

# A Graphical Diagnosis of the Institution of State Wildlife Management A Preview

David J. Mattson, Ph.D.



2024

**The Grizzly Bear  
Recovery Project**

P.O. Box 2406,  
Livingston,  
Montana

January 15<sup>th</sup>, 2024

# **A Graphical Diagnosis of the Institution of State Wildlife Management: A Preview**

**David J. Mattson, Ph.D.**

State Management poses a grave threat to carnivores in the United States – including grizzly bears. One need look no further than how state wildlife management agencies treat coyotes, skunks, foxes, bobcats, mountain lions, black bears, and wolves – among others. Coyotes are typically treated as varmints subject to unregulated killing. At best, the remainder are treated as ‘furbearers’ or game animals subject to ill-regulated harvest and deployment of methods that most people would consider cruel. The use of poisons is rife, along with leg-hold traps and snares – in the case of wolves, including neck snares that literally strangle captured animals. Hounds are not only routinely used to pursue, corner, and kill lions and black bears during hunting seasons, but also for recreational pursuits during the remainder of the year. Even though all these policies and practices could, on the face of it, be considered objectionable or even morally repugnant, they continue to not only be enthusiastically supported but also promoted by state wildlife managers despite the fact that most people in most states object.

This paradox begs an explanation, which is why I have devoted parts of the last twenty years to examining the cultures, identities, politics, ethics, and psychology of not only state wildlife managers, but also the hunters, trappers, and fishers they unabashedly call ‘customers’. My latest undertaking has involved summarizing, synthesizing, and interpreting all the research and scholarship I could find pertaining directly or indirectly to the institution of state wildlife management. As a preview of where my efforts have taken me, I’ve written extensive explanatory captions for the graphics I’ve produced and compiled them here. These graphics are not a comprehensive summary of my endeavors, but rather selectively focus on social, psychological, and culture dynamics, derivative narratives constructed by hunters and managers to protect status quo arrangements, and synergisms and self-reinforcing dynamics that sustain efforts to resist reforms despite the widely recognized emergence of crises related to finances and legitimacy of state wildlife management agencies.

Very succinctly, I consider the central problem of state wildlife management to be the domination of this institution by a regressive culture organized around hunting and trapping sustained by toxic identity politics and fueled by problematic social-psychological dynamics. I do not say this lightly. My perspective has been shaped by close examination of compendious research and scholarship. More to the point, it is based on an overwhelming amount of evidence, some of which is summarized in the graphs featured in the downloadable document.

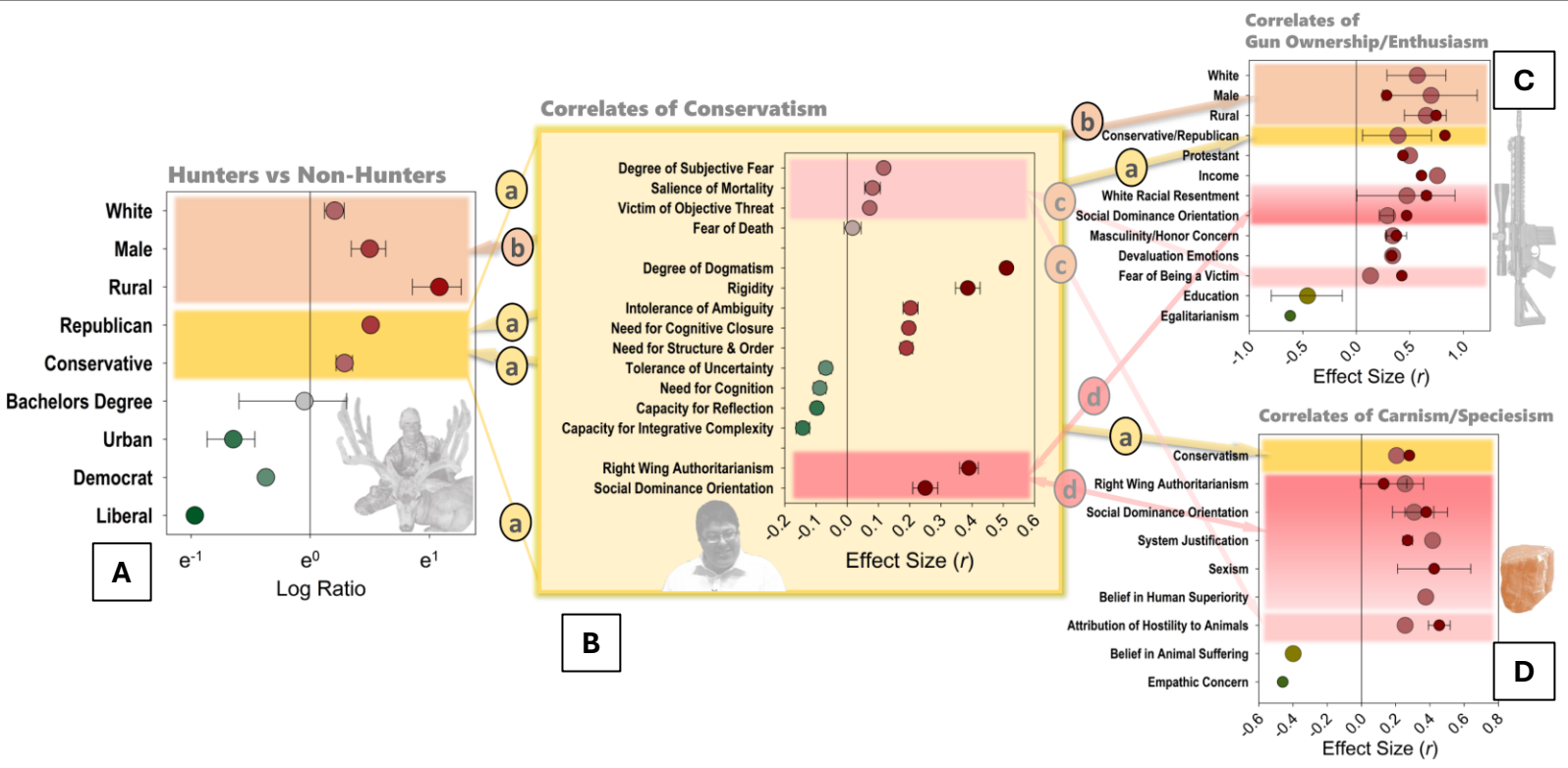
I need to offer a disclaimer and related clarification. One could construe from the contents of the graphics in this document that I object to people killing animals. I generally do not. I have spent most of my professional career studying animals that kill other animals, rarely with any qualms. However, I do find certain human motivations for killing animals to be objectionable (e.g., for trophies or other ego gratifications), along with certain means of doing so (e.g., by trapping or with assistance of bait). I also find the disingenuous and obfuscating language used by hunters and managers to justify killing wild animals to be offensive, especially when it is done for ethically and politically dubious reasons. But even more so, I am deeply disturbed by the extent to which hunters and wildlife managers devote themselves to perpetuating an institution that is fundamentally despotic, corrupt, and dismissive of most peoples’ preferences and desires.

