

The Problem of State Wildlife Management Institutions

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Report GBRP-2024-2



2024

**The Grizzly Bear
Recovery Project**

P.O. Box 2406,
Livingston,
Montana

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EXECUTIVE SUMMARY

Those who value wildlife for non-instrumental or non-utilitarian reasons, and who have tried to influence state wildlife policies, have long been frustrated by lack of access to authoritative decision processes. The institution of state wildlife management has been described as an iron—even diamond—triangle locked down in service to the special interests of sportsmen, buffeted by the influences of livestock producers.

This report provides an orientation to the problem of state wildlife management institutions from the perspective of those promoting animal protection, ecosystem function, ecosystem health, and more democratic and inclusive governance of wildlife. The analysis presented here is informed primarily by interviews conducted by a University of Montana graduate student with 28 close observers of state wildlife management, including many who have worked for state agencies. Primary objectives were to: (1) provide information to advocates of change who could then use it to good effect according to their own designs; and (2) present a more comprehensive analysis of state wildlife management as a basis, in turn, for presenting concrete action alternatives.

The analysis presented in this report suggests that *now is an auspicious time to attempt broad-scale reform of the institutions of state wildlife management*, whether through structural changes or through influences at a more pedestrian level. Not only is the system, factually, in crisis in most states, more importantly, it is perceived to be in crisis by leaders inside wildlife management agencies. This readiness for change from within state wildlife agencies is plausibly combining with outside pressures to place the current rigid institutional structures under increasing stress.

Summary of implications for reform efforts

Doctrines—The public trust doctrine provides considerable leverage for reformers. This doctrine is already widely accepted by state agencies and is intrinsic to the seminal North American Model of Wildlife Conservation. By adopting and pursuing this established doctrine there is ample scope for improving governance, broadening representation of interests, and giving those who are currently disenfranchised voice and standing in authoritative processes. The notion of wildlife as a value resource for all could reframe the political discourse and energize a new constituency for wildlife, with the prospect of fostering new policy outcomes. This is an extraordinarily powerful point of entry and potentially important common ground with progressive thinkers inside state wildlife agencies. At the very least, reformers should assiduously invoke this doctrine as justification for systemic change.

Broadscale dynamics—The times are clearly ripe for efforts designed to reform state wildlife management. There appears to be widespread recognition of crisis within state agencies, certainly of finances. Among the more thoughtful, the crisis is one of legitimacy, relevance, and

representation. Reformers could most readily find common cause with agency personnel and leaders on augmenting and reforming agency finances. Reformers could also find common cause with forward-thinking individuals in promoting revision (but not overthrow) of the North American Model so as to be more inclusive of stakeholder interests, including greater involvement of the full public.

Finances— Virtually any reform of finances will require support from a broad coalition. Substantial funding will need to come from the general public or from non-consumptive stakeholders. The only mechanisms likely to generate enough funds are excise taxes, some fraction of the general sales tax, taxes on energy revenues (in energy-producing states), or portions of lottery proceeds. Although authorization of such mechanisms would be quite difficult in the current fiscal and political climate, all of these measures have been successfully implemented in some states or at the federal level. Precedent does exist, including in recent times, which allows for the opportunity to learn from close examination of past successful efforts. And leaders of wildlife management agencies would likely be enthusiastic allies of such efforts in most states, recognizing that some sportsmen groups are aggressively organizing to prevent financial reform, to protect their current privileged status.

Agency leadership—Reformers would likely find common cause with wildlife professionals if they promote processes that vetted potential Commission candidates for knowledge and experience prior to gubernatorial consideration—as with the Board system in Arizona. Promotion of a Commission composition that better represented state-wide stakeholder interests and demographics might also find political traction if justified by the public trust and by democratic principles, especially if accompanied by a cogent agenda for reform of finances. Finances need to be addressed somehow given that sportsmen justify Commissions biased in favor of their interests by invoking the extent to which hunter and fisher license fees support state wildlife agencies. If the competence and representativeness of Commissions could be improved, then authority over the selection of Directors would logically fall within the purview of Commissions rather than Governors. Governors are directly appointing Directors in an increasing number of states, which is desirable if the Governor is reform-minded and judicious, but disastrous if the Governor is frivolous and regressive. Reformers might also have positive effects by promoting and participating in training that broadened the perspectives and upgraded the skills of agency leaders at both mid and high levels.

Agency personnel—Outside reformers probably have limited options for affecting personnel-related matters inside of agencies. Much of what needs to change is structural, linked to finances and culture. Some is definitely related to skills, but largely subsidiary to over-arching issues. Reformers could promote and participate in training for agency personnel or students bound for agency jobs that was focused on the public trust doctrine (as per above), issues of governance, and situation analysis or problem orientation skills. Investments in communication skills may yield minimal payoffs given that most agencies are inclined to use such skills to bolster their public image and engage in other promotional activities, which is at odds with a more fundamental reorientation toward listening to and empowering non-consumptive stakeholders. There might also be

opportunity for outside agents (e.g., academics and certain environmental organizations) to effect subtle reforms by providing expertise on conventional issues such as predator-prey dynamics, landscape-level conservation, and trans-state management. Those inclined to be more aggressive could identify opportunities to advance the EEO agenda within agencies. But, fundamentally, reform inside agencies is likely to be contingent on changing the core architecture of finances as well as the quality of upper-echelon leadership.

External factors—Sportsmen and agricultural interests continue to dominate state wildlife management agencies, the former through funding and cultural ties, the latter through the power of state legislatures and governors’ offices. And these influences are increasingly radical, perhaps because sportsmen, ranchers, and gun proponents feel increasingly threatened by broad-scale societal and cultural trends. By contrast, the environmental community has had essentially no influence over state wildlife management, plausibly because they have had no presence or coherent strategy, in turn a likely result of being focused on federal land management where federal policies offered many more opportunities to exercise authoritative influences. Wilderness has also historically had a cachet that rewarded focus on lands rather than wildlife. The exception has been ESA-protected species, where, again, federal policy provided unique opportunities enhanced by the charisma of certain protected species. It seems likely that reformers could increase their effects on status quo state wildlife management by building and energizing new constituencies, and by being consistently present and engaged under the aegis of a coherent multi-faceted strategy. A lack of historic influence can be plausibly ascribed as much to a lack of strategic engagement as to the structural problems of state wildlife agencies.

Geography—The geographies of opportunity and need have several implications for reformers. First, the regions where reform has progressed farthest warrant more focused intensive study to learn lessons relevant to advancing reform elsewhere. Second, prospects for reform in states where the need is greatest probably depends as much on diffusion of reforms from states where conditions are more auspicious as on endeavors undertaken locally. Aggressive reform efforts are probably best focused in the West on Washington, Oregon, and California, along with containment efforts in Montana, Idaho, and Wyoming. A major investment in building capacity will probably be needed in any state where concerted action is being contemplated.

Potential action alternatives

1 Be diligent, well-informed, and thoughtful in design

- Begin by convening a meeting of the “best and the brightest,” especially those with experience and a background of reflection on the topic, to engage in a broad-scale strategic planning effort focused on reform of state wildlife management: a Wildlife Reform Think Tank.
- Take a broad-scale multi-state approach to thoughtfully designing a strategic reform effort, with the intent of fostering fundamental change in the most favorable environments and

implementing containment efforts (“damage control”) in places (states) where the stakes are high but opportunities for structural change are limited (i.e., Idaho, Montana, and Wyoming).

- Spend the time and resources needed to learn about specific targeted contexts as a basis for designing and implementing campaigns that will maximize the odds of achieving desired outcomes.
- Inquire into the histories of successful finance initiatives in Minnesota, Iowa, Missouri, and Arkansas to determine if there are lessons that can be extrapolated to other states.
- Inquire more deeply into the circumstances that have allowed Florida to reform state wildlife management from within to determine if there are lessons that can be extrapolated to other states.
- Gather the intelligence needed to understand details of relevant social and decision making dynamics specific to the states of Washington, Oregon, California, and Colorado, with a focus on opportunities to advance constitutive reforms.
- Gather the intelligence needed to understand details of relevant social and decision making dynamics specific to the states of Idaho, Montana, and Wyoming, with a focus on opportunities to promote progressive management and forestall regressive practices.

2 Build capacity and constituencies for reform

- Invest in launching and supporting new NGOs focused on reform of state wildlife management. This agenda does not fit well with the cultures, orientations, and traditional foci of most existing regional and national NGOs.
- Invest resources in recruiting, organizing, and energizing diverse non-consumptive stakeholders, including landowners, photographers, wildlife watchers, birders, and those interested in democratic reforms.

