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State fish and wildlife agency culture: Access points to leverage major change

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Abstract

Amid a time of unprecedented social-ecological change, professionals within and outside of the US wildlife conservation community have called for transformation of existing processes and structures to ensure that the benefits of wildlife conservation can be realized well into the future. Current momentum behind an initiative to help increase conservation relevancy among population segments that have historically been underserved by the conservation community is underway. Sustainable institutional change will not be realized, however, without attending to internal cultural change within the conservation community itself. Although elements of an ideal institution have been suggested, specific interventions related to institutional culture need deeper exploration. State fish and wildlife agencies—a primary organizational actor within the conservation community—play a central role in institutional transformation. Using a systems framework, this essay describes key leverage points for cultural change for which interventions could result in sustainable culture shifts. Five possible interventions are introduced to stimulate conversation among conservation practitioners seeking to initiate transformational change within their specific cultural contexts.

KEYWORDS

fish and wildlife conservation, organizational change, organizational culture, state wildlife agency, state wildlife conservation institution, systems thinking

1 | INTRODUCTION

State fish and wildlife agencies (SFWAs) in the United States are primary organizational actors that exist within an institutional context defined broadly by its unique purpose, culture, governance, and funding model. Jacobson and Decker (2006) used the term state wildlife conservation institution to describe and distinguish the context within which SFWAs operate collectively and how that context defines SFWA behavior as distinct from other agencies and organizations (e.g., federal conservation agencies and nongovernmental organizations). Although

each of the 50 SFWAs within the state wildlife conservation institution operate within their own sociopolitical realities, collectively they share common cultural and normative aspects (e.g., a long standing mutually beneficial relationship with hunters and anglers, technocratic decision-making practices) that help define and distinguish these organizations from those outside this institutional context (Jacobson & Decker, 2006; Manfredo et al., 2018; Sullivan et al., 2022). Well established associations and professional societies within the state wildlife conservation institution provide forums and communication channels that help legitimize and reinforce exciting institutional values and norms among SFWAs. Like other long tenured institutions, the state wildlife conservation institution tends to exclude values and norms that do not align with those represented by the existing institution and resists external pressures for change (Forstchen et al., 2021; Hoffman, 2001; Perry, 2011). Despite these realities, the need for cultural change within the state wildlife conservation institution has been largely recognized as critical to ensuring the continued relevance of SFWAs and subsequently their ability to successfully implement programs to provide social-ecological benefits to a changing society (Decker et al., 2016). Momentum for change has been building for over two decades, and a recent focus on ensuring that conservation is relevant to society broadly has led to a variety of products and initiatives that reflect a sense of urgency and leadership support for transformation (Association of Fish and Wildlife Agencies, Wildlife Management Institute, 2019; Dunfee et al., 2021). These efforts represent a significant step toward broader representation but are large in scope, can take a significant investment in time and resources, and their effectiveness requires broad scale changes to organizational culture. For this pursuit, the most daunting question facing SFWAs is simply where to start.

In this paper, we hope to offer some concrete suggestions that SFWAs and others working in the conservation field may consider as they look to shift organizational culture more toward conservation's new social context. Often, approaches designed to intentionally transform organizational culture focus on changing a specific element of the system instead of taking a holistic, systematic view and focusing needed interventions where they can have the greatest impact (Berl et al., 2022; Senge, 2006). We, therefore, rely on a systems framing of organizational change, exploring how the culture of SFWAs is comprised of a set of identifiable factors that interact in ways that reinforce central ideals and enhance organizational rigidity (Chan et al., 2020). Our findings build from a multiday workshop with agency leaders from SWFA's across the United States, social scientists and others which took place in January, 2020 (for more information, see Berl et al., 2022). In this workshop, agency leaders engaged in a participatory process to document and map existing systems and subsystems of an archetype organization in ways that show the deep interconnections between component pieces of the system (Foster-Fishman et al., 2007). Drawing on their experiences, the group then collectively identified key "leverage points" for change that the group believed could have system-wide impacts and sustain lasting change (Chan et al., 2020; Gray et al., 2012).