Having said that, the nature of needed reforms to state wildlife management and the means of doing so have been described by numerous authors in numerous articles, books, and book chapters. Notable examples include “Coexisting with Large Carnivores”, a compilation edited by Tim Clark, Murray Rutherford, and Denise Casey, “Large Carnivore Conservation”, another compilation edited by Suan Clark and Murray Rutherford, and a book chapter that I co-authored with Suan Clark entitled “People, Politics, and Cougar Management” in the book “Cougar: Ecology & Conservation”. Louisa and I also authored a report entitled “The Problem of State Wildlife Management Institutions” in which we identified not only what needs to be done, but also some prospective means of doing so.

As a sample of identified reforms, sources of funding need to be diversified to eliminate the financial hold of hunters, trappers, and fishers over state wildlife management agencies. Governing commissions also need to be diversified to better reflect the interests of the public these commissions are supposed to serve. Likewise, the current culture of wildlife management agencies needs to be reconfigured by hiring people who identify with pursuits and interests other than hunting or fishing. Perhaps most important, people with interests other than ‘harvesting’ animals – who value wild animals simply because they exist – need to be given a meaningful voice in shaping consequential decisions affecting wildlife.

Perhaps self-evidently, none of these reforms will be easy. In fact, most have been vigorously if not vehemently resisted by hunters, trappers, fishers, and agency personnel who serve them. Nonetheless, there is no mystery about what needs to be done, the difficulty lies in developing social and political strategies that have prospects of success.

# Social-Psychology of Hunters



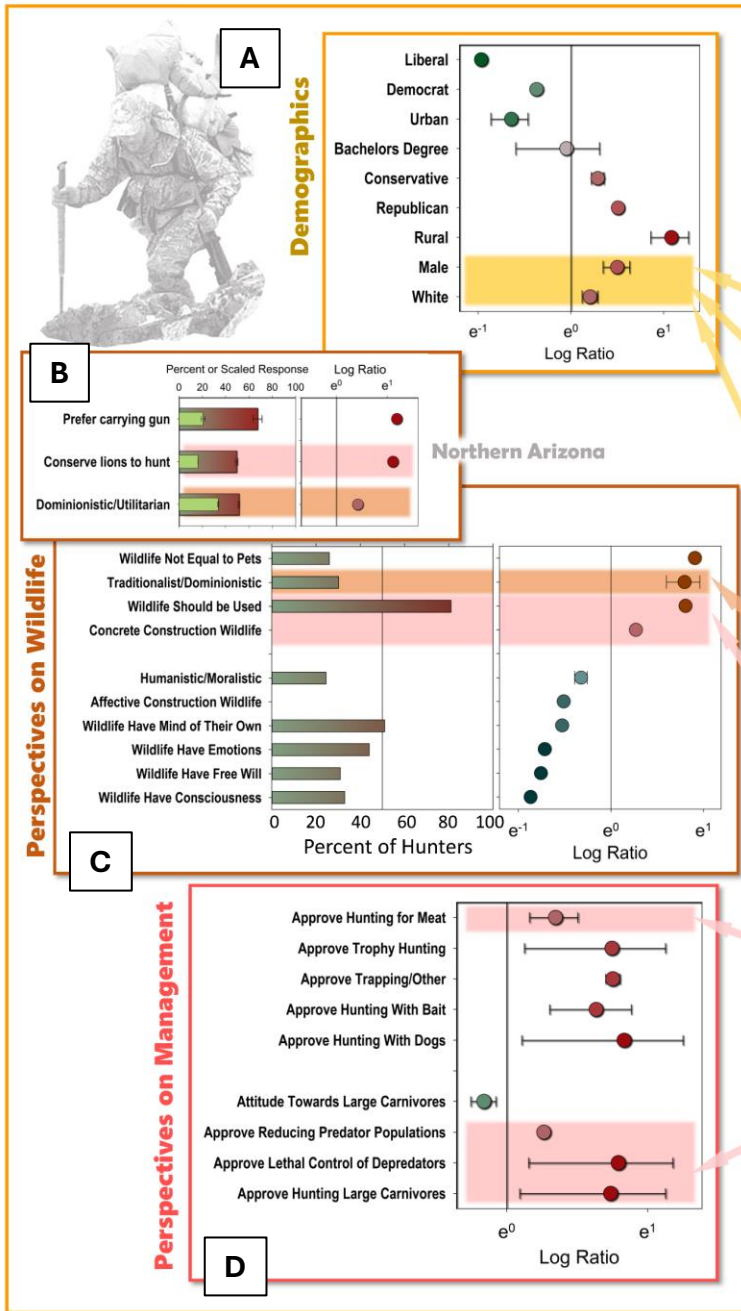
**Figure 1.** There has been surprisingly little research investigating the social-psychology of hunters. On the other hand, there is a large body of science profiling the social-psychology of people exhibiting perspectives or preferences closely aligned with hunters, including gun ownership, carnism, and political conservatism. The three graphics in (B)-(D) summarize traits for these last three groups or perspectives that inform understandings of hunters though the strong tendency of the latter to be (A) white males living in rural areas who identify as Republicans and conservatives. The dots in each diagram summarize the results of a meta-analysis for each domain, with placement of the dot left-to-right denoting the extent to which hunters, gun owners, conservatives, or carnists are discrepant from either non-hunters or the broader public. Any value  $>0.0$  (in the case of effect size) or  $>e^0$  (in the case of a log ratio) indicates a perspective, trait, or demographic more commonly exhibited by the group featured in each graphic, with larger discrepancies denoted by darker shades of red. Areas shaded similar colors in each graphic (i.e., orange, yellow, pink, or red) denote a common theme, with these themes bridged among graphics by letters and arrows (a = conservatism; b = demographics; c = existential fears; and d = social perspectives and attitudes).

Not surprisingly, hunters and gun owners are disproportionately (b) white males residing in rural areas. Hunters, gun owners, and carnists/speciests (a) are also disproportionately politically conservative and identify as Republicans. Conservatism, in common with gun ownership and carnism, is identified with (d) an embrace of authoritarianism, a willing to perpetuate social inequalities, sexism, racial resentments, and belief in human superiority over animals. Fearfulness is also a common theme among gun owners, carnists, and conservatives, including (B) elevated levels of subjective fear, fear of death, fear of objective threats or (C) being a victim, as well as (D) greater fear of and attribution of hostility to animals. People who identify as conservatives (B) furthermore exhibit greater dogmatism, rigidity, need for structure, intolerance of ambiguity, and need for cognitive closure. As a corollary, (B) conservatives have less need for cognition and capacity for reflection, as well as a lesser ability to deal with complexity. Gun owners (C) similarly devalue emotions and egalitarianism, which aligns with (D) a propensity among carnists/speciests to exhibit less empathy in general and believe in the capacity of animals to suffer.