3 Exploit existing well-established doctrines

- Invoke and take an active role in clarifying the public trust doctrine as reason to reform current governance and management to broaden representation of interests.
- Invoke but then take an active role in revising the North American Model of Wildlife Conservation, with the intent of linking the embedded public trust doctrine to broad representation of stakeholders, including those with non-consumptive non-traditional interests.

4 Reform and influence existing Commission structures

- Embrace the Commission system, but work to institutionalize measures that will: insure selection of Commissioners who are informed and committed to the common good; make Commissions representative of the broader public; accelerate the education of new Commissioners; and improve relations with (respect for) agency personnel.
- Maintain a consistent and diverse presence at public Commission venues to voice non-consumptive interests and to provide “cover” for Commissioners to make positive decisions that, politically, they could not otherwise make.

5 Work within existing agency processes to promote reform

- Participate to the maximum extent possible in agency planning processes, especially those focused on “predator” management; lobby to make such planning processes as open and as inclusive as possible.
- Work to engage (with) state agency personnel in undertakings focused on trans-jurisdictional multi-stakeholder habitat and biodiversity issues, with the longer term intent of shaping agency perspectives and building relations.

6 Build broad state-level coalitions to promote financial and other reform

- Build coalitions with other stakeholders in state wildlife management institutions around shared interests—most likely financial reform, but also potentially reform of governance linked to an empowered and clarified understanding of the public trust. Other shared interests will depend upon the specific context.
- Focus financial reform on measures that will yield substantial sums, not be linked to hunters, fishers, or gun owners, and that will be divorced as much as possible from the vicissitudes of partisan politics.

7 Build coalitions and common ground with liberal and moderate sportsmen

- Identify and develop a small cadre of individuals who have the identity and credentials of sportsmen, but who also have good networking skills and progressive thinking, and then support them in building relations with influential politicians and wildlife management leaders as a platform for lobbying for change. This strategy could be implemented in all states, but with an emphasis on Idaho, Montana, and Wyoming.
- Especially in interior western states, organize and mobilize moderate and liberal sportsmen to support predator (and biodiversity) conservation and to counter radical right-wing groups.
- Where agricultural interests are aggressively advancing an agenda to privatize and commercialize wildlife (including restrictions on hunter and fisher access), build coalitions with sportsmen and agency personnel to counter such agendas, but with the longer term intent of building trust and relations with moderates.
- Where energy (or other) development is threatening game populations and habitat, likewise build coalitions with sportsmen and agency personnel to limit or mitigate harm, again with the longer term intent of building trust and relations with moderates.

8 Lobby for and participate in alternative decision-making forums

- Support and help develop authoritative forums designed to find and build common ground between sportsmen and non-consumptive stakeholders (e.g., the Idaho Forum, the Massachusetts Guns & Roses Initiative).

- Lobby agencies to constitute authoritative local decision-making bodies that include representatives of non-consumptive interests to address local wildlife-related issues, with an emphasis on constituting such bodies in and around liberal enclaves.

9 Maintain pressure on existing institutional arrangements and practices

- *Only where appropriate*, maintain a constant public critique of problematic state wildlife management practices in the electronic and print media.
- *Only where appropriate*, publically promote alternative decision-making and management practices in as many venues as possible.
- *Only where and when appropriate*, exploit wildlife management practices that are particularly offensive to the broader public to create incidents which, in turn, create a public sphere within which these practices can be critiqued and alternatives promoted.

10 Delegitimize the radical right

- *Only where appropriate*, ascertain and publicize the money trail and radical political agenda of individuals and organizations attempting to further entrench pro-consumptive, anti-predator biases in state wildlife management.
- *Only where and when appropriate*, delegitimize efforts by agricultural organizations and individuals to commercialize and further instrumentalize wildlife management by publicizing radical political agendas, political ties, and compromising financial stakes.

April 16, 2013

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April 16, 2013

1. Purpose and content

This report provides an orientation to the problem of state wildlife management institutions from the perspective of those promoting animal protection, ecosystem function, ecosystem health, and more democratic and inclusive governance of wildlife. In this report I clarify goals, articulate problems arising from current conditions, describe and explain relevant dynamics, and offer plausible alternatives for future action. My analysis is informed primarily by interviews conducted by a University of Montana graduate student with 28 close observers of state wildlife management, including many who have worked for state agencies. I also draw on my own experiences and relevant academic research. My primary objectives here are to: (1) provide information to advocates of change who can then use it to good effect according to their own designs; and (2) present a more comprehensive analysis of state wildlife management as a basis, in turn, for presenting concrete action alternatives.

2. Motivation of this project and report

Those who value wildlife for non-instrumental or non-utilitarian reasons, and who have tried to influence state wildlife policies, have long been frustrated by lack of access to authoritative decision processes [1,2,3,4]. Wildlife policy making and implementation in most states is functionally closed to anyone who is not a sport hunter or a representative of agricultural interests [5,6,7,8,9,10,11,12,13,14, 15,16,17,18]. The primary focus especially in western states is self-evidently on providing sport hunting and fishing opportunities, especially to hunters interested in killing ungulates such as elk, deer, bighorn sheep, and pronghorn. Although meat hunting is a common motivation, widely supported by the general public [19], many hunters and agency programs focus on trophy hunting. Agricultural interests also strongly influence state wildlife management, primarily through powerful connections to state legislatures and executives [15].

The institution of state wildlife management has been described as an iron—even diamond—triangle locked down in service to the special interests of sportsmen, buffeted by the influences of livestock producers [11]. This iron triangle is maintained by real or perceived financial dependencies, a culture and identity shared among all key beneficiaries, and a system of authority and decision making that is sequestered from direct democratic access. All but two state wildlife agencies are governed or regulated by an appointed commission, which oversees and sometimes appoints directors, not unlike a corporate model [4]. In most states the large majority of funds come from hunting-fishing licenses and fees and from federal grants supported by excise taxes on sales of firearms, ammunition, and fishing accoutrements [1,6,15,16,20]. Of perhaps greatest consequence, hunters, state wildlife agency personnel, and state wildlife commissioners are overwhelmingly white males who share an instrumental worldview that features hunting and fishing [21].

Under the governing paradigm of state wildlife management predators are generally of little value economically or culturally, and are often viewed as competitors for opportunities to hunt ungulates [15,16]. This anti-predator bias dovetails with strong anti-predator attitudes among livestock producers to create situations where killing predators, whether as game, fur-bearers, varmints, or depredators, is a major feature of most state wildlife programs, especially in the West [21,22,23]. Those who value predators for intrinsic reasons, for ecosystem services, or for non-consumptive recreation are rarely able to affect management practices, although, as I observe later, people representing these non-consumptive values have largely been AWOL. To the extent they have been active, predator advocates have resorted to ballot initiatives, litigation, and political pressure arising from inflammatory public incidents to have effects [2,15,16,24]. And the stakes have risen for those who advocate for and otherwise support the conservation of predators. Two species previously managed under the more favorable auspices of the Endangered Species Act—wolves and grizzly bears—have either been turned over to state management, or will likely be so in the near future. This devolution of management from protected federal status to the states occurs at a time when pressure to kill predators, especially large predators, is mounting to levels unseen for decades [25].

The institution of state wildlife management is clearly problematic for anyone who values wildlife for reasons other than the opportunity to hunt and fish. This institution is also unrepresentative, in that it unabashedly serves the special interests of a small minority of the public comprised of a narrow demographic. Civil society would be served by reforming state wildlife management institutions to be more equitable, representative, and open in service of the public trust [6,7,26,27,28]. The aspirations of predator advocates also depend on reform of these institutions. Past strategies, entailing high levels of conflict, are inefficient, corrosive, and often not very effective in terms of durable on-the-ground outcomes [2,15]. The long-term health of predator populations and natural ecosystems—not to mention civil society—depends on changing the very structure of state wildlife management [2].

This report and the interviews that inform it were designed to gather intelligence about key features of state wildlife management that would inform, in turn, a strategic assessment of the state wildlife management problem and prospective interventions to promote reform. The following material is organized around topics that emerged from the unstructured interviews. Each topic can be thought of as an issue or problem. I follow a statement of the issue with a synopsis of potential logical solutions and related barriers. I conclude with a description of broader strategic options for promoting reform. But before I launch into the main results, I provide a brief description immediately following of the interviewees and interview approach.

