conserve species and in which to restore, reimagine, and re-create themselves and their cultures. With the saturation of the planetary environment—ocean, land, and atmosphere alike—with people and industrial waste, the way forward must be different from what it has been up to this moment in history.

Elegant conservation is a holistic approach to conservation. As a set of heuristics, it assists with the framing of the issue "as situated knowledge," and as a model, it can assist with navigating toward a durable outcome. The goal is not to manipulate, force, or control people and leverage them into a predetermined end; rather, the goal is to encourage cooperation in identifying possibilities that involve a plurality of people in the conservation of resources about which all care deeply (Williams 2004). Those resources are non-human natural in the classic sense, but more important, those resources—if they be called that—include the living cultures of the many peoples whose homelands the settler colonial state has incorporated into parks and protected areas. In its holism, its emphasis on fostering relationships, and its focus on open-ended process to be negotiated and guided by the people at the table, elegant conservation, we believe, can help create the circumstances in which Indigenous communities and marginalized others can shape the terms by which parks and protected areas are managed, thus potentially contributing to the partial if not complete decolonization of those lands. Whyte (2022) has said that without the building of kinship relations based on respect and trust among all participants, no response to climate change or any other conservation issue will succeed. Making kin in conservation settings is hard, time-consuming work, and we believe that elegant conservation offers insights and techniques useful to conservation practitioners as they address the daily requirements and constraints of their jobs while trying to work with Native communities to overcome the legacies of conservation's colonial origins. We are interested in further exploring the compatibility of our model/heuristics approach with Indigenous knowledge systems, which are recognized for their more holistic approach to understanding human–nature relations.

My coauthor and I are not naïve; we are practiced and know that not everyone will participate, engage, and contribute. Some will obstruct and subvert the process; others will use elegance as cover for delay, inaction, or self-serving expedience. However, we also know through experience that the ownership of a conservation issue—how people embrace an issue and work together to co-create a path forward—inspires fidelity to that pathway and fosters a resiliency of nature–culture connections today and into an ever-expanding elegant future.

Elegant conservation is not a cookbook or user's manual of sequential steps. It is a process of mindful attention to multiple, interacting variables at work in any conservation setting. There is no one way to begin. Choose something in the model and start with a part that makes the most sense, and then build upon it, grow it, keeping in mind the range of people and conditions involved. From a perspective of tolerance and acceptance, or better yet of deep appreciation for different ways of knowing and understanding people and their relationships to each other, to nature, and to the world around us, all of us will be better prepared to:

1. Cultivate an instinctive response that focuses on shared stewardship.
2. Develop scenarios in which people share power and the control of mutual interests, rather than defending positions.
3. Create shared purpose that unites rather than divides.
4. Find a common or shared truth, based on shared facts, that focuses more on points of agreement than on disagreement.

5. Grow a shared capacity for tolerance and pluralism that enables and supports resilience and the ability to adapt to an uncertain future.

By aligning these key elements of thought and action, emphasizing connections in common rather than differences, we can reimagine conservation and achieve a more sustainable, adaptive, resilient way of life. A more sustainable world is within reach if we work with social and ecological realities as well as the ideals to which we aspire.

Acknowledgments:

We are grateful to colleagues, friends, and family who have helped with this work. For critiques of drafts and discussion, we are especially grateful to J. Applegate; B. Baldwin; K. Bobowski, T. Bobowski; W. Carpenter; J. Mack; T. Olliff; J. Ore; and especially K. Voth. For institutional support, we thank the Continental Divide Learning Center, Rocky Mountain National Park; Public Lands History Center, Colorado State University; William E. Morgan Chair of Liberal Arts, Colorado State University; and Wallace Stegner Chair in Western American Studies, Montana State University. We thank our editors and anonymous reviewers whose comments strengthened this manuscript.

LITERATURE CITED

Albar, F. M., and A. J. Jetter. 2009. Heuristics in decision making. Pages 578–584 in PICMET'09-2009: Technology management in the age of fundamental change. Portland International Conference on Management of Engineering and Technology, 2–6 August 2009, Portland, Oregon, USA. https://doi.org/10.1109/PICMET.2009.5262123

American Psychological Association. 2022. Dictionary of psychology. https://dictionary.apa.org/situated-knowledge

Appleby, J., L. Hunt, and M. Jacob. 1994. Telling the truth about history. Norton, New York, New York, USA.

Arlettaz, R., M. Schaub, J. Fournier, T. S. Reichlin, A. Sierro, J. E. Watson, and V. Braunisch. 2010. From publications to public actions: when conservation biologists bridge the gap between research and implementation. BioScience 60(10):835-842. https://doi.org/10.1525/bio.2010.60.10.10

Armitage, D., F. Berkes, and N. Doubleday, editors. 2010. Adaptive co-management: collaboration, learning, and multi-level governance. University of British Columbia Press, Vancouver, British Columbia, Canada.