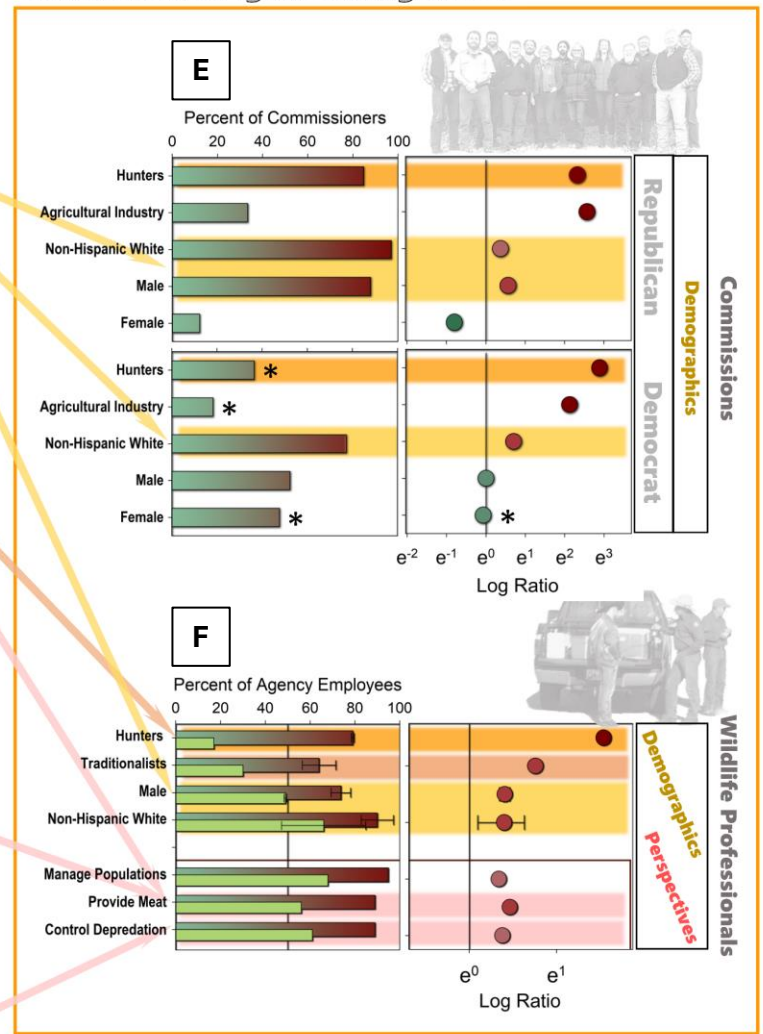
Although these traits or perspectives clearly do not hold for all gun owners, carnists, or conservatives, they are much more pronounced in these groups, with clear relevance to understanding the social-psychology of most hunters based on a common demographic (rural white males) and shared political orientation (conservatism).

# Demography, Perspectives & Attitudes of Hunters & Agency Personnel

## Hunters



## Wildlife Management Agencies

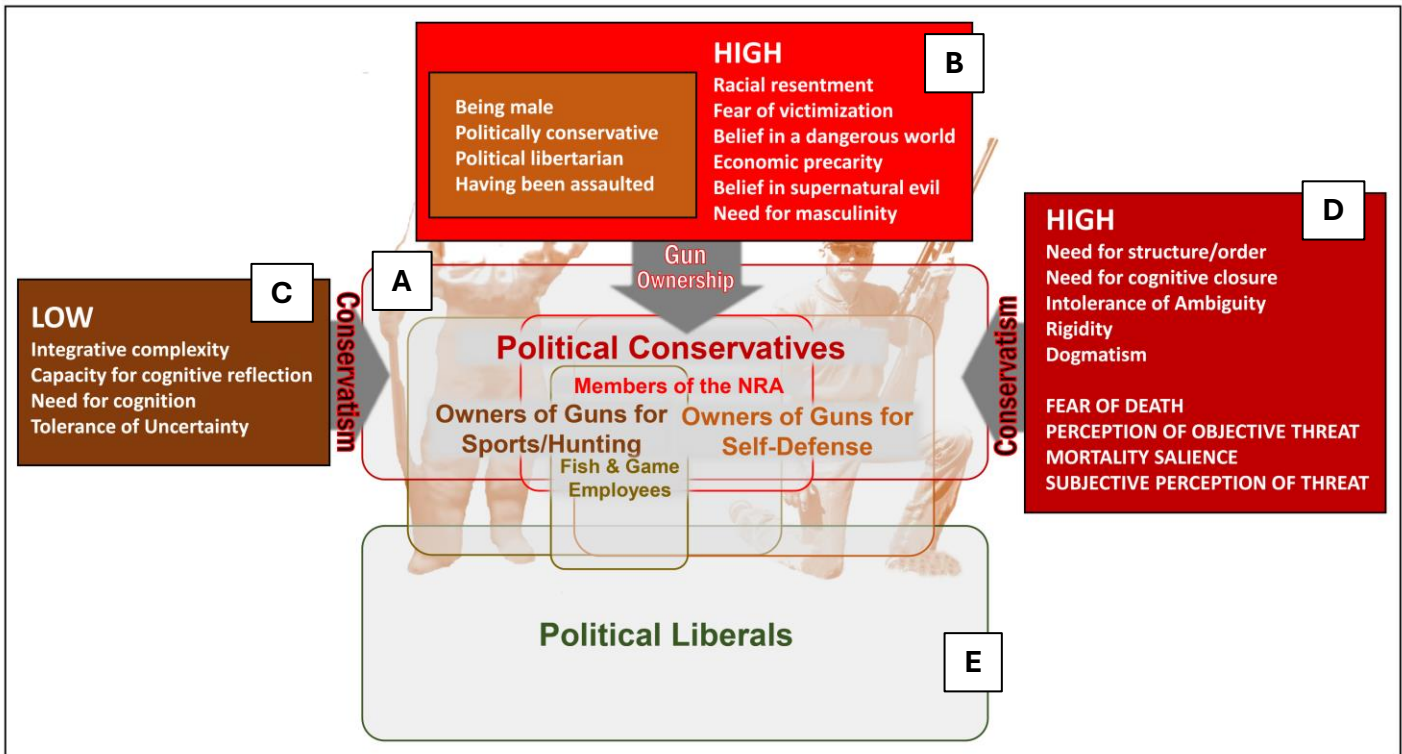


**Figure 2.** These graphics summarize demographics of hunters and wildlife agency commissioners and personnel along with their perspectives about wild animals and attitudes towards management of wildlife populations. All the bars in these graphics show percentages for hunters in red-burgundy and, where available, percentages for non-hunters in green. The dots show ratios for hunters versus the general public (or non-hunters, where relevant), with values  $>e^0$  indicating a discrepancy where hunters/commissioners/agency personnel were more likely to express a perspective or attitude or be of a given demographic. Dots shaded green denote the opposite: instances where people who affiliated with hunting or hunters were less likely than the general public to be of a given demographic or express a perspective or attitude.