Below, we outline five key leverage points identified during this session that may be addressed to catalyze cultural change within SFWAs. Rather than being taken as prescriptive, these should be considered starting points for discussion for agencies seeking to adapt their organizational practices in a rapidly changing social context. While this paper focuses on US SFWAs, we believe that the ideas offered have implications that reach beyond just state fish and wildlife management. In particular, we suggest that the cultural norms of the conservation institution has great influence over individual SFWAs (especially the centrality of hunting and importance of technical expertise) and has a rippling influence over others operating within (e.g., US conservation NGOs) and beyond (e.g., US-based conservation agencies and NGOs operating outside of the United States) this domestic context. We begin with a description of institutional factors that have had profound influences on the existing culture of SFWAs.

2 | LEVERAGING CHANGE WITHIN SFWA CULTURE

Within the broader social system comprising all factors that influence SFWAs, organizational culture is important in guiding the actions of individual practitioners (Hoffman, 2001). In this paper, we define organizational culture as "a system of assumptions, values, norms, and attitudes, manifested through symbols which the members of an organization have developed and adopted through mutual experience, and which help them determine the meaning of the world around them and the way they behave in it" (Janicijevic, 2013, p. 72). The culture of SWFAs is heavily influenced by a set of guiding principles known as the "North American Model of Wildlife Conservation" (NAM). The NAM articulated by Geist et al. (2001) offers seven pillars of effective wildlife conservation, and centers in particular the importance of biological science as a foundation for policy-making and hunting as a management tool and focus of conservation efforts. Accompanying this guiding philosophical framework is a set of legal mandates and funding structures

common to all agencies that serve in a complex web of ways to reinforce cultural ideas and practices. Of note, are mandates requiring agencies to both conserve and protect wildlife while also ensuring recreational opportunity and funding structures which link hunters and anglers (through license fees and federal excise taxes) directly to the economic capacity of state agencies (Jacobson et al., 2007). The NAM, moreover, reinforces the technocratic (expert-led) and exclusionary--versus collaborative and inclusive--norms of the state wildlife conservation institution (Sullivan et al., 2022). Taken collectively, these institutional factors show how the culture of state wildlife agencies in the United States has coevolved alongside American hunting culture in a way that binds the two closely together and tends to limit the influence of nonutilitarian values and interests.

These strong cultural foundations and have been credited with many of the successes of state wildlife agencies to date (Organ et al., 2012). However, these same foundations, operating in tandem with one another, present a significant barrier to organizational change. As social values shift across the United States away from traditionalist perspectives and the social, economic, and political context of wildlife management change alongside, how can agencies look to expand and diversify their focus to engage with a broader segment of society?

2.1 | Leverage points

In response to this question, state agency leadership identified five key leverage points that they see as having the potential to meaningfully transform organizational culture. These leverage points—*leadership*, *agency structure*, *hiring and recruitment*, *expertise and capacity*, *and diversity among staff*—represent interacting factors that, if addressed, could lead to substantial cultural change (Berl et al., 2022). Below, we address each factor and its current role in perpetuating cultural paradigms as described above and offer suggestions for consideration what change might look like at each point.

2.1.1 | Agency leadership

While institutional forces have strong influences on individual organizations. Leaders within those organizations can play a critically important role in shaping organizational culture to help them adapt to changing circumstances (Fernandez & Rainey, 2006; Kotter, 2012). Decker et al. (2011) proposed that transformative leadership is needed to affect change within the state wildlife conservation institution. The authors note that transformative leaders focus on "...encouraging others to imagine what might be an unimaginable future to them at first, and then helping them embrace, commit to and work toward that future" (Decker et al., 2011, p. 7). This involves removing barriers to change and providing the guidance, support, time and resources to enable organizations to take the steps necessary to learn and evolve. The average tenure of an SFWA director is relatively short (approximately 3.4 years), meaning that the window of time for leading transformative change is minimal (Regan, 2018). Further, leaders face a number of disincentives and institutional barriers to undertaking change efforts. A lack of dedicated opportunities to cultivate leadership skills prior to entering leadership positions can mean that new leaders emerge without mastering reasoning and judgement skills needed to effectively direct change efforts within an organization (Decker et al., 2020). Further, leaders enter into a bureaucratic system that can lacks institutional mechanisms to reward and promote behaviors such as risk taking, team-based planning, innovation, strategic foresight, broad collaboration, diversity-seeking, or adaptive management (Jacobson, Organ, & Decker, 2010; Jacobson, Organ, Decker, Batcheller, & Carpenter, 2010). As a result, the existing cultural system of SFWAs tends to reward those leaders who "stay in their lane," making top-down decisions, maintaining strong connections to traditional hunting and fishing constituents, and offering programming and strategies aligned with past leadership (Decker et al., 2011; Nie, 2004). Leadership challenges are not unique to conservation but have become central to discussions around organizational change in recent years and have been identified as considerable barriers to engaging and connecting to society more broadly (Forstchen et al., 2021).