Armstrong, K. 2007. The bible: a biography. Grove Press, New York, New York, USA.

Aronoff, K., A. Battistoni, D. A. Cohen, and T. Riofrancos. 2019. A planet to win: why we need a green new deal. Verso Books, Brooklyn, New York, USA.

Artelle, K. A., M. S. Adams, H. M. Bryan, C. T. Darimont, J. Housty, W. G. Housty, J. E. Moody, M. F. Moody, D. Neasloss, C. N. Service, and J. Walkus. 2021. Decolonial model of environmental management and conservation: insights from Indigenous-led grizzly bear stewardship in the Great Bear Rainforest. Ethics, Policy and Environment, 24(3):283-323. https://doi.org/10.1080/21550085.2021.2002624

Associated Press. 2008. Wildfire threatens homes near Nespelem. Seattle Times. https://www.seattletimes.com/seattle-news/wildfire-threatens-homes-near-nespelem

Bacevich, A. 2008. The limits of power: the end of American exceptionalism. Metropolitan Books, New York, New York, USA.

Bandura, A. 2001. Social cognitive theory: an agentic perspective. Annual Review of Psychology 52(1):1-26. https://doi.org/10.1146/annurev.psych.52.1.1

Basso, K. 1996. Wisdom sits in places: landscape and language among the western Apache. University of New Mexico Press, Albuquerque, New Mexico, USA.

Bennett, N. J., R. Roth, S. C. Klain, K. Chan, P. Christie, D. A. Clark, G. Cullman, D. Curran, T. J. Durbin, G. Epstein, A. Greenberg, M. P. Nelson, J. Sandlos, R. Stedman, T. Teel, R. Thomas, D. Verissimo, and C. Wyborn. 2017a. Conservation social science: understanding and integrating human dimensions to improve conservation. Biological Conservation 205:93-108. https://doi.org/10.1016/j.biocon.2016.10.006

Bennett, N. J., R. Roth, S. C. Klain, K. M. Chan, D. A. Clark, G. Cullman, G. Epstein, M. P. Nelson, R. Stedman, T. L. Teel, R. E. Thomas, C. Wyborn, D. Curran, A. Greenberg, J. Sandlos, and D. Verissimo. 2017b. Mainstreaming the social sciences in conservation. Conservation Biology 31(1):56-66. https://doi.org/10.1111/cobi.12788

Berger, P. L., and T. Luckmann. 1966. The social construction of reality: a treatise in the sociology of knowledge. Anchor Press, New York, New York, USA.

Berkes, F. 2007. Community-based conservation in a globalized world. Proceedings of the National Academy of Sciences 104 (39):15188-15193. https://doi.org/10.1073/pnas.0702098104

Berkes, F. 2018. Sacred ecology. Fourth edition. Routledge, New York, New York, USA.

Biden, J. 2021. Executive order 14008 of 27 January 2001: tackling the climate crisis at home and abroad. Federal Register 86 (19):7619-7633. https://www.energy.gov/sites/default/files/2021/02/f83/eo-14008-tackling-climate-crisis-home-abroad.pdf

Blackmore, S., and E. T. Troscianko. 2018. Consciousness: an introduction. Routledge, New York, New York, USA. https://doi.org/10.4324/9781315755021

Blumenthal-Barby, J. S., and H. Krieger. 2015. Cognitive biases and heuristics in medical decision making: a critical review using a systematic search strategy. Medical Decision Making 35 (4):539-557. https://doi.org/10.1177/0272989X14547740

Bobowski, B. 2002. Rangeland resources monitoring: concepts and practical applications. Dissertation, Utah State University, Logan, Utah, USA.

Bobowski, B., I. W. Ashton, and W. B. Monahan. 2016. Perspectives on responding to climate change in Rocky Mountain National Park. Pages 279-303 in A. J. Hansen, W. B. Monahan,

D. M. Theobald, and S. T. Olliff, editors. Climate change in wildlands: pioneering approaches. Island Press, Washington, D. C., USA. https://doi.org/10.5822/978-1-61091-713-1_14

Borrell-Carrió, F., A. L. Suchman, and R. M. Epstein. 2004. The biopsychosocial model 25 years later: principles, practice, and scientific inquiry. The Annals of Family Medicine 2(6):576-582. https://doi.org/10.1370/afm.245

Brown, M., and C. Weber. 2021. Fires charring range set up ranchers for hardship in West. Indian Country Today. https://indiancountrytoday.com/news/fires-charring-range-set-up-ranchers-for-hardship-in-west

Butler, O. 1993. The parable of the sower. Seven Stories Press, New York, New York, USA.