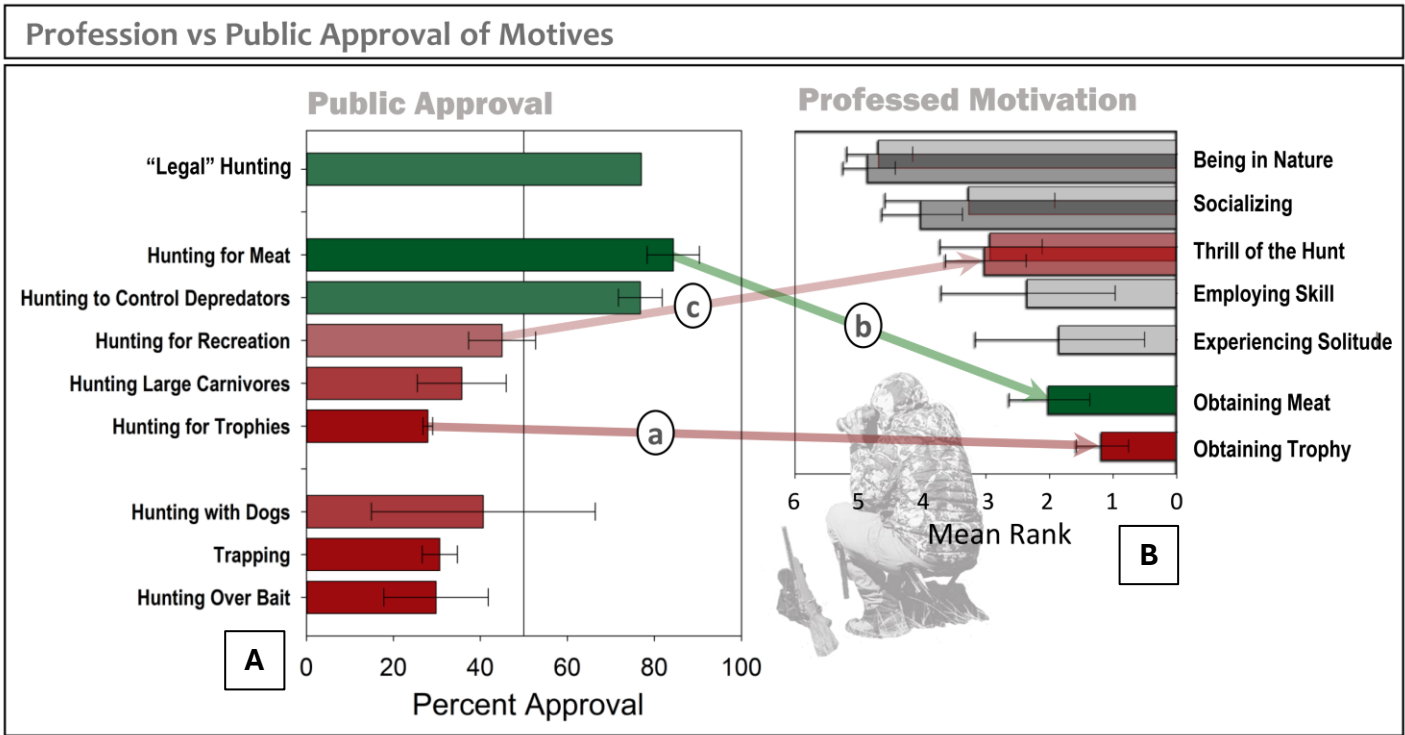
The ratios in (A) summarize demographics for hunters – who are far more likely to be rural, male, white, Republican, and conservative compared to the broader public. The graphic in (B) shows results from a specific study in Northern Arizona contrasting hunters and non-hunters: hunters were more likely to carry guns when not hunting, hold a worldview that purports domination of wildlife and nature, and favor conserving mountain lions primarily so they could be hunted. The graphic in (C) drills into perspectives of hunters regarding wild animals and wildlife management. Again, hunters were more likely to believe that wild animals should be dominated and that they exist to be used by humans. Remarkably, most hunters believed that wild animals did not have consciousness, emotions, free will, or “a mind of their own” – far more often than non-hunters. These perspectives naturally translated into hunters (in D) disproportionately approving of hunting for meat and trophies, as well as trapping and hunting with dogs or over bait. As a corollary, hunters also disproportionately favored reducing predator populations, hunting large carnivores, and lethally controlling depredators (but see Figure 4).

The graphic in (E) shows a break-down for commissioners of wildlife management personnel relative to the broader public, differentiating western states dominated by Republicans versus those dominated by Democrats. Regardless of this distinction, commissioners were disproportionately more likely to identify as hunters and/or represent agricultural interests. Men tend to dominate commissions in Republican states whereas sex ratios tend to be nearer parity in Democratic states. The graphics in (F) show proportional demographics and management attitudes for agency personnel (in red) versus the broader public (green). Here, again, employees were far more likely to self-identify as hunters and white males and believe that wildlife populations should be managed primarily to provide meat-hunting opportunities and control depredation. They also disproportionately adhered to the notion that wild animals should be dominated and used.

## Social Psychology, Identities & Culture

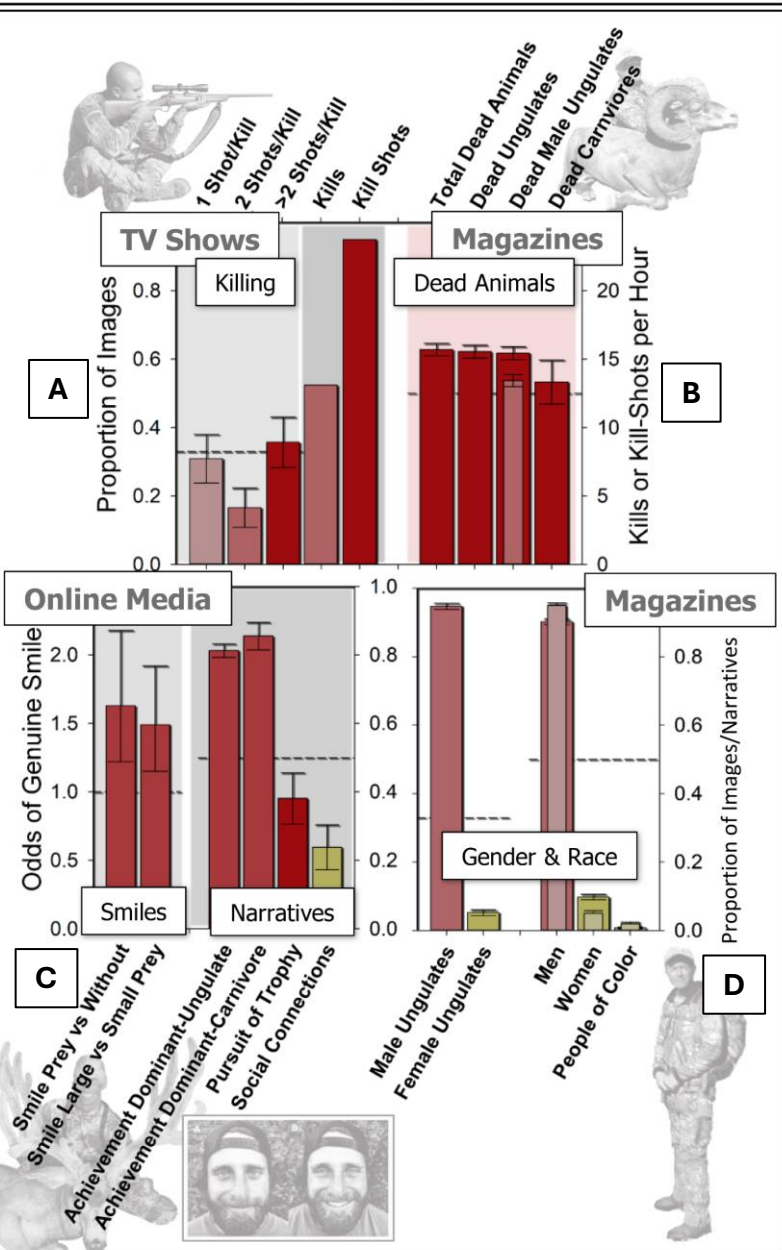


**Figure 3.** Hunters, gun owners, political conservatives, and those with authority over state wildlife management have a strong tendency to share certain perspectives, attitudes, and identities (see Figures 1 and 2). This conceptual diagram attempts to summarize a large body of research relevant to this convergence, with a focus on (A) people either over-seeing or employed by state wildlife management agencies. Although there is not complete overlap among different groups in (A), there is a striking convergence among political conservatives, owners of guns for both hunting and self-defense, and members of the National Rifle Association (NRA), with at least one or more of these groups encompassing most wildlife management agency employees and commissioners. The traits in box (B) typify gun owners, including more pronounced racial resentments, need to express masculinity, fear of victimization and threat, and belief in supernatural evil. The traits listed in boxes (B) and (C) typify political conservatives, including little capacity to deal with complexity or uncertainty, little need for cognition, as well as more pronounced rigidity, dogmatism, and need for structure and cognitive closure – all plausibly rooted in comparatively more pronounced existential concerns about death and mortal threats (Figure 1).