3. Interviewees and interview method

Twenty-eight people were interviewed, all of whom were close observers of state wildlife management. The approach used to identifying interviewees is often called snowball sampling in that it begins by interviewing people on a short list and then proceeds by adding names based on recommendations from each successive interviewee. Because of limited time and resources not all people on the final list were contacted, but the interviewees comprise a robust cross-section of identities, experiences, and perspectives—as well as a number of people who were repeatedly mentioned by others. Emphasis was

placed on connecting with people who were known to be insightful and progressive thinkers, whether located inside or outside of state agencies. Eighteen of the interviewees were male and 7 were female. Professionally, 5 worked for environmental non-governmental organizations (NGOs), 2 primarily identified themselves as hunters, 2 were academicians, 3 were employees of federal natural resources bureaus, 8 were current employees of or commissioners for state wildlife agencies, and 5 were employed by organizations directly affiliated with state wildlife management (e.g., the Wildlife Management Institute).

The interviews were unstructured. Even though the project was initiated with a prior conceptualization of the institution of state wildlife management, interviewees were encouraged to express what they thought was most important in terms of processes, structures, successes, or problems. This approach was designed to tap into the creativity of interviewees with the hope of being surprised and enlightened by their perspectives. This was not designed to be an exercise in affirming prior conceptions. The interviews yielded 83 pages of single-spaced notes, which I then distilled into synoptic statements that more than one interviewee might have expressed. This distillation allowed me to more systematically track repeated or widespread perspectives and provided a better basis for summarizing and analyzing the compendium of interviews. My summary produced a total of 185 synoptic statements expressed a total of 516 times by 24 interviewees, for an average of 22 substantive statements per interviewee. I furthermore organized the synoptic statements into 18 broad categories within which I identified additional subcategories. Broad categories pertained to topics such as Commissions and Finances. The broad categories provide much of the structure for the analysis that follows.

4. Problem analysis and topic summary

In what follows I synopsise major topics addressed by the interviewees, with a focus on opportunities for intervention to promote reform. These opportunities thematically fall into the following broad categories: (1) common ground as shared concerns or aspirations that would allow for collaboration to more favorably reconfigure state management; (2) divisions, rigidities, or other vulnerabilities within the institutions of state wildlife management that might be used to advantage; (3) natural alliances with other stakeholders that could be built on and leveraged; and (4) strategies and tactics more generally.

4.1 An authoritative goal: Fulfillment of the public trust

I found widespread invocation of the public trust doctrine among the interviews. Nineteen interviewees voluntarily featured this doctrine as a goal or guiding principle for state wildlife management, although not everyone shared a common understanding of this doctrine in principle or practice. In fact, several interviewees noted that state agency personnel generally did not understand this doctrine and were in need of training. This lack of awareness and clarity is noteworthy given that the public trust is featured in the North American Model of Wildlife Conservation, the seminal doctrine of state wildlife management [29,30]. Several academics and practitioners, notably Dan Decker, Chris Smith, and John Organ, have given workshops in an effort to increase and sophisticate awareness of the public trust among state agencies. Several people argued that state legislative action may be needed to ensure that the public trust is the guiding principle and legal obligation of state wildlife management.

The public trust is both a legal and ethical notion [6,30]. Reduced to its essence, applied to wildlife, fulfillment of the public trust entails managing wildlife to achieve the greatest good for the greatest number of people. Wildlife is a resource that belongs to the people, held in trust for them by the state as trustee. This logically entails clarifying all valid stakeholder interests, distilling from these a common interest consensus, followed by fulfillment in practice [6,7,8,9,13,14,28]. Viewed this way, fulfilling the public trust is a lot about governance, in particular whether it is despotic versus equitable, inclusive versus exclusive [16,27]. By these standards the current inequitable and exclusive systems of state wildlife management fall far short [1,5,6,7,8,9,13,14,15,16]. There is thus an intrinsic dissonance in state wildlife management between reality and the widely invoked public trust doctrine. Even if the public trust were construed in technocratic terms focused on concrete species conservation outcomes, the current system's focus on producing surpluses of game for sport harvest by hunters and fishers falls short of management to conserve ecosystems and species of all sorts [6,14].

Implications for reform: An authoritative goal—The public trust doctrine provides considerable leverage for reformers. This doctrine is already widely accepted by state agencies and is intrinsic to the seminal North American Model. By adopting and pursuing this established goal there is ample scope for improving governance, broadening representation of interests, and giving those who are currently disenfranchised voice and standing in authoritative processes. The notion of wildlife as a resource for all could reframe the political discourse and energize a new constituency for wildlife, with the prospect of fostering new policy outcomes. This is an extraordinarily powerful point of entry and potentially important common ground with progressive thinkers inside state wildlife agencies. At the very least, reformers should assiduously invoke this doctrine as justification for systemic change.

4.2 Broadscale dynamics of change and reform

4.2.1 A widely perceived crisis

Almost all of the interviewees perceived state wildlife management agencies to be in a crisis of multiple dimensions—of credibility, of public support, of relevance, of skill, and of finances. This perspective is apparently widespread in state agencies, especially among senior leaders. One interviewee likened this moment to a tipping point. A number noted that change was, in fact, happening, including increased responsiveness to a wider range of interests and publics. The question was whether agencies would become willing partners, resist and be drug along, or become obsolete. Interestingly, this perspective was voiced most consistently by those who worked for or closely with state agencies, whereas the animal advocates and environmentalists described a more monolithic and unyielding institution. Both perspectives probably have merit, as they reflect different facets of this “elephant.”

The drivers of crisis described by the interviewees are relatively straight-forward. Finances are worsening as costs increase and sportsmen-related revenues decline or remain static. Revenue generating gimmicks such as tax check offs and targeted license plates have had their day, and legislatures are not keen on providing funding especially if they don't control the revenue stream. Traditional clientele are a small and ever-smaller percentage of the population. Interestingly, the

financial books of many agencies were improved for a few years by the so-called “Obama boost”—an increase in revenues from excise taxes generated by burgeoning sales of guns and ammunition after the first Obama election. Compounding worsening finances, non-utilitarian perspectives of wildlife and nature have diversified, spread, and become politically empowered [31,32]. One result is increasingly hard-to-ignore demands for different outcomes of state wildlife management [33], and despite the absence of widespread engagement by environmental organizations. Complicating matters, increasingly urbanized and isolated populations are generally apathetic about or unaware of wildlife and wildlife management, and so provide little political support [19]. And all of this is the result of broad-scale demographic trends over which state wildlife agencies have no control; which explains why state agency programs to recruit more hunters and fishers among children and women were described by interviewees as having largely been a bust.

Despite widespread recognition of crisis, there appears to also be widespread bafflement about what to do. The system of state wildlife management is so rigid that few if any people inside agencies seem to have a clear idea about how to make substantive positive change. As one interviewee described it, the agencies are in a catch-22, imprisoned by their current clientele and funding structure, without viable alternative structures in place, and without the financial or political buffer to explore such alternatives. Some agencies have apparently fallen back on serving traditional clientele to safeguard existing finances and political support—despite recognizing the long-term unviability of current arrangements. Several interviewees noted that some states had “backslid” on reforms designed to increase public involvement during the last decade. State wildlife management agencies have all the aspects of stressed brittle systems with little remaining buffer. Such systems often yield surprising and dramatic change, not unlike dissolution of the Soviet Union during 1989-1990 [34,35].

4.2.2 Advocated broadscale systemic reforms

The interviewees identified a host of prospective measures that they thought could improve state wildlife management. Of these, some were offered as overarching principles or as related to fundamental issues. Reduced to its nub, the interviewees emphasized in one way or another the need for state wildlife agencies to make themselves relevant by better understanding the expectations and demands of the wider public, and by configuring management accordingly. This change was recommended at all levels, from the development and implementation of specific management plans to the fundamental design of agencies. Achieving this was thought to require changes in state agency cultures, doctrines, goals, vision, skill sets, demographics, and finances. Several interviewees noted the importance of adapting the North American Model of Wildlife Conservation to modern times by explicitly broadening the constituency to include stakeholders with non-instrumental values, and to do this through clarification and institutionalization of the public trust doctrine.