In response, we propose that one significant leadership-focused intervention could be shifting toward more team-based leadership structures and offering dedicated trainings in collaborative and team-based planning. Research has shown that institutionalized opportunities that promote the concept of team learning, continual application of acquired capacities and acquisition of leadership skills can facilitate organizational success (Northouse, 2004), especially when knowledge pooling from a number of leaders at different levels within the organizational hierarchy happens simultaneously. This could be particularly effective at complimenting top-down directives which tend to perpetuate cultural norms with bottom-up emergence of ideas more likely to alter this status quo, especially for team leaders who are inclusive and value and connect broadly with the diversity in their workforce and inspire a shared vision through authentic leadership (Kissling, 2021). Effective SFWA leaders, particularly in uncertain times, will be able to engage a broad range of staff in discussions and action to ensure diverse and inclusive agency cultures;

encourage and empower those who work with underserved population segments; and embrace creativity, imagination, and risk-taking to move forward visions of and approaches to wildlife management that are better aligned with a changing social context.

As an illustration, Forstchen (2011) describes how the Florida Fish and Wildlife Conservation Commission (FWC) institutionalized a "community of learning" to help leverage transformation of the agency after a major multiagency merger meant to reinvent the agency to be a more modern and inclusive wildlife conservation organization. Soon after the merger, FWC leaders prioritized developmental opportunities and team building at all levels, with an emphasis on critical thinking, emotional intelligence and problem solving. The strong commitment of leaders, including mid and lower-level managers, to creating a culture of interdependent leadership helped address this need. FWC's emphasis on "teaming" helped break down structural silos by regularly engaging staff across all programs and levels on equal ground in a process of learning from each other and improving together. By creating this type of networked governance focused on organizational improvement through learning, staff development and collaboration, Florida was able to remove barriers associated with ridged organizational structures and focus on developing a "collective leadership mindset" (Forstchen, 2011, p. 38). The agency continues to use a fluid and integrated approach to improve both performance and accountability of the agency.

2.1.2 | Agency structure

Agency structures constitute a "pattern of actions and interactions that organization members undertake for the purpose of achieving the organization's goals" (Janicijevic, 2013, p. 37). Because structures tend to be rigid and perpetuating, they often reflect the values and norms that existed at agencies' founding (Hall & Tolbert, 2005). As such, the culture and structure of an organization are iterative, creating both internal and external signals to individuals within the organization about how to behave (Janicijevic, 2013). For SWFAs, agency structures are established such that game-related research, management, and law enforcement are prioritized, as illustrated by the relatively large staffs and budgets for these versus other programs (Jacobson, Organ, & Decker, 2010). Programs and activities such as wildlife diversity, watchable wildlife, and wildlife education tend to have relatively few staff and financial resources, reinforcing and reaffirming a culture centered on hunting and traditional utilitarian frames of wildlife conservation (Jacobson, Organ, & Decker, 2010).