**Figure 4.** Hunters tend to craft narratives featuring motivations that are more acceptable to the general public as well as plausibly better crafted to address their own insecurities and internal conflicts. The bar graph in (A) summarizes the results of numerous public surveys that focused on acceptance of various hunting methods as well as purposes motivating hunters. The vertical dashed line indicates an average 50% approval. People tended to strongly favor “legal” hunting, as well as hunting for meat or control of depredators. (Parenthetically, this response was in the absence of information highlighting how ineffective killing is for reducing depredation problems). Otherwise, most people disapproved of hunting large carnivores, trapping, hunting for recreation or trophies, and hunting with the assistance of dogs or baits (the fair chase issue). The bar graph in (B) summarizes the results of numerous surveys that queried hunters about their motivations for hunting. Hunters prominently featured being in nature and socializing as primary motivations while down-playing the importance of obtaining meat or trophies (but see Figures 5 and 6).

## Manifest Social-Psychology of Hunters



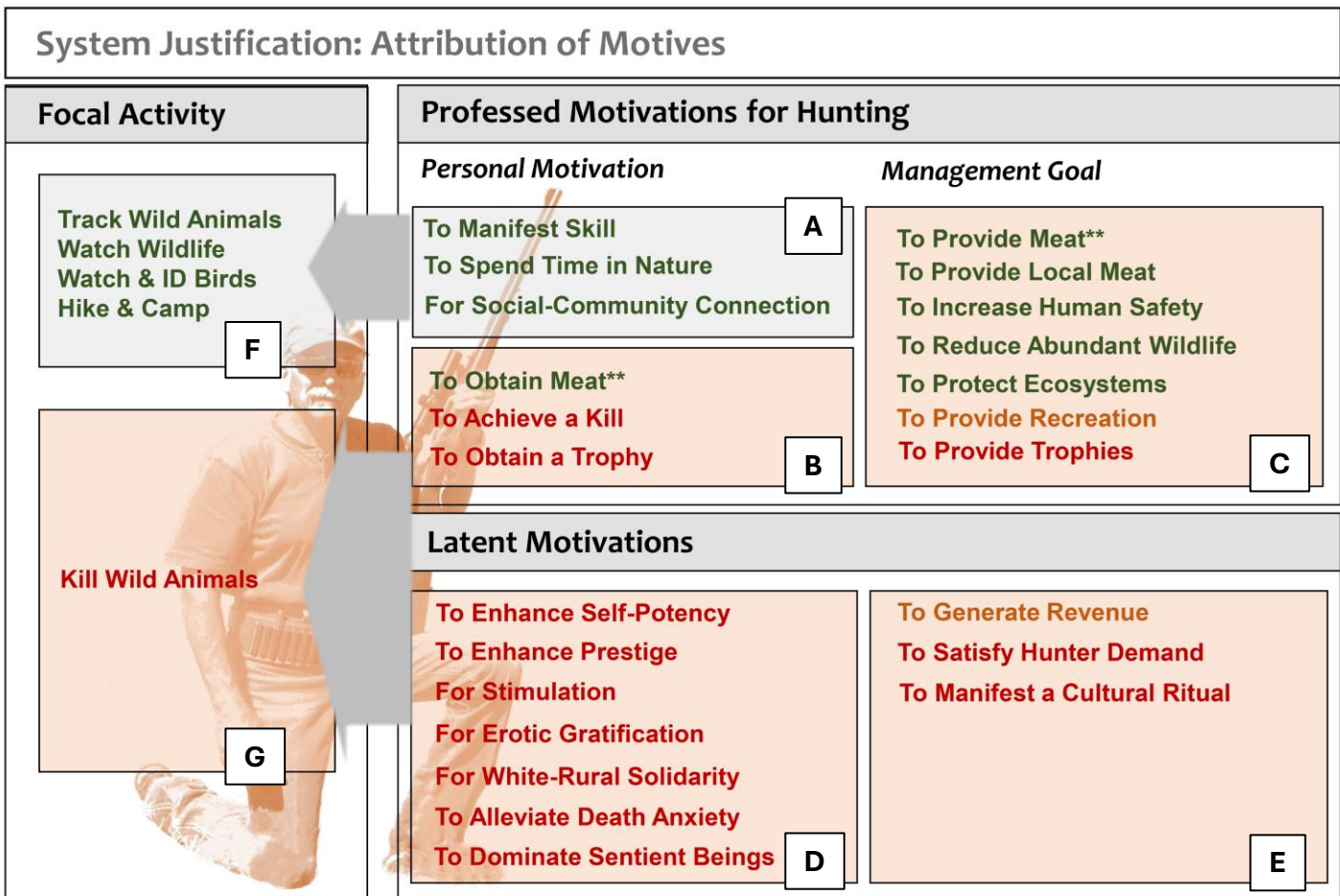
**Figure 5.** Insight into latent or otherwise hidden motivations of hunters can be gained from evidence contained in more unguarded public statements or visual expressions, often in magazines, television shows, and social media targeting a hunting populace. The graphics at left summarize some of this evidence. Although often circumstantial or indirect, this sort of evidence is nonetheless compelling.

The bar graph in (A) shows, farthest right, the number of images with wildlife in evidence during a hunting-focused TV show where either a person had taken a kill shot (>90%) or was displaying an animal that had been killed (55%). The bars farthest left in (A) break down kills by whether they had been the result of 1, 2, or >2 shots. The bar graph in (B) shows the proportion of all animal images in hunting-focused magazines that were dead (farthest left; 65%); and of those, dead ungulates (64%) as well as an adult male ungulate with sex-linked organs (63%). The bar farthest right in (B) shows the proportion of all carnivore images featuring a dead animal (55%).

The bar graphs in (C) show results of an analysis of images posted by hunters on social media. The bars at left in this graph show the odds that a hunter would have exhibited an “authentic” versus “inauthentic” smile based on whether the hunter was posing with or without prey and, if with prey, whether it was a large or small animal. Odds of a genuine smile were far greater (>1.0) when a hunter was with a dead prey animal, and especially if that animal was large. The bars at right in (C) show results from analyzing self-posted narratives according to different themes, revealing that these themes were dominated by achieving the kill of a large-bodied potency-enhancing ungulate or carnivore, at the same time downplaying the role of socializing and social connections.

The bar graphs in (D) summarize the percent, far left, of all animal images in hunter-focused magazines that consisted of male ungulates with sex-linked organs (>90%) versus female ungulates. The bars farther right show the proportion of human images that were of men (88%) and, of all these, people of color (1%).