Implications for reform: Broadscale dynamics of change—The times are clearly ripe for efforts designed to reform state wildlife management. There appears to be widespread recognition of crisis within state agencies, certainly of finances. Among the more thoughtful, the crisis is one of legitimacy, relevance, and representation. Reformers could most readily find common cause with agency personnel and leaders on augmenting and reforming agency finances. Reformers could also

find common cause with forward-thinking individuals in promoting revision (but not overthrow) of the North American Model so as to be more inclusive of stakeholder interests, including greater involvement of the full public. As I noted above, a clarified public trust doctrine would be a key facet of such an effort.

There are those within agencies who, as crisis mounts, are closing down around old models and perspectives, including devotion to traditional clientele and an uncritical conventional reading of the North American Model. However, almost all of our interviewees consider this response to be ineffectual, counter-productive, and unsustainable over the long haul. I suspect that one key change in the overall system of state wildlife management would unleash a cascade of change as pent up forces are released. The most likely catalyst would be a change in finances supported by aggressive promotion of a more progressive reading of the public trust doctrine and the North American Model. Well-placed leaders could also trigger substantial change (see below).

4.3 Finances

A consensus theme among interviewees was the need to diversify funding sources for state wildlife agencies to include sources other than those tied directly or indirectly to gun owners and sportsmen. Fourteen of the interviewees noted that the economic activity of non-consumptive stakeholders such as bird watchers dwarfed that of traditional consumptive stakeholders and, that if tapped, this economic engine could be a major source of funds. More broadly, if wildlife were indeed a public trust, the entire public would logically provide financial support for wildlife management [20,29,30]—but not if management reflected the interests of a small special interest group. So here is the conundrum. Several interviewees noted that a broad coalition is needed to diversify funding, including non-consumptive users. But what would be their motivation if funding would be directed to an agency edifice almost entirely devoted to producing surpluses of game animals for hunters and fishers to kill? Any successful campaign to diversify funding would likely need to be linked to commensurate reform of state wildlife management or to a broad conservation ethic.

4.3.1 Implemented alternatives

The interviewees described a veritable host of financial reforms to fund state wildlife management have already been tried by the federal and various state governments. These have included sales of vanity license plates, tax check offs, portions of lottery proceeds (Heritage funds), taxes on bird seed, mitigation fees, document taxes from home sales, taxes on energy revenues, portions of general sales taxes, and, on the federal side, State Wildlife Grants [36,37]. Of these, the only measures that have generated enough alternative funding to both fuel and allow for changes in agency fundamentals have been general sales taxes, taxes on energy revenues (Wyoming and prospectively Montana), lottery proceeds, and State Wildlife Grants; and, of these, general sales taxes have had the most profound effects, notably in Missouri. Interestingly, the leaders in structural changes to funding have been in the Midwest, notably Missouri, Arkansas, Iowa, and Minnesota. Florida has been a leader as well, although primarily through the aggressive and creative measures of the state agency itself rather than through a

major legislative fix. The adjacency of innovation in the Midwest suggests that geography and regional culture can have a major effect on the diffusion of reforms.

4.3.2 Issues with state legislatures

Several interviewees addressed the problems of getting state legislatures to change structures of funding for state wildlife agencies. A number of state legislators are apparently jealous of the current autonomy of state wildlife agencies from control through legislative funding processes. These politicians might welcome the opportunity to gain fiscal control over wildlife management. But at the same time few politicians are willing to increase the general tax burden, especially when they would be doing so in the face of strident opposition from sportsmen intent on maintaining control over wildlife management. Some interviewees also noted the vicissitudes of the legislative funding process, featuring the plight of state land management agencies (e.g., state parks) during recent state financial crises. By contrast, even though the trend in support from hunting and fishing license fees and from federal grants is down relative to rising costs, at least this support is comparatively stable from one year to the next. As a bottom line, our interviewees thought it was inadvisable to pursue funding structures that relied primarily on money appropriated by state legislatures.

4.3.3 Federal funding

A number of the interviewees featured the prospects of promoting reform through federal funding programs. Several noted that the primary engine of historic reforms in state wildlife management has been federal programs such as Pittman-Robertson, Dingell-Johnson, and, more recently, State Wildlife Grants. Wildlife Grants were explicitly credited with increasing the focus of state agencies on non-game management and accelerating the hiring of non-traditional employees. High levels of federal funding for restoration projects in the Everglades were also credited with fostering reform of state wildlife management in Florida. An initiative that began during the late 1990s called *Teaming with Wildlife* proposed a federal excise tax on items such as wildlife feeders and feed, nest boxes, field guides, camping gear, binoculars, and similar equipment and supplies—with the explicit intent of promoting a broader mandate in state wildlife management [38]. Although this effort failed, the emergence of different social and political contexts might allow for the success of similar initiatives at some future time. That said, several interviewees noted that the on-going perceived fiscal crisis at state and federal levels makes the promotion of any increases in funding, by whatever means, a difficult undertaking.

Implications for reform: Finances—Several consensus themes regarding finances emerged from the interviews. Virtually any desired reform will require support from a broad coalition. Substantial funding will need to come from the general public or from non-consumptive stakeholders. The only mechanisms likely to generate enough funds are excise taxes, some fraction of the general sales tax, taxes on energy revenues (in energy-producing states), or portions of lottery proceeds. Although authorization of such mechanisms would be quite difficult in the current fiscal and political climate, all of these measures have been successfully implemented in some states or at the federal level. Precedent does exist, including in recent times, which allows for the opportunity to learn from close examination of past successful efforts. And leaders of wildlife management agencies would likely be

enthusiastic allies of such efforts in most states, recognizing that some sportsmen groups are aggressively organizing to prevent financial reform, to protect their current privileged status.

4.4 Agency leadership: Commissions and Directors

Leadership obviously matters to the performance, direction, and culture of organizations. For state agencies, leadership can be differentiated as that of Commissions or Commissioners versus that of Directors and their immediate staff, as follows.

4.4.1 Commissions

Nearly all of the interviewees who commented on state wildlife Commissions considered them to be a potentially sound system, depending on the details of execution. Commissions were viewed as providing a potential buffer from the increasingly radical right-wing politics of some western states, and the processes employed by Commissions were lauded as intrinsically open and deliberative. But, despite this, some Commissions (e.g., Nevada and Idaho) have been a source of radical and ill-informed policies, increasingly focused on reducing numbers of predators in hopes of producing more harvestable game. Several interviewees also commented on the obvious: that Commissions continue to be dominated by a narrow demographic of older white males who support the primacy of sport hunting and fishing over all other management outcomes, and who tend to disregard the input of non-traditional stakeholders. This chronic dismissal of non-consumptive interests may explain why there has been so little engagement by non-traditional stakeholders with wildlife management Commissions.

Several interviewees commented on features of Commissions that consistently led to more informed, temperate, and equitable policy outcomes. Commissioners that had been selected from a slate of candidates vetted by a board of wildlife professionals (as in Arizona) tended to perform better. By contrast, Commissioners appointed solely at the whim of a Governor, typically as a political favor, consistently performed the worst. Some interviewees noted that a few “good” Commissioners could ground a Commission, and that good interpersonal relations among Commissioners, as well as between Commissioners and agency personnel, were critical. Finally, Commissioners that began their tenure at a higher level of competence, remained in their positions for longer periods of time, and used interactions with agency personnel to educate themselves, made much more substantive and positive contributions. Commissioners deal with highly complex biological and social situations and, if open to it, benefit from active educational efforts on the part of agency personnel, as well as the experience that comes from sequential appointments.

4.4.2 Directors and other agency leadership

Interviewees emphasized the importance of agency leaders at this critical juncture. Leaders, especially Directors, have a major influence on the mission, tone, and culture of state wildlife agencies. They can either foster creativity, risk taking, and change, or dramatically impede it. Unfortunately, several interviewees noted that creative leadership grounded in “big thinking” is rare in state wildlife agencies. Many agency leaders are so hard-pressed dealing with daily crises that they don’t have the time to focus on higher order tasks such as setting strategic direction and supporting creative change. And all of this is

exacerbated by an increasingly rapid turn-over of Directors and related loss of coherent direction. One interviewee noted that the average tenure of state wildlife agency Directors has dropped to 2 years. By contrast, in high performing states such as Florida, leadership was extolled, and one of the reasons given for high performance was the extent to which the Director and his assistants were able to focus on higher-order tasks (including training), in part because of effective support from administrative staff. Active directorship support for training of mid-level staff also insured that strategic direction and momentum for reform was maintained despite turn-over in higher level leadership.