Cabin, R. J. 2011. Intelligent tinkering: bridging the gap between science and practice. Island Press, Washington, D.C., USA. https://doi.org/10.5822/978-1-61091-040-8

Cabin, R. J. 2013. Restoring paradise: rethinking and rebuilding nature in Hawai'i. University of Hawai'i Press, Honolulu, Hawaii, USA.

Cajete, G. 2000. Native science: natural laws of interdependence. Clear Light Publishers, Santa Fe, New Mexico, USA.

Calkin, D. E., M. P. Thompson, M. A. Finney, and K. D. Hyde. 2011. A real-time risk assessment tool supporting wildland fire decision making. Journal of Forestry 109(5):274-280.

Campbell, J. 2003. The hero's journey: Joseph Campbell on his life and work. In J. Campbell, P. Cousineau, and S. L. Brown. The collected works of Joseph Campbell. New World Library, Novato, California, USA.

Carcasson, M. 2016. Tackling wicked problems through deliberative engagement. National Civic Review 105(1):44-47. https://doi.org/10.1002/ncr.21258

Carse, J. 1986. Finite and infinite games: a vision of life as play and possibility. (First published in 1986.)The Free Press, New York, New York, USA.

Chalmers, D. J. 2010. The character of consciousness. Oxford University Press, Oxford, UK. https://doi.org/10.1093/acprof:oso/9780195311105.001.0001

Chalmers, D. J. 2013. How can we construct a science of consciousness? Annals of the New York Academy of Sciences 1303(1):25-35. https://doi.org/10.1111/nyas.12166

Chalmers, D. 2015. Panpsychism and panprotopsychism. Page 246-276 in T. Alter and Y. Nagasawa, editors. Consciousness in the physical world: perspectives on Russellian monism. Oxford University Press, Oxford, UK.

Chalmers, D. 2018. The meta-problem of consciousness. Journal of Consciousness Studies 25(9-10):6-61.

Cheak, A. n.d. From poetry to kulturphilosophie: a philosophical biography of Jean Gebser with critical translations. http://www.aaroncheak.com/from-poetry-to-kulturphilosophie

Churchman, C. W. 1967. Wicked problems. Management Science 13(4):B-141-142. https://punkrockor.files.wordpress.com/2014/10/wicked-problems-churchman-1967.pdf

Cole, D. N., and L. Yung. 2012. Beyond naturalness: rethinking park and wilderness stewardship in an era of rapid change. Island Press, Washington, D.C., USA.

Colwell, R., S. Avery, J. Berger, G. E. Davis, H. Hamilton, T. Lovejoy, S. Malcom, A. Mcmullen, M. Novacek, R. J. Roberts, R. Tapia, and G. Machlis. 2012. Revisiting Leopold: resource stewardship in the national parks. National Park System Advisory Board Science Committee, Washington, D.C., USA.

Combs, A. 2018. Inner and outer realities: Jean Gebser in cultural/historical perspective. Journal of Conscious Evolution 1(1): 12. https://digitalcommons.ciis.edu/cejournal/vol1/iss1/12

Cook, C. N., M. B. Mascia, M. W. Schwartz, H .P. Possingham, and R. A. Fuller. 2013. Achieving conservation science that bridges the knowledge-action boundary. Conservation Biology 27(4):669-678. https://doi.org/10.1111/cobi.12050

Corson, C., and L. Campbell. 2023. Conservation at a crossroads: governing by global targets, innovative financing, and techno-optimism, or radical reform? Ecology and Society 28(1): in press.

Covey, S. R. 2004. The seven habits of highly effective people: powerful lessons for personal change. Simon and Schuster, New York, New York, USA.

Crick, F., and C. Koch. 1990. Towards a neurobiological theory of consciousness. Seminars in Neurosciences 2:263-275.

Cronon, W. 1995. The trouble with wilderness. Pages 69-90 in W. Cronon, editor. Uncommon ground: rethinking the human place in nature. Norton, New York, New York, USA.

Cronon, W. 2003. The riddle of the Apostle Islands: how do you manage a wilderness full of human stories? Orion May/June:36-42.

Davis, W. 2003. Dreams from endangered cultures. TED Talk. https://www.ted.com/talks/wade_davis_dreams_from_endangered_cultures

de Becker, G. 1997. The gift of fear. Dell Publishing Company, New York, New York, USA.

Dennett, D. C. 2002. Content and consciousness. Routledge, Abingdon-on-Thames, UK. https://doi.org/10.4324/9780203005729

Dennett, D. C. 2008. Kinds of minds: toward an understanding of consciousness. Basic Books, New York, New York, USA.

Dennett, D. C. 2018. Facing up to the hard question of consciousness. Philosophical Transactions of the Royal Society B: Biological Sciences 373(1755): 20170342. https://doi.org/10.1098/rstb.2017.0342

Diamond, J. 1997. Guns, germs, and steel: the fates of human societies. Norton, New York, New York, USA.