The organizational structures found in many SFWAs today mirror broader patterns of bureaucratization that occurred in the United States in the late 19th and early 20th centuries. These include the deconstruction of complex environmental problems into component pieces, which are then addressed and remedied by a team of experts in that particular focus area organized into hierarchical structures to ensure accountability (Rainey, 2009) Bureaucratic structure provides organizational efficiencies and reliability (Hall & Tolbert, 2005) but can also serve as a barrier to innovation and strategic interactions among diverse staff from different programs, especially important in rapidly changing circumstances (Gunderson & Holling, 2002; Kotter, 2012; Staw et al., 1981). Within SFWA programs, for example, siloed operational structures (e.g., homogenous programs focused on single species, hunted species or guilds [e.g., migratory birds]; specific units of land; law enforcement) and dedicated funding streams to those areas focused specifically on game management (Jacobson et al., 2007) have facilitated some successes (Organ et al., 2012) but have limited multi-program collaboration and sharing of resources to address conservation problems more broadly (Serfass et al., 2018).

A changing context, however, requires a more agile and effective model that adequately represents the existing and emerging social-ecological challenges facing conservation, one that facilitates work across programmatic silos (Decker et al., 2009; Gigliotti et al., 2009). We build on Kotter's (2012) suggestion that organizations dealing with challenges of complexity and rapid change would benefit from instituting a second operating system devoted to understanding and helping organizations anticipate and strategically adapt to changing circumstances. The second operating system could consist of staff from within the organization at all levels and works closely with the traditional hierarchical structure to ensure information and creative ideas flow rapidly throughout the organization versus being stored within existing silos. Within the field of wildlife conservation, these reforms would mirror a broader disciplinary shift toward the understanding of environmental problems through the lens of social-ecological systems, wherein conservation is understood to reside somewhere at the intersection of human and nonhuman systems (Berkes et al., 2008).

Although the formalized structures of SFWAs are not likely to change rapidly, some examples of structural reform suggest that the addition of a crosscutting approach may offer significant benefits to agencies looking to adapt to changing management circumstances. The Missouri Department of Conservation, for example, recently adopted a new organizational structure intended to enhance coordination between management units.

The new design "*establishes a system of governance and organizational structure based on centralized guidance and regional implementation of the strategic plan utilizing interdisciplinary cross-functional teams*." Parker Pauly et al., 2022, p. x).

A similar model of reframing organizational structures began in 2019, with regard to Atlantic salmon recovery efforts in Maine. In its efforts to ensure the recovery of Gulf of Maine salmon populations, the state's Department of Marine Resources, in partnership with NOAA, the USFWS, and the Tribes of Maine proposed a revised governance structure that maintained a hierarchical design between policy teams, implementation teams, and committees, but created a parallel track of Salmon Habitat Recovery Unites or SHRUs that worked in coordination with implementation teams across the Gulf of Maine to ensure that recovery efforts statewide worked toward a common goal (Maine Department of Department of Inland Fisheries and Wildlife, 2020). This structure allows for regional flexibility while maintaining a common and coordinated set of efforts across the state and empowered local communities to engage more closely with the recovery process.

2.1.3 | Hiring and retention

SFWA professional staff tend to have high retention rates even among career civil servants within state governments, likely due to wildlife professionals' passion for conservation and their work. (Manfredo et al., 2018; Organ & Fritzell, 2000). In terms of agency efficiency, staff longevity can be an asset, establishing context-specific best practices based on experiential learning (Kossivi et al., 2016) and building and sustaining "institutional memory" through the use of storytelling (Linde, 2009). This longevity, however, further reinforces existing structures, beliefs, and practices and can pose a barrier to transformational change and organizational adaptability. For example, SFWA staff disproportionately holds traditionalist values toward wildlife, in some states in proportions that result in agencies looking unlike the public that they serve (Sullivan et al., 2022). These values reflect not only an internal culture of assimilation around shared agency-level values (Cramer et al., 1993), which reflect a utilitarian approach to wildlife management and show a preference within agencies to hire primarily those who share in these cultural norms (Bishop et al., 2021). As a result of the relative homogeneity of employees within agencies, support for engaging a broader constituency with different values is limited and agencies are more likely resist this change (Schweiger et al., 2018; Sullivan et al., 2022). Further, because these values (especially ideas associated with control and domination) are deeply integrated into educational programs around wildlife management and biological science (Teel et al., 2022), existing staff may be less inclined to perceive the need for new hires with alternative capacities (e.g., social scientists, marketing specialists, public relations specialists) and diverse cultural backgrounds (Manfredo et al., 2019; Morales et al., 2021). This is critical, as existing hiring and retention programs tend to perpetuate cultural standards of the past rather than providing a basis for SFWAs to better engage with new constituencies and introduce innovative ideas to respond to a changing social-ecological context.