Unguarded public displays by hunters clearly feature not only killing animals, but also the potency-enhancing aspects of that killing. Also, in contrast to more guarded statements designed to promote hunting (Figure 4), there is little evidence that socializing or spending time in nature are paramount considerations.



**Figure 6.** There is ample evidence suggesting that the publicly professed motivations of hunters and wildlife managers are discrepant from undisclosed private or latent motivations (see Figure 6). This graphic summarizes these distinctions, differentiating assertions plausibly crafted to be more publicly acceptable (in green) from those that would be more publicly objectionable (in red). Hunters publicly profess that they are primarily motivated by a desire to spend time in nature and socialize with companions while exhibiting skills in tracking or woodcraft. At the same time, they (B) downplay a desire to obtain meat, a trophy, or simply kill animals. Interestingly, wildlife managers (C) feature the need to manage wildlife to provision meat, increase human safety, reduce over-abundant populations and, in the process, protect ecosystems. At least publicly, managers rarely feature goals related to providing recreational opportunities or trophies.

By contrast, there is ample evidence that (D) hunters are intrinsically motivated by a desire for stimulation, enhanced self-potency, and even erotic gratification (as from obtaining potency-enhancing trophies; see Figure 6) rooted at some level in the need to alleviate existential concerns about death and abnegation (see Figure 1). There is also evidence that hunting serves to enhance the social solidarity of rural white males. Among wildlife managers (E) there is clear evidence that the need to generate revenue and satisfy customer (hunter) demands for a product (hunting opportunities) are dominant motivations, reinforced by a devotion to the centrality of hunting as a cultural ritual.


In the end, latent albeit very real motivations of hunters and wildlife managers make clear that a central purpose or focus of attention is (G) killing wild animals. Tellingly, professed motivations (F) could easily be fulfilled in numerous other ways that don't involve the pursuit and killing of animals.



System Justification: Narratives		
How the World Should Be	How the World Is	Domain
<b>Hunting Needs to be a Center-Piece of Wildlife Management</b>	Wildlife Populations are Intrinsicly Over-Abundant Hunters Need to Control Wildlife Populations	The Nature of Wildlife Populations
<b>Management Needs to Focus on Populations, not Individuals</b>	Individual Animals Don't Matter, Only Populations Do	What Matters
<b>Predators Need to be Reduced or Eliminated</b>	Predators Compete with Hunters for Game Predators are Cruel & Inhumane Predators are a Threat to Human Safety	The Nature of Predators
<b>Animal Advocates Need to be Silenced</b>	Animal Advocates (Women) are Irrational & Emotional	The Nature of Animal Advocates
<b>Hunters Need to be Respected &amp; Given Deference</b>	Hunters are Skilled & Humane Hunters (Men) are Rational & Evidence-Based	The Nature of Hunters
<b>Wildlife Biologists Need to Govern Policy Implementation</b>	Science Provides a Rational Basis for Managing Wildlife Populations	The Nature of Science

**Figure 7.** Public narratives articulated by hunters and wildlife managers almost invariably contain elements related to (A) how the proper organization of the world rooted in claims about (B) the nature of reality. These claims predictably align with (C) domains that align with key issues or topics in public debates. These graphics summarize common claims about the nature of the world and how it should be arranged broken out by seminal topical domains pertaining to nature, science, management, and involved people.

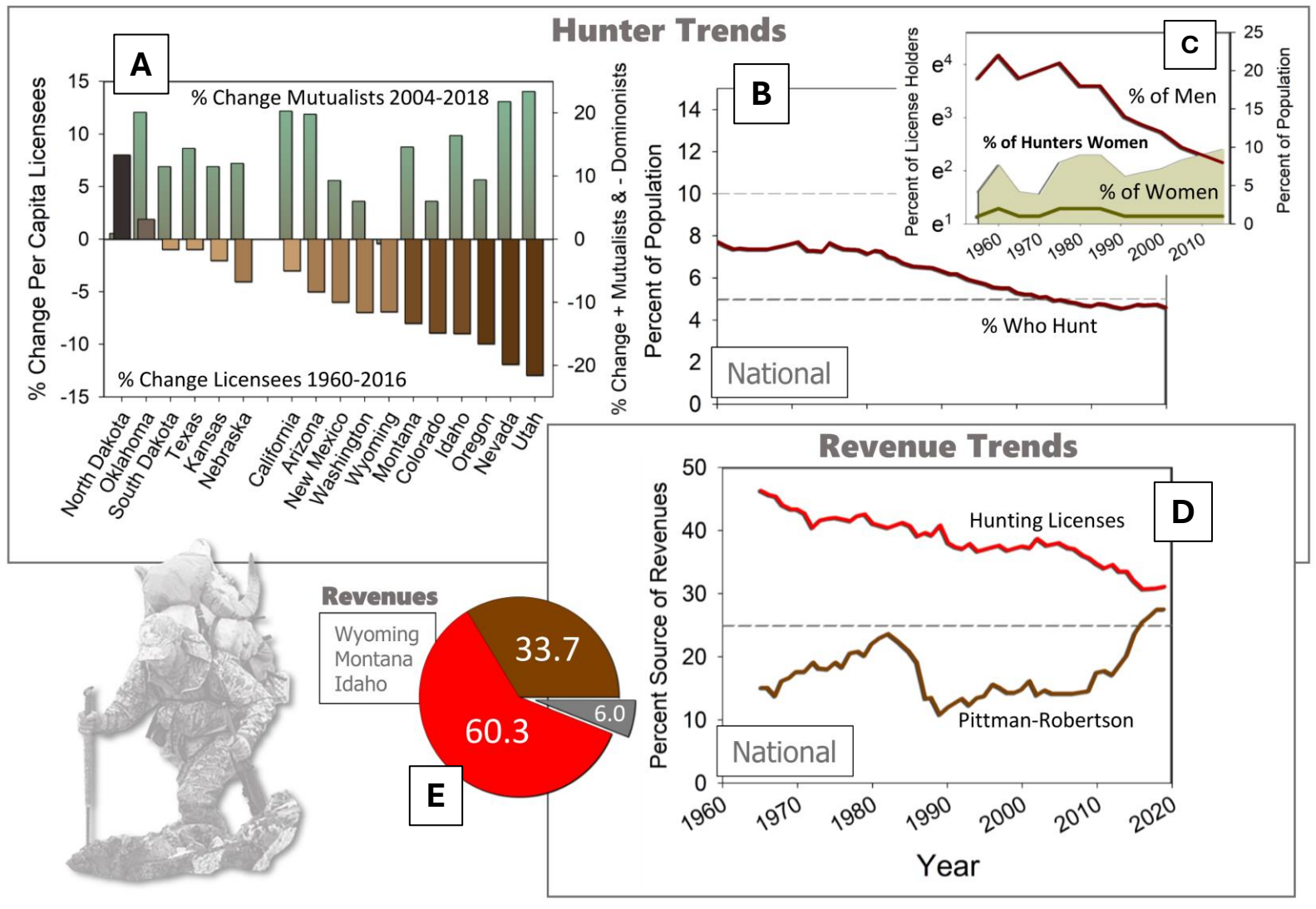
A central thesis of hunter narratives is (A) that hunting needs to be a center-piece of management with a primary purpose of controlling intrinsically over-abundant wildlife populations. As a corollary (B), populations, not individual animals, are what matter. Perhaps paradoxically given claims that wildlife populations are intrinsically over-abundant (C), predators need to be reduced or even eliminated because they compete with hunters – as well as because they are cruel, inhumane, and a threat to human safety (see Figure 1). Of relevance to management debates (H), hunters need to be given deference because they are rational, evidence based, and skilled, in marked contrast to (G) animal advocates, who have no legitimate voice in management because they (mostly women) are irrational and emotional. Related to this last claim, hunters and wildlife managers (I) are guided by science, which provides a rational basis for management in defiance of emotion and impulse.