Implications for reform: Agency leadership—Reformers would likely find common cause with wildlife professionals if they promoted processes that vetted potential Commission candidates for knowledge and experience prior to gubernatorial consideration—as with the Board system in Arizona. Promotion of a Commission composition that better represented state-wide stakeholder interests and demographics might also find political traction if justified by the public trust and by democratic principles, especially if accompanied by a cogent agenda for reform of finances. Finances need to be addressed somehow given that sportsmen justify Commissions biased in favor of their interests by invoking the extent to which hunter and fisher license fees support state wildlife agencies. If the competence and representativeness of Commissions could be improved, then authority over the selection of Directors would logically fall within the purview of Commissions rather than Governors. Governors are directly appointing Directors in an increasing number of states, which is desirable if the Governor is reform-minded and judicious, but disastrous if the Governor is frivolous and regressive. Reformers might also have positive effects by promoting and participating in training that broadened the perspectives and upgraded the skills of agency leaders at both mid and high levels, with a particular focus on the public trust doctrine.

4.5 Agency personnel: Bias, diversity, skills, and environments

This section addresses issues that pertain to internal agency matters, largely related to culture, work environment, skills, diversity, and hiring practices. All of these factors are relevant to overall agency performance; some are relevant to reform.

4.5.1 Bias and diversity

There was widespread agreement among the interviewees that agencies continue to be staffed by predominantly white male hunters who are deferential to sportsmen because of financial dependencies and shared identities. This bias is exacerbated in some agencies by adoption of the Total Quality Management (TQM) doctrine, which, when implemented in wildlife management, views hunters and fishers as customers and harvestable surpluses of game as the primary product [16]. As one interviewee remarked, the primary business of state agencies seems to be creating opportunities for people to kill animals. Another interviewee noted that the current narrow demographic and worldview of state wildlife agencies was perpetuated in part by a strong tendency for the “old guard” to hire people who looked and thought like themselves, primarily from traditional land grant university wildlife biology programs. Even when women are hired, they tend to be hunters with a utilitarian bias.

All state wildlife agencies have diversity programs. However, diversification of identities and worldviews among agency personnel has, as one person noted, “proceeded at a glacial pace.” Increasing numbers of women are being hired, but primarily tied to non-game funding and human dimensions programs. Innovative and reform-minded people, who are inclined to focus on ecosystem and biodiversity issues, tend to seek out and be hired by federal agencies. Those who do end up in state wildlife agencies are often in lower or mid-echelons, where they are particularly vulnerable to furloughs that have accompanied recent fiscal crises. Compounding this, several interviewees noted that many of the progressive thinkers of the Baby Boom are retiring, and that innovative critical thinkers are often forced out, regardless of their age cohort. Several had personally experienced being sidelined or ejected.

4.5.2 Skills and abilities

The interviewees noted that state wildlife agency personnel deal reasonably well with like-minded hunters and other people with similar identities and worldviews. When engaging with diverse stakeholders, they do best when working with groups and initiatives focused on land management (rather than wildlife management), where there is less tacit threat to their authority. For the most part they also deal well with field work and relatively straight-forward biological issues (and population models) germane to activities such as setting sport harvest limits. However, this suite of skills and abilities increasingly falls far short of matching the current complexities and complexion of wildlife management issues [39].

The interviewees identified a number of limitations in current agency capacities, whether at individual or aggregate organizational levels. By and large, agency personnel are not comfortable with nor good at working with people who hold divergent values and worldviews. Compounding this, eight interviewees emphasized that agency personnel are typically not good communicators or comfortable expressing themselves in public, which is seen as particularly problematic at the field level. Distrust of agencies and their work often results from this lack of social facility.

At the organizational level, nine interviewees expressly noted that state wildlife agencies lacked staff with facilitation, negotiation, communication, and social analysis expertise—basically, an interest in, knowledge of, and skill at engagement with people. Related to all of this, it was remarked that land grant universities—which are the source of most agency personnel—do a poor job of training prospective hires in management and human relations skills; nor do they inculcate strong landscape, ecosystem, and biodiversity perspectives. Of particular relevance to predators, agency personnel generally lack the skill and depth needed to grapple with complex ecosystem interactions, especially those of multiple predators and prey in sport-hunted systems. These deficiencies in skills and abilities clearly have the potential to synergistically amplify polarizing and conflictual dynamics.

The solutions advocated by interviewees largely mirrored their take on deficiencies. The majority emphasized the need to increase staff with “human dimensions” or social science backgrounds and skills, notably of facilitation, coordination, and communication. Skills at orienting to socially complex situations (e.g., “situation analysis” skills) were also advocated. The more conventionally-minded interviewees emphasized a need for greater efforts by existing staff to communicate with the public

about the rationale for current management, management issues, and the value of wildlife. One thought that more and better “story tellers” were needed. Related to this, another also advocated greater engagement by agency personnel with local communities, which he thought was becoming less common among newer younger agency hires.

Virtually all of the interviewees thought that agencies and agency personnel generally did a poor job of engaging with the public, especially stakeholders with non-consumptive orientations and demands. Some thought that the solution was to ever more energetically and often communicate with the public, with the goal of persuading them that the agencies were doing a good job. Some thought the solution was to have more staff doing a better job of facilitating and coordinating social process that engaged diverse stakeholders. And a few thought that the primary remedy, for both strategic and tactical reasons, was to have agencies become more skilled at engaging the full spectrum of stakeholders, eliciting from them their expectations, interests, and demands, and incorporating some synthesis in management plans and actions. All of our interviewees (with the exception of two) paid surprisingly little attention to governance, as such, and the potential importance of designing processes that not only engaged, but also authoritatively empowered diverse stakeholders—as opposed to merely eliciting perspectives as a basis for “experts” to then assemble a management program.

4.5.3 Environments

Finally, of relevance to this broader topic, the interviewees made frequent reference to exigencies of the environments within which agency personnel increasingly work. Overall, these exigencies diminish capacities for quality outcomes of any kind, including creative risk-taking. In particular, the on-going fiscal crises of most state wildlife agencies has resulted in widespread understaffing, low salaries, and limited career opportunities, especially compared to federal agencies. This has caused, in turn, chronic overwork, stress, and low morale, and an inability to attract better qualified people for the vacancies that do occur. The increasingly common reorganizations, mergers, and leadership turn-over of agencies tend to exacerbate all of these problematic outcomes.

Implications for reform: Agency personnel—Outside reformers probably have limited options for affecting personnel-related matters inside of agencies. Much of what needs to change is structural, linked to finances and culture. Some is definitely related to skills, but largely subsidiary to overarching issues. Reformers could promote and participate in training for agency personnel or students bound for agency jobs that was focused on the public trust doctrine (as per above), issues of governance, and situation analysis or problem orientation skills. Investments in communication skills may yield minimal payoffs given that most agencies are inclined to use such skills to bolster their public image and engage in other promotional activities, which is at odds with a more fundamental reorientation toward listening to and empowering non-consumptive stakeholders. There might also be opportunity for outside agents (e.g., academics and certain environmental organizations) to effect subtle reforms by providing expertise on conventional issues such as predator-prey dynamics, landscape-level conservation, and trans-state management. Those inclined to be more aggressive could identify opportunities to advance the EEO agenda within agencies. But,

fundamentally, reform inside agencies is likely to be contingent on changing the core architecture of finances as well as the quality of upper-echelon leadership.

4.6 External factors: Special interests, legislatures, and governors

The interviewees remarked upon a number of external factors influencing state wildlife management agencies, ranging from the biophysical, to broader-scale demographic trends, to influences of outside actors and organizations. I've already noted the shift in worldviews and related demands on wildlife management that have attended increased urbanization and education of the U.S. public, as well as the relative decline in numbers of hunters. With the exception of the immediately following section, the sections below each deal with a special interest and the effects of its proponents.

4.6.1 Emerging habitat issues

A number of interviewees emphasized the importance and impacts of emerging habitat issues. Energy development was mentioned most often, followed by climate change, human population growth, and the related encroachment of human infrastructure. Any adequate response to the impacts of these phenomena on wildlife self-evidently requires jurisdiction and control over human activities, especially related to habitat modification—which state wildlife agencies essentially don't have. This was noted by several interviewees as a major intrinsic short-coming of the current paradigm of state wildlife management, often accompanied by an admonition that state agencies needed to become even more active in habitat issues, especially energy related, whether by increasing their mandate or by collaborating with agencies that do have land management authority. But, then, neither change seems likely (see below: **Legislatures and governors**), with the proviso that some states, such as California, do allow for agency participation in certain habitat decisions.