Dilsaver, L. M. 1994. America's national park system: the critical documents. Rowman and Littlefield, Lanham, Massachusetts, USA.

Duffy, J. D. 2020. A primer on integral theory and its application to mental health care. Global Advances in Health and Medicine 9: 2164956120952733. https://doi.org/10.1177/2164956120952733

Estes, N. 2019. Our history is the future: Standing Rock vs. the Dakota Access Pipeline, and the long tradition of Indigenous resistance. Verso Books, New York, New York, USA.

Evans, M. C., F. Davila, A. Toomey, and C. Wyborn. 2017. Embrace complexity to improve conservation decision making. Nature Ecology and Evolution 1(11):1588-1588. https://doi.org/10.1038/s41559-017-0345-x

Fiege, M. 2012. The republic of nature: an environmental history of the United States. University of Washington Press, Seattle, Washington, USA.

Finney, C. 2014. Black faces, white spaces: reimagining the relationship of African Americans to the great outdoors. University of North Carolina Press, Chapel Hill, North Carolina, USA. https://doi.org/10.5149/northcarolina/9781469614489.001.0001

Fisher, R., W. L. Ury, and B. Patton. 2011. Getting to yes: negotiating agreement without giving in. Third edition. Penguin, New York, New York, USA.

Fleck, L. 1979. Genesis and development of a scientific fact. Translated by F. Bradley and T. J. Trenn, edited by T. J. Trenn and R. K. Merton, foreword by T. S. Kuhn. (First published in 1935.) The University of Chicago Press, Chicago, Illinois, USA and London, UK.

Gaddis, J. L. 2002. The landscape of history: how historians map the past. Oxford University Press, New York, New York, USA.

Game, E. T., E. Meijaard, D. Sheil, and E. McDonald-Madden. 2014. Conservation in a wicked complex world; challenges and solutions. Conservation Letters 7(3):271-277. https://doi.org/10.1111/conl.12050

Gebser, J. 1985. The ever-present origin. (First publishedin1949.) Ohio University Press, Athens, Ohio, USA.

Ghosh, A. 2021. The nutmeg's curse: parables for a planet in crisis. University of Chicago Press, Chicago, Illinois, USA. https://doi.org/10.7208/chicago/9780226815466.001.0001

Gigerenzer, G. 2008. Why heuristics work. Perspectives on Psychological Science 3(1):20-29. https://doi.org/10.1111/j.1745-6916.2008.00058.x

Gigerenzer, G., and W. Gaissmaier. 2011. Heuristic decision making. Annual Review of Psychology 62:451-482.

Goleman, D., R. E. Boyatzis, and A. McKee. 2002. The new leaders: transforming the art of leadership into the science of results. Little, Brown and Company, Boston, Massachusetts, USA.

Grewatsch, S., S. Kennedy, and P. Bansal. 2021. Tackling wicked problems in strategic management with systems thinking. Strategic Organization 0:0. https://doi.org/10.1177/14761270211038635

Gsottbauer, E., and J. C. van den Bergh. 2011. Environmental policy theory given bounded rationality and other-regarding preferences. Environmental and Resource Economics 49 (2):263-304. https://doi.org/10.1007/s10640-010-9433-y

Gunderson, L. H., and C. S. Holling, editors. 2002. Panarchy: understanding transformations in human and natural systems. Island Press, Washington, D.C., USA.

Hahn, T. N. 2001. Anger: wisdom for cooling the flames. Riverhead Books, New York, New York, USA.

Hahn, T. N. 2017. How to fight. Parallax Press, Berkeley, California, USA.

Haraway, D. 1988. Situated knowledges: the science question in feminism and the privilege of partial perspective. Feminist Studies 14(3):575-599. https://doi.org/10.2307/3178066

Hart, G. 2021. Can republican virtue save democracy? The Bulwark. https://www.thebulwark.com/can-republican-virtue-save-democracy/

Haudenosaunee Confederacy. n.d. Values. https://www.haudenosauneeconfederacy.com/values/

Head, B. W. 2008. Wicked problems in public policy. Public Policy 3(2):101-118.

Henriques, G. R. 2003. The tree of knowledge system and the theoretical unification of psychology. Review of General Psychology 7(2):150-182. https://doi.org/10.1037/1089-2680.7.2.150

Holling, C. S., and G. Meffe. 1996. Command and control and the pathology of natural resource management. Conservation Biology 10(2):328-337. https://doi.org/10.1046/j.1523-1739.1996.10020328.x

Holmes, G., J. Carruthers-Jones, G. Huggan, E. R. de Smalen, K. Ritson, and P. Šimková. 2021. Mainstreaming the humanities in conservation. Conservation Biology 36(3): e13824. https://doi.org/10.1111/cobi.13824

Horton, J. O., and L. E. Horton, editors. 2006. Slavery and public history: the tough stuff of American memory. The New Press, New York, New York, USA.