While the values of existing employees represent a sticking point for organizational change, they are unlikely to be shifted through intentional actions (Manfredo et al., 2017). However, hiring and recruiting from a broader pool of applicants can offer significant opportunities to shift the culture of SFWAs. Current research (Bennett et al., 2017; Manfredo et al., 2019; Morales et al., 2021) has demonstrated, for example, that agencies are at a critical moment for building out programs in the human dimensions of conservation, which could help them to more effectively engage with the social, economic, and political challenges that underlie contemporary wildlife conservation struggles. As one step, university programs that train wildlife practitioners could do more to integrate social science and humanities studies directly into the curriculum of wildlife programs (Dayer & Mengak, 2020; Redford, 2011). Beyond this, however, bringing in those with deeper expertise in the social and political sciences may be necessary, especially as social conflict around conservation grows. Increasingly, there is a need for public managers to have skills oriented toward interaction with members of the public, particularly the ability to facilitate difficult conversations between those with competing values (Manfredo et al., 2019; Sexton et al., 2013; Niemiec et al., 2021). As the need for new capacities emerge, innovative methods should be considered to recruit capacity to address changing expectations for SFWAs (Parker Pauly, 2017).

2.1.4 | Capacity and expertise

As a result of limited hiring and retention, many of the challenges confronting agencies today stem from a lack of capacity and expertise within agencies for addressing emerging wildlife challenges (Jacobson, Organ, & Decker, 2010). The capacity and expertise that exists within agencies can largely be traced back to institutional cultural and normative factors such as the NAM and funding mechanisms that restrict funding to focus

narrowly on game conservation (Jacobson & Decker, 2006; Organ & Fritzell, 2000) and prioritize biological science as the foundation of wildlife policy (Organ et al., 2012). As a result, funding focused on species that are not hunted or fished (e.g., the federal State Wildlife Grants program and state-level alternative funding), remains low relative to funding derived from hunter and angler license sales and federal excise taxes on outdoor equipment. This practice reflects traditional values and priorities of historic concern (Jacobson et al., 2007), further reinforcing existing cultural paradigms within wildlife agencies (Dunfee et al., 2021). As important as the biological sciences are to wildlife conservation and management, however, growing multidisciplinary capacity within SFWAs is critical for them to address contemporary challenges and public expectations for conservation benefits (Morales et al., 2021). Without a significant investment in capacity beyond biological sciences and fish and game management, SFWAs risk losing connection with and support from the changing public that they are obligated to serve. Although there has been an identified need for increased social sciences (Jacobson, Organ, Decker, Batcheller, & Carpenter, 2010) and decades of examples of how social science information and public engagement has helped inform and arguably improve conservation decision making (Decker et al., 2012), SFWAs generally, have not invested adequately in employment and support of these capacities (Dunfee et al., 2021).

To be effective in addressing the social-ecological challenges of today, SFWAs need to assess the gaps in their existing agency capacity, likely resulting in adjustments to proportions of agency staff who are experts in biological versus other sciences (e.g., social sciences, communication and public engagement) (Matula, 2011). Beyond just understanding where gaps lie, however, capacity and expertise may be expanded by addressing institutional constraints such as the user-pay funding model. Jacobson, Organ, and Decker (2010) found that SFWAs that had secured considerable and broad public funding and or those subsumed under broader umbrella agencies (e.g., Departments of Natural Resources) (Regan, 2018), were more likely to have diverse programs and subsequently diverse capacity that reflect the broad range of fish and wildlife-related interests in their states. Decker et al. (2016, p. 4) likewise stress that adoption of good governance practices more broadly "requires continued expansion of wildlife conservation to include not only programs aimed at species that are economically important, charismatic, imperiled or of interest to particular stakeholders, but all species and the environmental conditions they require." Addressing the issues that limit broader capacity and expertise could have ripple effects to other aspects of culture as well, including SFWAs ability to attract diverse candidates.