4.6.2 Environmental and animal protection interests

Perhaps one of the most striking and consistently noted phenomena was the lack of involvement by environmental groups in state wildlife management. Twelve of the interviewees remarked that environmental NGOs were essentially AWOL. Despite this absence, several interviewees noted that environmental organizations had been valuable allies of state agencies, especially when working on habitat issues (e.g., connectivity or land trusts and purchases) or when providing technical support for some capacity that was missing within the agency. Several national NGOs were credited with being involved in state issues, including Audubon, the Humane Society, NRDC, The Nature Conservancy, and Defenders of Wildlife though, more often than not, through federal rather than state authorized venues. There were clearly differences of opinion regarding the merits of these organizations' efforts. Some interviewees extolled alliances with state agencies whereas others considered such alliances to be fruitless, as well as aid to a despotic and dysfunctional institution. Several interviewees went on to note that environmental NGOs compromised their effectiveness by crass competition for money and prestige, often tied to litigation or to collaborative efforts that yielded little benefit.

4.6.3 Hunting and gun interests

The interviewees consistently noted the continuing dominance of state wildlife agencies by hunters. Even though one interviewee thought that hunters were poorly organized, especially in contrast to agricultural interests, more often our interviewees remarked on the extent to which sportsmen were organizing in response to perceived threats to their prerogatives. Moreover, this organized response was observed to be increasingly radical, primarily through the involvement of deep pocketed right wing interests such as the NRA, Safari Club, Sportsmen for Fish & Wildlife, and Rocky Mountain Elk Foundation. At its extreme, this radicalization was being effected through direct cash contributions to state agencies, tied to supporting specific right wing agendas. Some of the interviewees went on to typify hunters as increasingly anti-science, ignorant of habitat issues, and motivated by the view that hunting was a “right.”

4.6.4 Livestock interests

Livestock producers were singled out as the other special interest group with enduring influence over state wildlife management. This influence was specifically linked to the iconic cultural status of ranchers and cowboys, which manifests as disproportional power within state legislatures, as well as to efforts by livestock bureaus and USDA Wildlife Services to control wildlife on behalf of livestock producers. The standing of livestock interests within state legislatures matters because of the increasing extent to which legislators have gotten involved in wildlife management issues, operating at the behest of ranchers and farmers (see below). Some of the mobilizing issues have been wildlife depredation (e.g., elk on pasturage and hay; predators on livestock) and, in Montana, the status of bison. Agricultural interests are also perennially behind efforts to privatize and commercialize wildlife. Several interviewees noted that broad coalitions, including environmental NGOs, were needed counter the considerable influence of livestock producers.

4.6.5 Legislatures and governors

Eleven of the interviewees remarked on the increasing involvement (some would say meddling) of governors and state legislatures in wildlife management. Much of this involvement was thought to have been detrimental to wildlife and its habitat, motivated by right wing ideologues (e.g., the Tea Party), service of energy or agricultural interests, and resentment of federal authority. State’s rights and energy and mineral production were observed to be persistent interests of state legislatures, especially in the West. Several governors’ offices (e.g., Idaho) have taken a direct and active role in management of ESA-protected species, primarily in service of ideological utilitarian interests. Some interviewees noted that Democratic governors could be a curbing influence on radical legislatures, but it was also observed that most Democrats were reluctant to appear in any way opposed to hunting or ranching.

Implications for reform: External factors—Sportsmen and agricultural interests continue to dominate state wildlife management agencies, the former through funding and cultural ties, the latter through the power of state legislatures and governors’ offices. And these influences are increasingly radical, perhaps because sportsmen, ranchers, and gun proponents feel increasingly threatened by broad-scale societal and cultural trends. By contrast, the environmental community

has had essentially no influence over state wildlife management, plausibly because they have had little presence or no coherent strategy, in turn a likely result of being focused on federal land management where federal policies offered many more opportunities to exercise authoritative influences. Wilderness has also historically had a cachet that rewarded focus on lands rather than wildlife. The exception has been ESA-protected species, where, again, federal policy provided unique opportunities enhanced by the charisma of certain protected species. It seems likely that reformers could increase their effects on status quo state wildlife management by building and energizing new constituencies, and by being consistently present and engaged under the aegis of a coherent multi-faceted strategy. A lack of historic influence can be plausibly ascribed as much to a lack of strategic engagement as to the structural problems of state wildlife agencies.

4.7 Other potential strategies and tactics

This final section of results deals with the residuum of topics covered by the interviewees and of potential relevance to reform.

4.7.1 Trans-jurisdictional and organizational collaborations

Eleven of the interviewees featured the role of trans-jurisdictional collaborations in helping—often subtly—to broaden and reshape the perspectives and priorities of state wildlife agencies. These collaborations included those mobilized by federal resources, agencies, and policies, such as restoration of the Florida Everglades, Landscape Conservation Cooperatives (LCCs), and the North American Wetland Conservation Act; and those initiated more expressly at the state level, such as by the Western Governors’ Association or the Western Association of Fish and Wildlife Agencies. Some of these endeavors were somewhat crassly motivated by state’s rights concerns—such as multi-state sage grouse and black-tailed prairie dog conservation programs designed primarily to avert listings under the federal ESA. Many of these initiatives have involved environmental NGOs, which resulted in opportunities for these groups to help shape perspectives and build relationships across otherwise problematic boundaries. Whatever the complexion and motivation, our interviewees considered these trans-jurisdictional collaborative efforts to be a potential means of transforming the paradigm of state wildlife management, by introducing an emphasis on ecosystems, landscapes, biodiversity, and collaboration, and by developing stronger state-federal working relationships.

4.7.2 Broadening mission and authority

Another interesting speculation was that state wildlife agencies could be reformed by broadening the mandate (and authority) to include facets of land management. Several interviewees suggested that this could be done through the merger of existing wildlife and land management agencies. The idea was to introduce the culture of a different agency into that of wildlife management, and change priorities through a shift in management focus. Natural resources “superagencies” might also yield more leverage and power within state government. However, there were several expressed concerns, even by those advocating such measures. For one, state wildlife agencies could subsume and subvert any new mandate to serve status quo sport harvest priorities. For another, it was observed that agency mergers

done poorly or for inappropriate reasons could be “catastrophic”—in terms of morale, agency efficiency, coherency of agency mission and vision, and relations with stakeholders. Funding for certain programs might also decline as a result of an expanded under-funded mandate. That said, some might consider such outcomes to be a desirable means of breaking the current iron triangle of relations that configures most wildlife management agencies around the special interests of sportsmen.

4.7.3 Tactics of personal engagement

Finally, a few of the interviewees commented on the peculiarity and practice of influencing political elites at the state level, especially in less populated states of the West. Unlike at the federal level, there are many fewer key participants in most state arenas. Governors have smaller bureaucracies and legislators have few (if any) staff. As a result, good personal relations with political elites are not only critical, but also possible. The key players are agency Commissioners and Directors, Governors and their close staff, and legislators on key committees. It is possible for a committed person with the right credentials and personality to have influential connections with all of these pivotal participants.

One interviewee elaborated on some tactics that had served him well in developing a rich network of influential relations. These included being respectful and honest, disclosing and acknowledging uncertainty, and asserting empirically-supported information. He also had the legitimacy and identity of a respected hunter and long-time resident. And, of course, his commitment, knowledge, and ethics were vital.

5. Landscape of opportunity, landscape of need

Some states are more favorable places to undertake reform compared to others, whether because of politics, culture, or demographics. In the West, numerous lines of evidence suggest that the coastal states of Washington, Oregon, and California are particularly auspicious environments, followed by Colorado, Arizona, and New Mexico [15]. State wildlife institutions are particularly dissonant with the expectations and demands of the urbanized liberal occupants of California, western Washington and Oregon, and the east front of the Colorado Rockies. Of these states, Washington currently has the most progressive and forward-thinking state wildlife management agency. The interviewees noted that California and Oregon have somewhat more enlightened Commissions. Colorado has a history of more progressive management, although a number of interviewees commented on recent retrogression. And New Mexico is a unique case typified by a large Hispanic population, liberal enclaves, and a particularly impoverished and reactionary wildlife management agency.