Hunt, L. 2007. Inventing human rights: a history. Norton, New York, New York, USA.

Hunt, L. 1891. Men, women, and books: a selection of sketches, essays, and critical memoirs, from his uncollected prose writings. (First published in 1847.) Smith, Elder, and Company, London, UK.

Indian Affairs, U.S. Department of the Interior. n.d. Responding to wildfires. https://www.bia.gov/bia/ots/dfwfm/bwfm/responding-wildfires

Jarvis, R. M., S. B. Borrelle, B. B. Breen, and D. R. Towns. 2015. Conservation, mismatch and the research-implementation gap. Pacific Conservation Biology 21(2):105-107. https://doi.org/10.1071/PC14912

Jarvis, R. M., S. B. Borrelle, N. J. Forsdick, K. V. Pérez-Hämmerle, N. S. Dubois, S. R. Griffin, A. Recalde-Salas, F. Buschke, D. C. Rose, C. L. Archibald, J. A. Gallo, L. Mair, A. Kadykalo, D. Shanahan, and B. Prohaska. 2020. Navigating spaces between conservation research and practice: are we making progress? Ecological Solutions and Evidence 1(2): e12028. https://doi.org/10.1002/2688-8319.12028

Jean Gebser Society (JGS). 2017. Jean Gebser: a brief biography. Jean Gebser Society. https://gebser.org/jean-gebser-bio/

Jones, D. 2010. Everyday creativity with Dewitt Jones. Star Thrower Distribution, Minneapolis, Minnesota, USA. https://

starthrower.com/collections/dewitt-jones/products/everyday-creativity-dewitt-jones

Jung, C. G. 1990. The archetypes and the collective unconscious. (First published in 1959.) Second edition. Bollingen Series XX, Princeton University Press, Princeton, New Jersey, USA.

Kemmis, D. 1990. Community and the politics of place. University of Oklahoma Press, Norman, Oklahoma, USA.

Kimmerer, R. W. 2012. Searching for synergy: integrating traditional and scientific ecological knowledge in environmental science education. Journal of Environmental Studies and Sciences 2(4):317-323. https://doi.org/10.1007/s13412-012-0091-y

Kimmerer, R. W. 2013. Braiding sweetgrass: Indigenous wisdom, scientific knowledge, and the teaching of plants. Milkweed Editions, Minneapolis, Minnesota, USA.

Kloppenberg, J. T. 2011. Reading Obama: dreams, hope, and the American political tradition. Princeton University Press, Princeton, New Jersey, USA. https://doi.org/10.1515/9781400842032

KQED Arts. 2021. Native American traditions inform California wildfire prevention. KQED, Northern California Public Broadcasting Inc., San Francisco, USA. https://earthjournalism.net/stories/native-american-traditions-inform-california-wildfire-prevention

Kuhn, T. S. 1962. The structure of scientific revolutions. University of Chicago Press, Chicago, Illinois, USA.

Kurz-Milcke, E., and G. Gigerenzer. 2007. Heuristic decision making. Marketing: Journal of Research and Management 3 (1):48-56.

Langlands, A. 2017. Cræft: an inquiry into the origins and true meaning of traditional crafts. Norton, New York, New York, USA.

Langston, N. 2009. Where water and land meet: a western landscape transformed. University of Washington Press, Seattle, Washington, USA.

Laurance, W. F., H. Koster, M. Grooten, A. B. Anderson, P. A. Zuidema, S. Zwick, R. J. Zagt, A. J. Lynam, M. Linkie, and N. P. Anten. 2012. Making conservation research more relevant for conservation practitioners. Biological Conservation 153:164-168. https://doi.org/10.1016/j.biocon.2012.05.012

Lawler, E. E., III, and G. S. Benson. 2022. The practitioner–academic gap: a view from the middle. Human Resource Management Review 32(1): 100748. https://doi.org/10.1016/j.hrmr.2020.100748

Lee, R., and T. Ahtone. 2020. Land-grab universities: expropriated Indigenous land is the foundation of the university system. High Country News 52(4):32-45.

Leopold, A. 1970. A Sand County almanac: with essays on conservation from Round River. (First published in 1949.) Ballantine Books, New York, New York, USA.

Lewontin, R. C. 1991. Biology as ideology: the doctrine of DNA. HarperCollins, New York, New York, USA.

Lincoln, A. 1863. Address at Gettysburg, Pennsylvania. In D. E. Fehrenbacher, editor. 1989. Lincoln: speeches and writings, 1859–1865. Library of America, New York, New York, USA.