System Justification: Ethical Reasoning		
Consequence	Axiom/Premise	Domain
 <p>Hunters <u>Should</u> Have Primacy in Wildlife Management</p> <p>Hunting <u>Should</u> be the Seminal Feature of Wildlife Management</p> <p><b>A</b></p>	Hunters <u>are</u> Virtuous	Virtue Ethics <b>D</b>
	Hunters <u>do</u> Pay for Wildlife Conservation Hunting <u>is</u> a Virtuous Cultural Ritual	Deontological Ethics <b>E</b>
	Hunters & Hunters <u>have</u> Conserved Big Game Populations Hunters & Hunters <u>do</u> Conserve Wildlife Populations	Consequentialist Ethics <b>F</b>
	<b>B</b>	<b>C</b>

**Figure 8.** Hunter narratives are invariably rooted in ethical premises – or arguments – that are rarely if ever publicly acknowledged as such largely because ethical consideration by their very nature are opaque to most people. Ethical arguments can logically be decomposed into (C) a specific domain that invokes (B) a certain axiom or premise, entailing (A) a more concrete consequence. Ethical domains are logically differentiated by those addressing (D) virtue, (E) duty and obligation, and (F) the desirability of certain consequences.

Hunter narratives uniformly claim that (D) hunters are virtuous and motivated by laudable aspirations entailing (E) related virtuous cultural rituals organized around hunting. Hunters are (E), moreover, burdened with paying for wildlife management. The virtue of hunters is validated by (F) the fact that they have been and continue to be primarily responsible for conserving wildlife populations. Consequently, (A) hunters should have direct or indirect authority over all aspects of wildlife management, logically to the exclusion of animal advocates (see Figure 7).

# Trends in Hunter Numbers & Wildlife Management Revenues

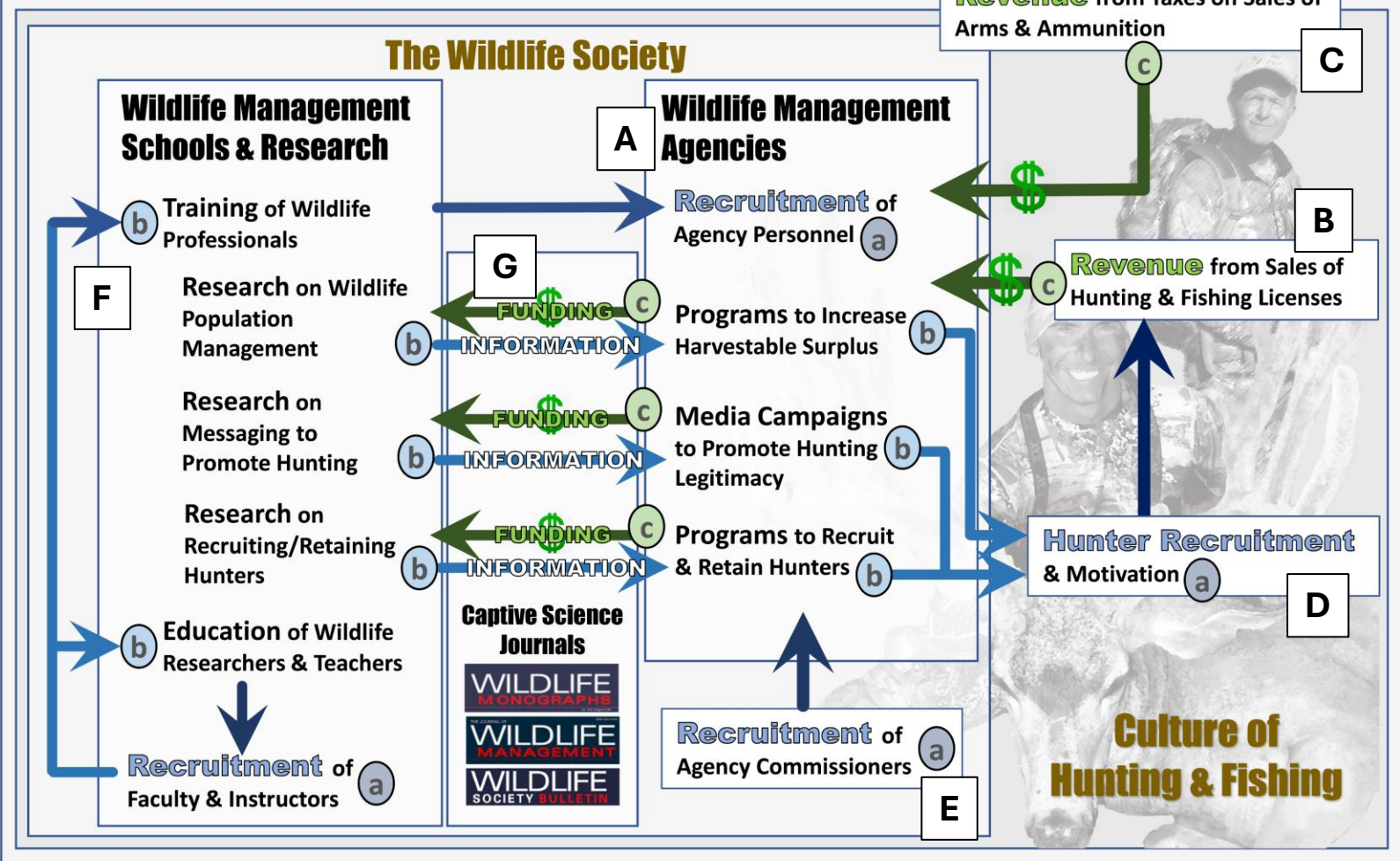


**Figure 9.** These graphics summarize trends relevant to revenues of state wildlife management agencies, with an emphasis on national patterns. The bar graphs in (A) show per capita percent changes, 1960-2016, in state residents buying hunting licenses (shades of brown) along with with percent changes, 2004-2018, in adults holding a predominantly “mutualist” perspective on human-wildlife relations (shades of green; as per Michael Manfredo’s schematic). Mutualists believe that people should accommodate wildlife, which aligns with related beliefs that wild animals are sentient and emotional beings (see next graphic). The trends are unambiguous. With the notable exceptions of North Dakota and Oklahoma, percentages of residents buying hunting licenses have declined, including in northern Rockies states. Not coincidentally, percentages of residents who hold mutualist perspectives have increased across the board, again except for North Dakota.

The burgundy trend line in (B) shows adults who hunt as a percent of the total American populace, 1960-2020, falling from nearly 8% to <5% during this period. The trend lines in (C) break these percentage down by sex, with trend for men shown in burgundy and trend for women shown in green. The decline in percentages of men hunting nationally has been precipitous, from >20% to nearer 8%. Percentages of women who hunt have remained constant at around 1-3%. This difference in trend between men and women has resulted in increasing percentages of hunters comprised of women, but almost wholly as an artifact of proportional declines among men rather than proportional increases among women.