Nationally, the interviewees identified hotspots of innovation and positive change in the Midwest, Northeast, and in Florida. Missouri, Iowa, Minnesota, and Arkansas have all innovated changes in funding, with demonstrable ensuing changes in state wildlife management agency focus and culture. The northeastern states have advanced efforts to be more inclusive of diverse stakeholder groups, without abandoning traditional sportsmen (e.g., the Guns & Roses initiative in Massachusetts). Florida was described as being unique in having transformed leadership, culture, and funding without any systemic “fixes” at the legislative level but, rather, because of the *in situ* creativity and risk-taking of agency personnel. Some of the change in Florida can be ascribed to the heavy federal and state

investments in restoration of the Everglades, pioneering efforts at ecosystem management, and resulting influences on state agencies through involvement in multi-jurisdictional restoration efforts. The reasons behind innovations in the north-south array of Midwestern states were opaque to our interviewees, other than one invocation of a “conservation ethic” in Missouri. These states clearly warrant additional study.

By contrast, for those who are particularly interested in conservation of large carnivores, the greatest need for reform is in the northern Rocky Mountains, in Montana, Idaho, and Wyoming. Of these, Wyoming and Idaho have among the most regressive and entrenched wildlife management agencies of any in the country. Devolution of authority for management of wolves and grizzly bears from the ESA to these states has already occurred or will likely occur in the near future, where these species will be in the company of mountain lions and black bears as state-managed carnivores. Several interviewees noted that anti-carnivore sentiment in this region has mounted during the last decade along with the perspective that large carnivores are responsible for the loss of ungulate sport hunting opportunities. Throughout the West, about 70-80% of all adult carnivore deaths are caused by sport hunters (Unpublished synopsis of scientific literature), which means that any influence over management of large carnivore populations depends on having access to state regulation of sport harvests—which is currently virtually non-existent for those with non-consumptive interests.

Implications for reform: Geography—The geographies of opportunity and need have several implications for reformers. First, the regions where reform has progressed farthest warrant more focused intensive study to learn lessons relevant to advancing reform elsewhere. Second, prospects for reform in states where the need is greatest probably depends as much on diffusion of reforms from states where conditions are more auspicious as on endeavors undertaken locally. Aggressive reform efforts are probably best focused in the West on Washington, Oregon, and California, along with containment efforts in Montana, Idaho, and Wyoming. A major investment in building capacity will probably be needed in any state where concerted action is being contemplated.

6. Some potential action alternatives

This analysis suggests that *now is an auspicious time to attempt broad-scale reform of the institutions of state wildlife management*, whether through structural changes, or through influences at a more pedestrian level. Not only is the system, factually, in crisis in most states, more importantly, it is perceived to be in crisis by leaders inside wildlife management agencies. There is near unanimity about a financial crisis, but many of the more progressive thinkers also recognize a crisis of relevance and legitimacy. This (patchy) readiness for change from within state wildlife agencies is plausibly combining with outside pressures to place the current rigid institutional structures under increasing stress, nigh on to breakage. As with any system lacking resilience, strategic interventions in places where prospects are greatest could yield surprisingly large changes; which is at variance with a system that often looks monolithic and unyielding to those who have been fighting it piecemeal for years or even decades. But, then, lack of change could be attributed as much to lack of a concerted, comprehensive, and strategic effort by those interested in reform as to the resistance of those interested in preserving the status quo.

Given the auspicious circumstances, I describe here some recommendations and next steps (action alternatives) in a larger campaign to reform state wildlife management. None of these recommendations are radically new, but this analysis helps to clarify the context and prospective content of next actions that might be taken by committed reformers. I emphasize what I consider to be robust recommendations that will apply to many contexts, as well as the imperative to do the upfront homework and planning needed to design successful strategic campaigns.

6.1 Be diligent, well-informed, and thoughtful in design

- Begin by convening a meeting of the “best and the brightest,” especially those with experience and a background of reflection on the topic, to engage in a broad-scale strategic planning effort focused on reform of state wildlife management: a Wildlife Reform Think Tank.
- Take a broad-scale multi-state approach to thoughtfully designing a strategic reform effort, with the intent of fostering fundamental change in the most favorable environments and implementing containment efforts (“damage control”) in places (states) where the stakes are high but opportunities for structural change are limited (i.e., Idaho, Montana, and Wyoming).
- Spend the time and resources needed to learn about specific targeted contexts as a basis for designing and implementing campaigns that will maximize the odds of achieving desired outcomes.
- Inquire into the histories of successful finance initiatives in Minnesota, Iowa, Missouri, and Arkansas to determine if there are lessons that can be extrapolated to other states.
- Inquire more deeply into the circumstances that have allowed Florida to reform state wildlife management from within to determine if there are lessons that can be extrapolated to other states.
- Gather the intelligence needed to understand details of relevant social and decision making dynamics specific to the states of Washington, Oregon, California, and Colorado, with a focus on opportunities to advance constitutive reforms.
- Gather the intelligence needed to understand details of relevant social and decision making dynamics specific to the states of Idaho, Montana, and Wyoming, with a focus on opportunities to promote progressive management and forestall regressive practices.

6.2 Build capacity and constituencies for reform

- Invest in launching and supporting new NGOs focused on reform of state wildlife management. This agenda does not fit well with the cultures, orientations, and traditional foci of most existing regional and national NGOs.
- Invest resources in recruiting, organizing, and energizing diverse non-consumptive stakeholders, including landowners, photographers, wildlife watchers, birders, and those interested in democratic reforms.

6.3 Exploit existing well-established doctrines

- Invoke and take an active role in clarifying the public trust doctrine as reason to reform current governance and management to broaden representation of interests.
- Invoke but then take an active role in revising the North American Model of Wildlife Conservation, with the intent of linking the embedded public trust doctrine to broad representation of stakeholders, including those with non-consumptive non-traditional interests.

6.4 Reform and influence existing Commission structures

- Embrace the Commission system, but work to institutionalize measures that will: insure selection of Commissioners who are informed and committed to the common good; make Commissions representative of the broader public; accelerate the education of new Commissioners; and improve relations with (respect for) agency personnel.
- Maintain a consistent and diverse presence at public Commission venues to voice non-consumptive interests and to provide “cover” for Commissioners to make positive decisions that, politically, they could not otherwise make.

6.5 Work within existing agency processes to promote reform

- Participate to the maximum extent possible in agency planning processes, especially those focused on “predator” management; lobby to make such planning processes as open and as inclusive as possible.
- Work to engage (with) state agency personnel in undertakings focused on trans-jurisdictional multi-stakeholder habitat and biodiversity issues, with the longer term intent of shaping agency perspectives and building relations.

6.6 Build broad state-level coalitions to promote financial and other reform

- Build coalitions with other stakeholders in state wildlife management institutions around shared interests—most likely financial reform, but also potentially reform of governance linked to an empowered and clarified understanding of the public trust. Other shared interests will depend upon the specific context.
- Focus financial reform on measures that will yield substantial sums, not be linked to hunters, fishers, or gun owners, and that will be divorced as much as possible from the vicissitudes of partisan politics.

6.7 Build coalitions and common ground with liberal and moderate sportsmen

- Identify and develop a small cadre of individuals who have the identity and credentials of sportsmen, but who also have good networking skills and progressive thinking, and then support them in building relations with influential politicians and wildlife management leaders as a platform for lobbying for change. This strategy could be implemented in all states, but with an emphasis on Idaho, Montana, and Wyoming.

- Especially in interior western states, organize and mobilize moderate and liberal sportsmen to support predator (and biodiversity) conservation and to counter radical right-wing groups.
- Where agricultural interests are aggressively advancing an agenda to privatize and commercialize wildlife (including restrictions on hunter and fisher access), build coalitions with sportsmen and agency personnel to counter such agendas, but with the longer term intent of building trust and relations with moderates.
- Where energy (or other) development is threatening game populations and habitat, likewise build coalitions with sportsmen and agency personnel to limit or mitigate harm, again with the longer term intent of building trust and relations with moderates.

6.8 Lobby for and participate in alternative decision-making forums

- Support and help develop authoritative forums designed to find and build common ground between sportsmen and non-consumptive stakeholders (e.g., the Idaho Forum, the Massachusetts Guns & Roses Initiative).
- Lobby agencies to constitute authoritative local decision-making bodies that include representatives of non-consumptive interests to address local wildlife-related issues, with an emphasis on constituting such bodies in and around liberal enclaves.

6.9 Maintain pressure on existing institutional arrangements and practices

- *Only where appropriate*, maintain a constant public critique of problematic state wildlife management practices in the electronic and print media.
- *Only where appropriate*, publically promote alternative decision-making and management practices in as many venues as possible.
- *Only where and when appropriate*, exploit wildlife management practices that are particularly offensive to the broader public to create incidents which, in turn, create a public sphere within which these practices can be critiqued and alternatives promoted.