Manfredo, M. J., J. T. Bruskotter, T. L. Teel, D. Fulton, S. H. Schwartz, R. Arlinghaus, S. Oishi, A. K. Uskul, K. Redford, S. Kitayama, and L. Sullivan. 2017. Why social values cannot be changed for the sake of conservation. Conservation Biology 31 (4):772-780. https://doi.org/10.1111/cobi.12855

Manfredo, M. J., T. Teel, and A. M. Dietsch. 2016. Implications of human value shift and persistence for biodiversity conservation. Conservation Biology 30(2):287-296. https://doi.org/10.1111/cobi.12619

Maslow, A. 1943. A theory of human motivation. Psychological Review 50(4):370-396. https://doi.org/10.1037/h0054346

Mason, T. H., C. R. Pollard, D. Chimalakonda, A. M. Guerrero, C. Kerr-Smith, S. A. Milheiras, M. Roberts, P. R. Ngafack, and N. Bunnefeld. 2018. Wicked conflict: using wicked problem thinking for holistic management of conservation conflict. Conservation Letters 11(6): p.e12460. https://doi.org/10.1111/conl.12460

Mazzochi, F. 2006. Western science and traditional knowledge: despite their variations, different forms of knowledge can learn from each other. EMBO Reports 7(5):463-466. https://doi.org/10.1038/sj.embor.7400693

McDonald, D. 2016. The etymology of "jizz," revisited. Canberra Bird Notes 41(2):13-17.

Myers, I. B., and P. B. Myers. 1995. Gifts differing: understanding personality type. (First published in 1980.) Davies Black Publishing, Mountain View, California, USA.

National Park Service (NPS). 2016. Resource stewardship strategy: resilient people—resilient ecosystems at Rocky Mountain National Park. Rocky Mountain National Park Report. National Park Service, Estes Park, Colorado, USA.

National Wildfire Coordinating Group (NWCG). 2004. Fireline handbook. National Interagency Fire Center, Boise, Idaho, USA.

National Wildfire Coordinating Group (NWCG). 2022. Incident response pocket guide. National Interagency Fire Center, Boise, Idaho, USA.

Neustadt, R. E., and E. R. May. 1986. Thinking in time: the uses of history for decision makers. Simon and Schuster, New York, New York, USA.

Niemiec, R. M., R. Gruby, M. Quartuch, C. T. Cavaliere, T. L. Teel, K. Crooks, J. Salerno, J. N. Solomon, K. W. Jones, M. Gavin, A. Lavoie, A. Stronza, L. Meth, A. Enrici, K. Lanter, C. Browne, J. Proctor, and M. Manfredo. 2021. Integrating social science into conservation planning. Biological Conservation 262: 109298. https://doi.org/10.1016/j.biocon.2021.109298

Norton, B. 2008. The hunter: developmental stages and ethics. Riverbend Publishing, Helena, Montana, USA.

Nguyen, V. T. 2016. Nothing ever dies: Vietnam and the memory of war. Harvard University Press, Cambridge, Massachusetts, USA. https://doi.org/10.4159/9780674969889

Packer, G. 2013. The unwinding: an inner history of the new America. Farrar, Straus, and Giroux, New York, New York, USA.

Packer, G. 2021. Last best hope: America in crisis and renewal. Farrar, Straus, and Giroux, New York, New York, USA.

Perlin, J. 1989. A forest journey: the role of wood in the development of civilization. W. W. Norton and Company, New York, New York, USA.

Peters, B. G. 2017. What is so wicked about wicked problems? A conceptual analysis and a research program. Policy and Society 36(3):385-396. https://doi.org/10.1080/14494035.2017.1361633

Peters, R. H. 1991. A critique for ecology. Cambridge University Press, New York, New York, USA.

Peterson, R. T. 1990. A field guide to western birds. Third edition. Houghton Mifflin, Boston, Massachusetts, USA.

Ponting, C. 1991. A green history of the world: the environment and the collapse of great civilizations. Penguin, London, UK.

Pope Francis. 2015. Laudato si: encyclical on climate change and inequality—on care of our common home. Melville House, Brooklyn, New York, USA.

Posewitz, J. 1994. Beyond fair chase: the ethic and tradition of hunting. Falcon Guides, Guilford, Connecticut, USA.

Prinsloo, M. 2018. Understanding human consciousness: theory and application. Journal of Experiential Psychotherapy/Revista de Phisioterapie Experientiala 21(2): 82.

Putnam, R. D. 2000. Bowling alone: the collapse and revival of American community. Simon and Schuster, New York, New York, USA. https://doi.org/10.1145/358916.361990

Red Nation. 2021. The red deal: Indigenous action to save our earth. Common Notions, Brooklyn, New York, USA.

Rittel, H. W., and M. M. Webber. 1973. Dilemmas in a general theory of planning. Policy Sciences 4(2):155-169. https://doi.org/10.1007/BF01405730

Robin, L., S. Sörlin, and P. Warde, editors. 2013. The future of nature: documents of global change. Yale University Press, New Haven, Connecticut, USA.