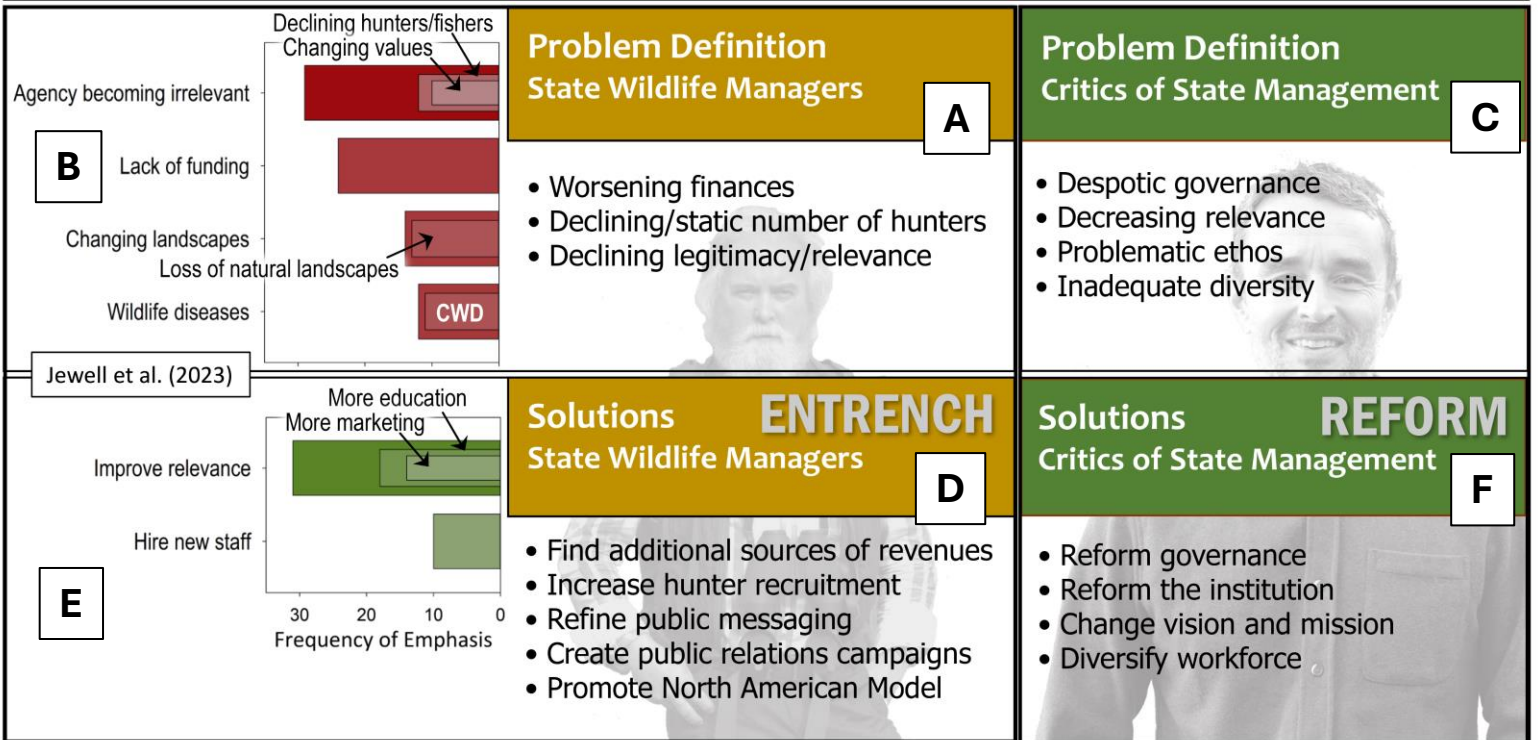
The trend lines in (D) show nationally-averaged percentages of state wildlife management agency revenues generated by sales of hunting and fishing licenses (in red) versus federal grants from the Pittman-Robertson taxes (burgundy). The percentage from Pittman-Robertson grants is currently comparable to the percentage from license sales, with especially dramatic proportional increases in P-R revenues occurring since 2016. The pie diagram in (E) shows the percent contributions of Pittman-Robertson funds (34%) and license sales (60%) to recent revenues for wildlife management agencies in Wyoming, Montana, and Idaho. The percent break-down of revenues for wildlife management agencies in the northern Rockies states is still skewed towards license sales, although the proportion of revenues coming from Pittman-Robertson grants has been trending upward here as well.

## White Gun Culture



**Figure 10.** State wildlife management is part of a hermetically sealed self-reinforcing system subsumed in the culture of hunting and fishing, in turn subsumed within a gun culture dominated by white men. This graphic captures some of this structure as well as key dynamics that synergize to reinforce financial dependencies, cultural outlooks, management preferences, patterns of recruitment, and educational biases. State wildlife management agencies (A) are at the center of this system given their hold on authoritative decision-making. These agencies are sustained by the gun culture either directly through revenues generated by Pittman-Robertson taxes (C; Figure 9) or indirectly through sales of licenses to predominantly white male hunters and fishers (D), most of whom adhere to the gun culture (Figure 1). These financial dependencies incentivize agency-sponsored programs and campaigns to recruit hunters to both increase revenues and sustain a gun and hunting oriented institutional culture (b). Refinement of these recruitment programs depends on insights gained from university researchers (F) who are, in turn, financially and professionally dependent on wildlife management agencies. Much of this research is legitimized through publications (G; largely of The Wildlife Society) captive to the hunting and fishing culture and wildlife management agencies. Further reinforcing this dynamic, agency personnel as well as wildlife-focused instructors are self-referentially recruited from university programs designed to serve the dominant hunting and fishing paradigm (F). As a capstone, agency commissioners (E) are also predominantly recruited from the hunting and fishing culture dominated by white men (Figure 2). In toto, these synergies organized around shared identities, culture, loyalties, and financial and legitimizing dependencies creates a near impenetrable system that defies meaningful reform efforts.

## Problem Definition & Solutions



**Figure 11.** The intrinsic resistance of state wildlife management to reform is evident in how wildlife managers and commissioners define the problems and prospective solutions of the institution – in marked contrast to how both are defined by critics and prospective reformers. Wildlife managers define their problems primarily in terms of (A) worsening finances arising from declining numbers of hunters (see Figure 9) compounded by declining legitimacy with the broader public. The bar chart in (B) shows the frequency with which various issues were identified as being problematic by people affiliated with status quo arrangements. By contrast, critics and reforms define problems (C) as primarily arising from despotic governance, a reactionary ethos, and inadequate diversity among both commissioners and the workforce. In common with agency affiliated commentators, they also recognize the declining relevance of wildlife management agencies. Solutions naturally follow from how problems are defined. Wildlife managers seize on (D) finding additional sources of revenues, recruiting more hunters, developing better public relations campaigns, and promoting their favored North American Model of Wildlife Conservation. The bar graph in (E) manifests some of these preferred solutions, with managers emphasizing the importance of more marketing and public education as means of redressing increasing agency irrelevance. Hiring more diverse staff is also featured. Again, by contrast, reformers (F) emphasize reforming institutional governance and culture in part through a more inclusive vision, mission, and workforce.