2.1.5 | Diversity of thought and experience

Finally, we note that much of the resistance to change within SFWAs emerges in a context of relative homogeneity (Smith, 2011; Taylor, 2014). Based on a survey of 30 SFWAs, for example, the majority of staff were white (90%) and male (72%), especially those in leadership positions (Manfredo et al., 2018). Calls for increased diversity in conservation are not simply symbolic, but instead factor significantly into the ability of agencies to adapt to a changing social context (Gould et al., 2018; Lopez et al., 2021). The lack of representation of women, people of color, the LGBTQ+ community and people with disabilities exists across agencies and is particularly pronounced at the leadership level as marginalized individuals face systematic challenges (Jones & Solomon, 2019). Again, the lack of diversity within agencies is both a factor resulting from and resulting in agency culture that is broadly misaligned with its broader social context. The lack of visible diversity on staff may deter those with nondominant identities from choosing to work in these agencies (Smith, 2011). This reality reinforces societal biases around what conservationists look, act, and think like, that prevent people with nondominant identities from pursuing professions in wildlife conservation. Simultaneously, the culture of these organizations often lead people with marginalized identities who do want to pursue careers in wildlife conservation to look elsewhere (e.g., the nonprofit sector), especially when organizations fail to address concerns over safety and acceptance (Janke et al., 2021).

Suggestions for addressing diversity concerns should, first and foremost, center the voices of those experiencing marginalization to truly understand the barriers and opportunities that exist (Janke et al., 2021). We suggest that agencies may become more widely relevant to the public by engaging more people—particularly children and adolescents from historically marginalized communities—in the conservation of natural resources (Lopez et al., 2021). Research shows that children who engage with nature and natural resources at a young age are more likely to maintain enthusiasm for this topic as they enter the workforce (Louv, 2005). To effectively interest youth in marginalized communities, agencies need to recognize and address both internal barriers (e.g., cultural norms, lack of diversity among existing agency staff) and historical injustice (e.g., discrimination, negative interactions with government and law enforcement generally) that shape people's experiences in nature (Lopez

et al., 2021). Partnering closely with local community groups (e.g., Urban League, Boys and Girls Club, minority-led environmental groups) can be key to this work and serve as a bridge to connect with youth and provide programs of interest and benefit to them.

In addition, new pathways for employment should be created and funded to bring those with diverse ideas and identities into SFWAs, especially from within communities historically marginalized by the state wildlife conservation institution. The Alabama Department of Conservation and Natural Resources, for example, has initiated a collegiate mentoring program that has established relationships with historically black colleges and universities to provide hands-on experiences and networking opportunities to minority students interested in careers in the wildlife sector (Koblinsky, 2021). In these efforts, addressing systemic barriers to access is critical, especially around unpaid work, cultural representation, and equity and support in hiring processes (Jones & Solomon, 2019). Preliminary research has shown that one concrete step state agencies can take is placing staff that represent diversity of race/ethnicity, identities and perspectives into public-facing positions (e.g., public information, law enforcement) and on hiring committees (Allison, 1999; Lopez et al., 2021).

However, hiring alone is insufficient to ensure diversity in SFWAs, especially given the historically white, historically male-dominant culture of agencies (and of conservation more broadly) (Smith, 2011). Equally important is the ability to ensure a welcoming, safe and inclusive space for all employees with accountability metrics to ensure equitable practices are maintained and deviations from this are held to account (Janke et al., 2021). Further, sensitivity to bias should be woven into the fabric of the organization, and the burden for ensuring an inclusive culture should not be disproportionately allocated to people of color or those with other marginalized identities. As part of this cultural shift, change will require uncomfortable conversations regarding past inequities and the ways these have shaped our institutions and behaviors to privilege some identities and perspectives over others (Gould et al., 2018). Moreover, these conversations should elevate interested marginalized voices and invite challenges to dominant ideologies. While such conversations may not be easy, they are imperative if agencies are to address the challenges of wildlife conservation in a new social context.