Rodgers, D. T. 2011. The age of fracture. Harvard University Press, Cambridge, Massachusetts, USA.

Rogowska-Stangret, M. 2018. Situated knowledges. In New materialism: networking European scholarship on "How matter comes to matter." European Cooperation in Science and Technology (COST), Brussels, Belgium. https://newmaterialism.eu/almanac/s/situated-knowledges.html

Rolston, H. 1988. Environmental ethics: duties to and values in the natural world. Temple University Press, Philadelphia, Pennsylvania, USA.

Rolston, H. 2010. Three big bangs: matter-energy, life, mind. Columbia University Press, New York, New York, USA.

Romano, C. 2012. America the philosophical. Knopf, New York, New York, USA.

Rose, D. C., M. C. Evans, and R. M. Jarvis. 2020. Effective engagement of conservation scientists with decision-makers. Pages 162-182 in W. J. Sutherland, P. N. M. Brotherton, Z. G. Davies, N. Ockendon, N. Pettorelli, and J. A, Vickery, editors. Conservation research, policy and practice, Cambridge University Press, Cambridge, UK. https://doi.org/10.1017/9781-108638210.010

Rudwick, M. J. S. 2014. Earth's deep history: how it was discovered and why it matters. University of Chicago Press, Chicago, Illinois, USA. https://doi.org/10.7208/chicago/9780226204093.001.0001

Russell, E. 2001. War and nature: fighting humans and insects with chemicals, from World War I to Silent Spring. Cambridge University Press, New York, New York, USA.

Sanborn, T., and J. Jung. 2021. Intersecting social science and conservation. Frontiers in Marine Science 8: 676394. https://doi.org/10.3389/fmars.2021.676394

Schwartz, S. H. 2006. A theory of cultural value expectations: explication and applications. Comparative Sociology 5 (2-3):137-182. https://doi.org/10.1163/156913306778667357

Scott, J. 1998. Seeing like a state: how certain schemes to improve the human condition have failed. Yale University Press, New Haven, Connecticut, USA.

Senge, P. A. 1994. The fifth discipline: the art and practice of the learning organization. (First published in 1990.) Currency Doubleday, New York, New York, USA.

Seth, A. K. 2018. Consciousness: the last 50 years (and the next). Brain and Neuroscience Advances 2: 2398212818816019. https://doi.org/10.1177/2398212818816019

Sheehey, B. 2019. To bear the past as a living wound: William James and the philosophy of history. Journal of the Philosophy of History 13:325-342. https://doi.org/10.1163/18722636-12341431

Smith, B. H. 2006. Scandalous knowledge: science, truth and the human. Edinburgh University Press, Edinburgh, UK. https://doi.org/10.3366/edinburgh/9780748620234.001.0001

Smith, B. H. 2016. Scientizing the humanities: shifts, collisions, negotiations. Common Knowledge 22(3):353-372. https://doi.org/10.1215/0961754X-3622212

Smith, L. T. 2021. Decolonizing methodologies: research and indigenous peoples. Bloomsbury Publishing, London, UK.

Snow, C. P. 1959. The two cultures. Cambridge University Press, Cambridge, UK.

Soule, J. 2007. Beginner's mind. Reflections: Narratives of Professional Helping 13(2):50-55.

Spence, M. 1999. Dispossessing the wilderness: Indian removal and the making of the national parks. Oxford University Press, New York, New York, USA.

Stewart, A. D., D. A. Wickwar, F. P. Clark, R. R. Dow, R. Potts, and S. A. Snyder. 2009. Values, beliefs, and attitudes technical guide for Forest Service land and resource management, planning, and decision-making. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, Oregon, USA.

Stilgoe, J. R. 2015. What is landscape? MIT Press, Cambridge, Massachusetts, USA. https://doi.org/10.7551/mitpress/10405.001.0001

Suzuki, S. 2020. Zen mind, beginner's mind. (First published in 1970.) Shambhala Publications, Boulder, Colorado, USA.

Tainter, J. 1988. The collapse of complex societies. Cambridge University Press, New York, New York, USA.

TallBear, K. 2019. Caretaking relations, not American dreaming. Kalfou 6(1):25-41. https://doi.org/10.15367/kf.v6i1.228

TallBear, K. 2022. Caretaking relations, not American dreaming. Master class, 8 April 2022, Department of History and Philosophy, Montana State University, Bozeman, Montana, USA.

Thomas, J. W. 1979. Wildlife habitats in managed forests: the Blue Mountains of Oregon and Washington. Agricultural Handbook No. 553, U.S. Department of Agriculture, Forest Service, Washington, D.C., USA.