6.10 Delegitimize the radical right

- *Only where appropriate*, ascertain and publicize the money trail and radical political agenda of individuals and organizations attempting to further entrench pro-consumptive, anti-predator biases in state wildlife management.
- *Only where and when appropriate*, delegitimize efforts by agricultural organizations and individuals to commercialize and further instrumentalize wildlife management by publicizing radical political agendas, political ties, and compromising financial stakes.

LITERATURE CITED

- [1] Haygood, S. 1997. *State Wildlife Management: The Pervasive Influence of Hunters, Hunting, Culture and Money*. Washington, D.C.: The Humane Society of the United States.
- [2] Negri, S., & H. Quigley. 2010. Cougar conservation: The growing role of citizens and government. Pp 221-234 in M. Hornocker & S. Negri (eds). *Cougar: Ecology and Conservation*. Chicago: University of Chicago Press.
- [3] Pacelle, W. 1998. Forging a new wildlife management paradigm: Integrating animal protection values. *Human Dimensions of Wildlife* 3: 42-50.
- [4] Rutberg, A.T. 2001. Why agencies should not advocate hunting or trapping. *Human Dimensions of Wildlife* 6: 33-37.
- [5] Beck, T.D.I. 1998. Citizen ballot initiatives: A failure of the wildlife management profession. *Human Dimensions of Wildlife* 3: 21-28.
- [6] Clark, S.G., & C. Zarella. 2013. The North American Model of Wildlife Conservation: An analysis of challenges and adaptive options. In press, in S.G. Clark & M.B. Rutherford (eds). *Large Carnivore Conservation: Integrating Science and Policy in the North American West*. Chicago: University of Chicago Press.
- [7] Clark, T.W., & M.B. Rutherford. 2005. The institutional system of wildlife management: Making it more effective. Pp211-252 in T.W. Clark, M.B. Rutherford, & D. Casey (eds). *Coexisting with large carnivores: Lessons from Greater Yellowstone*. Washington, D.C.: Island Press.
- [8] Decker, D.J., & J.W. Enck. 1996. Human dimensions of wildlife management: Knowledge for agency survival in the 21st Century. *Human Dimensions of Wildlife* 1: 60-71.
- [9] Decker, D.J., C.C. Krueger, R.A. Baer, Jr., B.A. Knuth, & M.E. Richmond. 1996. From clients to stakeholders: A philosophical shift for fish and wildlife management. *Human Dimensions of Wildlife* 1: 70-82.
- [10] Gill, R.B. 1996. The wildlife professional subculture: The case of the crazy aunt. *Human Dimensions of Wildlife* 1: 21-32.
- [11] Gill, R.B. 2004. Challenges of change: Natural resource management professionals engage their future. Pp 35-46 in M.J. Manfredo, J.J. Vaske, B.L. Bruyere, D.R. Field, & P. Brown (eds). *Society and Natural Resources: A Summary of Knowledge*. Jefferson, MI: Modern Litho.
- [12] Jacobson, C.A., & D.J. Decker. 2006. Ensuring the future of state wildlife management: Understanding challenges for institutional change. *Wildlife Society Bulletin* 34: 531-536.
- [13] Jacobson, C.A. & D.J. Decker. 2008. Governance of state wildlife management: Reform and revive or resist and retrench? *Society & Natural Resources* 21: 441-448.
- [14] Jacobson, C.A., J.F. Organ, D.J. Decker, G.R. Batcheller, & L. Carpenter. 2010. A conservation institution for the 21st Century: Implications for state wildlife agencies. *Journal of Wildlife Management* 74: 203-209.
- [15] Mattson, D.J., & S.G. Clark. 2010. People, politics, and cougar management. Pp 206-220 in M. Hornocker & S. Negri (eds). *Cougar: Ecology and Conservation*. Chicago: University of Chicago Press.

- [16] Mattson, D.J. 2013. State-level management of a common charismatic predator: Mountain lions in the West. In press, in S.G. Clark & M.B. Rutherford (eds). *Large Carnivore Conservation: Integrating Science and Policy in the North American West*. Chicago: University of Chicago Press.
- [17] Nie, M. 2004. State wildlife policy and management: The scope and bias of political conflict. *Public Administration Review* 64: 221-233
- [18] Nie, M. 2004. State wildlife governance and carnivore conservation: Pp 197-218 in N. Fascione, A. Delach, & M.E. Smith (eds). *People and Predators: From Conflict to Coexistence*. Washington, D.C.: Island Press.
- [19] Duda, M.D., M.F. Jones, & A. Criscione. 2010. *The Sportsman's Voice: Hunting and Fishing in America*. State College, PA: Venture Publishing.
- [20] Jacobson, C.A., D.J. Decker, & L. Carpenter. 2007. Securing alternative funding for wildlife management: Insights from agency leaders. *Journal of Wildlife Management* 71: 2016-2113.
- [21] Mattson, D.J., & S.G. Clark. 2010. Groups participating in cougar management. Pp 254-259 in M. Hornocker & S. Negri (eds). *Cougar: Ecology and Conservation*. Chicago: University of Chicago Press.
- [22] Nie, M.A. 2003. *Beyond Wolves: The Politics of Wolf Recovery and Management*. Minneapolis: University of Minnesota Press.
- [23] Robinson, M.J. 2005. *Predatory Bureaucracy: The Extermination of Wolves and the Transformation of the West*. Boulder: University of Chicago Press.
- [24] Mattson, D.J., & S.G. Clark. 2012. The discourses of incidents: Cougars on Mt. Elden and in Sabino Canyon, Arizona. *Policy Sciences* 45: 315-343.
- [25] Niemeyer, C. 2010. *Wolfer: A Memoir*. Boise, ID: Bottlefly Press.
- [26] Gill, R.B. 2001. Professionalism, advocacy, and credibility: A futile cycle? *Human Dimensions of Wildlife* 6: 21-32.
- [27] Mattson, D.J., & N. Chambers. 2009. Human-provided waters for desert wildlife: What is the problem? *Policy Sciences* 42: 113-135.
- [28] Riley, S.J., D.J. Decker, L.H. Carpenter, J.F. Organ, W.F. Siemer, G.F. Mattfeld, & G. Parson. 2002. The essence of wildlife management. *Wildlife Society Bulletin* 30: 585-593.
- [29] Nobile, J., & M.D. Duda (eds). 2008. *Strengthening America's Hunting Heritage and Wildlife Conservation in the 21st Century: Challenges and Opportunities*. Washington, D.C.: Sporting Conservation Council.
- [30] Organ, J.F., V. Geist, S.P. Mahoney, S. Williams, et al. 2012. *The North American Model of Wildlife Conservation*. The Wildlife Society and The Boone and Crockett Club Technical Review 12-04.
- [31] Kellert, S.R. 1996. *The Value of Life: Biological Diversity and Human Society*. Washington, D.C.: Island Press.
- [32] Organ, J.F., & E.K. Fritzell. 2000. Trends in consumptive recreation and the wildlife profession. *Wildlife Society Bulletin* 28: 780-787.

- [33] Mattson, D.J., & E.J. Ruther. 2012. An explanation of puma-related behaviors and behavioral intentions among northern Arizona residents. *Human Dimensions of Wildlife* 17: 91-111.
- [34] Gunderson, L.H., C.S. Holling, & S.S. Light (eds). 1995. *Barriers and Bridges to the Renewal of Ecosystems and Institutions*. New York: Columbia University Press.
- [35] Gunderson, L.H., & C.S. Holling (eds). 2001. *Panarchy: Understanding Transformations in Human and Natural Systems*. Washington, D.C.: Island Press.
- [36] McKinney, C., L. Ris, H. Rorer, & S. Williams. 2005. *Investing in Wildlife: State Wildlife Funding Campaigns*. Ann Arbor: University of Michigan, School of Natural Resources & Environment.
- [37] Richie, D., & J. Holmes. 1998. *State Wildlife Diversity Program Funding: A 1998 Survey*. Washington, D.C.: International Association of Fish & Wildlife Agencies.
- [38] Hansen, P., & J. Mosher. 1999. *Passing the Buck: A Comparison of State Fish and Wildlife Agency Funding and the Economic Value of Wildlife-Associated Recreation*. Gaithersburg, MD: The Izaak Walton League of America.
- [39] Clark, S.G. 2008. *Ensuring Greater Yellowstone's Future: Choices for Leaders and Citizens*. New Haven: Yale University Press.