Reverse mentorship programs offer one concrete example of a way in which those from diverse backgrounds may be able to meaningfully influence agency culture (Marcinkus Murphy, 2012; Penaluna et al., 2017). In these programs, youth train seasoned employees on new skills and approaches in the field, while empowering junior employees in the process. Some studies, including one of a reverse mentorship program at Reutgers University in 2004, indicate that when designed with intention, this approach could be a way to broaden understanding among long-tenured employees and upper-level staff about the importance of diversity and the unique challenges confronting marginalized communities in engaging in this work (Altschul, 2007).

3 | INITIATING CHANGE

The five leverage points identified above represent possible opportunities to catalyze significant change within the culture of SFWAs. As shown in Figure 1, initiating change in any one area (or in multiple areas simultaneously) could have cascading impacts on other areas. These interventions could result in an emergence of new cultural practices over time and ideally further remove barriers leading to sustainable changes to the system (Chan et al., 2020). For example, we could imagine an SFWA where development of leaders at a variety of levels is prioritized, where recruitment and retention practices reflect the importance of diversity broadly and diversity principles are institutionalized within the agency and supported via agency-wide networks. Leaders throughout the agency demonstrate strategic foresight and emphasize multidisciplinary learning and professional development unconstrained by hierarchical structures and open to imagination and collaboration with new partners, including universities as a primary source of the future workforce. The SFWA institutionalizes a diverse network that works horizontally across programs and welcomes external perspectives to introduce and compel innovation. The SFWA is more able to adapt to rapidly changing circumstances including, but not limited to, changing social context, technology advancement, climate change impacts. Subsequently, the SFWA becomes more attractive to individuals with diverse backgrounds previously not represented in the agency. The SFWA works with universities and external partners to recruit a diverse and inclusive workforce that helps it engage more effectively with a broader constituency that holds diverse values and interests. New programs and agency structures emerge that function less like silos and more like innovative networks that reward and promote risk taking and innovation. By offering benefits that are relevant to the public, support for conservation and the SFWA grows, as demonstrated by increased participation in programs, political support, and so forth.

Of course, variability in outcomes from system interventions will depend on factors such as context,