Thompson, C. M. 2015. Situated knowledge: feminist and science and technology studies perspectives. International Encyclopedia of the Social and Behavioral Sciences 22:1-4. https://doi.org/10.1016/B978-0-08-097086-8.85031-X

Toomey, A. H., A. T. Knight, and J. Barlow. 2017. Navigating the space between research and implementation in conservation. Conservation Letters 10(5):619-625. https://doi.org/10.1111/conl.12315

Toynbee, A. J. 1987a. A study of history. (First published in 1946.) In D. C. Somervell, editor. Abridgement of volumes I-VI. Oxford University Press, New York, New York, USA.

Toynbee, A. J. 1987b. A study of history. (First published in 1957.) In D. C. Somervell, editor. Abridgement of volumes VII-X. Oxford University Press, New York, New York, USA.

Treuer, D. 2021. Return the national parks to the tribes. The Atlantic, May 2021.https://www.theatlantic.com/magazine/archive/2021/05/return-the-national-parks-to-the-tribes/618395/,

United Nations Conference of the Parties (COP). 2015. Adoption of the Paris agreement. United Nations FCCC/CP/2015/L.9/Rev.1 (December 12, 2015). https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf

von Braun, J., M. S. Archer, G. M. Reichberg, and M. Sánchez Sorondo. 2021. Robotics, AI, and humanity: science, ethics, and policy. Springer Nature, London, UK. https://doi.org/10.1007/978-3-030-54173-6

Wallen, K. E., 2017. Focusing on structure and process to integrate and mainstream the social sciences in conservation. Conservation Biology 31(3):724-726. https://doi.org/10.1111/cobi.12871

Wasserman, I. C., and K. E. Kram. 2009. Enacting the scholar–practitioner role: an exploration of narratives. The Journal of Applied Behavioral Science 45(1):12-38. https://doi.org/10.1177/0021886308327238

Weber, E. P., and A. M. Khademian. 2008. Wicked problems, knowledge challenges, and collaborative capacity builders in network settings. Public Administration Review 68(2):334-349. https://doi.org/10.1111/j.1540-6210.2007.00866.x

White, A. J. 2020. A republic, if we can keep it. The Atlantic, February 2020.https://www.theatlantic.com/ideas/archive/2020/02/a-republic-if-we-can-keep-it/605887/

White, R. 1995. Are you an environmentalist or do you work for a living?: work and nature. Pages 171-185 in W. Cronon, editor. Uncommon ground: rethinking the human place in nature. Norton, New York, New York, USA.

Whyte, K. P. 2013. On the role of traditional ecological knowledge as a collaborative concept: a philosophical study. Ecological Processes 2(7):1-12. https://doi.org/10.1186/2192-1709-2-7

Whyte, K. P. 2018. What do indigenous knowledges do for indigenous peoples? Pages 57-82 in M. K. Nelson and D. Shilling, editors. Traditional ecological knowledge: learning from indigenous practices for environmental sustainability, Cambridge University Press, Cambridge, UK. https://doi.org/10.1017/9781-108552998.005

Whyte, K. P. 2022. Indigenous climate justice. Hausser Lecture, 3 March 2022, Montana State University, Bozeman, Montana, USA.

Whyte, K. P., S. Rushworth, and D. Jamail. 2022. We are in the middle of forever: excerpt. Excerpt from Chapter 6 in D. Jamail and S. Rushworth, editors. We are the middle of forever: indigenous voices from Turtle Island on the changing earth. The New Press, New York, New York, USA .https://www.resilience.org/stories/2022-09-13/we-are-in-the-middle-of-forever-excerpt/

Wilber, K. 1997. An integral theory of consciousness. Journal of Consciousness Studies 4(1):71-92.

Wilber, K. 2000. Integral psychology: consciousness, spirit, psychology, therapy. Shambhala Publications, Boulder, Colorado, USA.

Wilber, K. 2001. A theory of everything: an integral vision for business, politics, science, and spirituality. Shambhala Publications, Boston, Massachusetts, USA.

Wilber, K. 2005. Introduction to integral theory and practice. AQAL: Journal of Integral Theory and Practice 1(1):2-38.

Williams, T. T. 2004. The open space of democracy. Wipf and Stock, Eugene, Oregon, USA.

Wilson, E. O. 2016. Half-earth: our planet's fight for life. Norton, New York, New York, USA.

Wolfe, P. 2006. Settler colonialism and the elimination of the Native. Journal of Genocide Research 8(4):387-409. https://doi.org/10.1080/14623520601056240

Wood, L. S. 2010. A more perfect union: holistic worldviews and the transformation of American culture after World War II. Oxford University Press, New York, New York, USA.

Worster, D. 1985. Rivers of empire: water, aridity, and the growth of the American West. Pantheon Books, New York, New York, USA.

Zivkovic, S. 2015. A complexity based diagnostic tool for tackling wicked problems. Emergence: Complexity and Organization 17 (4).