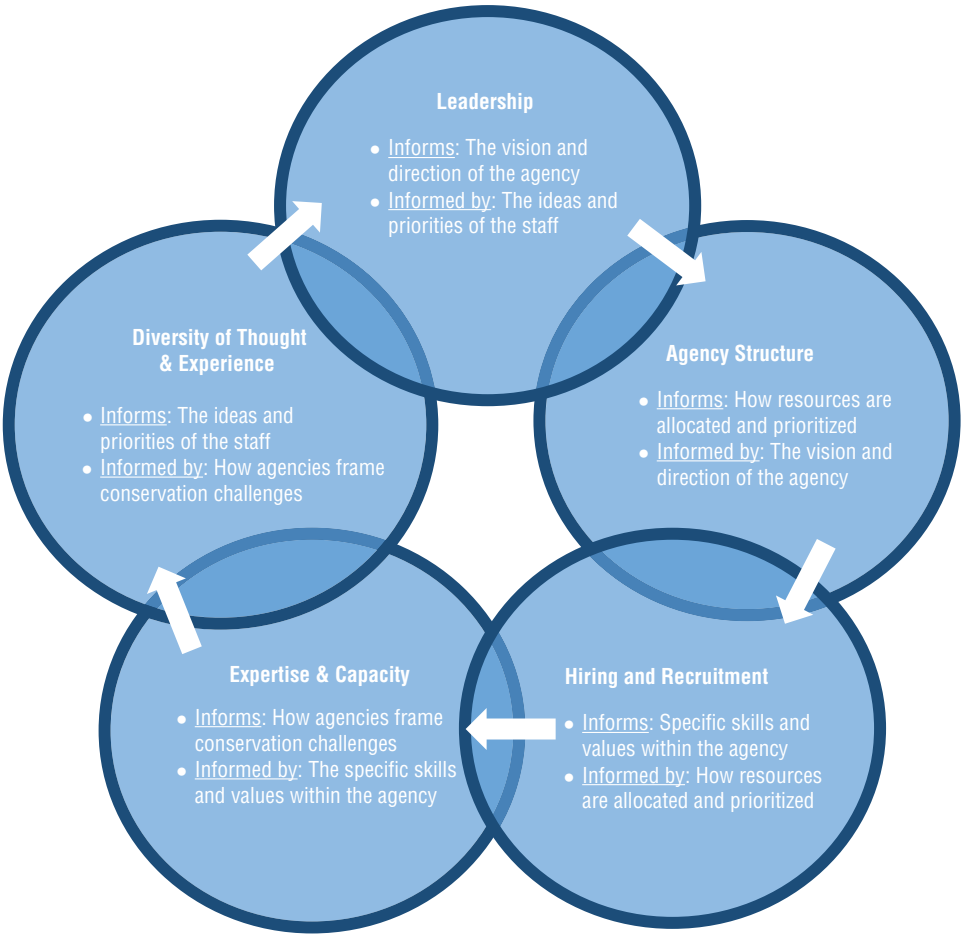

FIGURE 1 A systems diagram capturing the interconnections between leverage points identified by state fish and wildlife agency (SFWA) leadership

implementation, and whether leverage points are addressed singly versus holistically (Chan et al., 2020). The point of this scenario is not to outline definitive outcomes of leveraging change, but to demonstrate the interrelatedness of these leverage points and potential for change that may result from such leveraging. Whether or not interventions like those described above would help achieve the vision imagined by the agency leaders remains to be seen. Equally as important here is that the systems model described results from a specific vision emerging with a specific group of individuals (agency leadership) (Berl et al., 2022). These leverage points may look significantly different from those put forward in another context or with another group of individuals (e.g., women in junior positions, people of color in a predominantly white agency). This is likewise true if we are to bring the same process of considering cultural change into another domain (e.g., non-US focus or into the nonprofit sector). For cultural change to be initiated, organizations must involve a diversity of perspectives in defining a change vision, describing the existing culture and barriers to change and finally identifying leverage points and interventions to achieve a shared vision for change.

4 | SUMMARY AND CONCLUSION

SFWAs exist for the purpose of conserving and managing fish, wildlife, and habitat as public resources (i.e., owned by no one and by everyone) for current and future generations (Hare et al., 2017). To do that well, SFWAs must understand and address the public's values and interests, including anticipating how those values and interests are evolving and how such change impacts conservation. SFWAs that fail to change risk becoming irrelevant. The state wildlife conservation institution has begun to acknowledge its exclusivity and need to broaden its boundaries to maintain public support and ultimately ensure the success of its conservation and management efforts into the future. In broadening its boundaries, the state wildlife conservation institution and individual SFWAs will benefit from proactively engaging its traditional constituencies and promoting a shared understanding of the need for connecting with and serving the interests of a broader segment of society.

Using a systems thinking approach, we sought to advance understanding of how change could occur within the state wildlife conservation institution, with a particular focus on SFWA culture. We identified and

described five key leverage points within the SFWA cultural subsystem and used these as referents to identify interventions to help leverage change. Recognizing the interdependencies among component parts, and with significant input from those actively working in SFWAs, we developed a suite of multifaceted interventions for agencies to consider. Our purpose was not to be prescriptive or to outline the correct course of action, but to provide insight for reflection and dialogue within individual SFWAs seeking to initiate transformational change in their specific cultural context. Systems thinking is inherently messy, takes significant time, and relies on adaptive and committed leadership to champion the process over time. It is these sorts of messy, collaborative, and iterative processes designed to recognize and address systemic challenges to conservation that, in our opinion, hold the greatest potential for transforming individual SFWAs, the state wildlife conservation institution, and conservation itself.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

All the authors participated in the conceptualization of the essay. All authors contributed to critically revising the essay, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

ETHICS STATEMENT

Institutional ethics review was not required for this project. Participation was voluntary, all participants were invited as coauthors on this publication, and all contributions are fully acknowledged.

DATA AVAILABILITY STATEMENT

Raw data from the workshops conducted for this project consisted of qualitative discussions and collaborative mapping with participants. The data are shared in this article and its supporting information in synthesized form.

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