

Conservation

- A few basically random insights

Bryan Richards

Leopold's thoughts ...

- *"The last word in ignorance is the man who says of an animal or plant, 'What good is it?' If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering."*
 - Aldo Leopold, The land Ethic (A Sand County Almanac)



Leopold's last phrase here seems a pretty good construct for conservation.

CONSERVATION

Conservation

- **Definition**

- Conservation is the careful management, protection, and wise use of earth's natural resources—such as water, soil, plants, and animals—so they are not wasted or destroyed and can last for future generations.
 - National Geographic

- **Vs. Preservation**

- Conservation: sustainable use, active management, e.g. National Forests, National Wildlife Refuges
- Preservation: untouched protection, minimal to no interference, e.g. National Parks

There are lots of definitions of conservation.

This one by national Geographic seems reasonable.

Important to distinguish the historical differences between conservation and preservation.

What can be conserved?

- In the biological realm:
 - Genetic material
 - Species
 - Ecosystems

You can conserve genetic material (up to individuals), and species, but unless you conserve the ecosystems they are part of, they may still be compromised in their form and function.

Wildlife Conservation

■ Definition

- Wildlife Conservation is the practice of protecting plant and animal species and their habitats.
 - National Geographic
- Wildlife is integral to the world's ecosystems, providing balance and stability to nature's processes.
- The goal of wildlife conservation is to ensure the survival of these species, and to educate people on living sustainably with other species.
 - National Geographic

Again, NG's definition of wildlife conservation is a reasonable starting point. Note it emphasizes both animals, and the places they live (holistic). NG also adds a value statement and a goal statement.

Wildlife Conservation – value to society

- Wild animals are essential to the functioning of natural ecosystems, which in turn provide all of us with free [ecosystem] services that we depend upon for our survival, e.g. clean air and water, pollination, crops, medicines, healthy soils, waste processing, stable climate, etc.

Wildlife for All, BJR

A slightly different take on wildlife conservation, emphasizing ecosystem services; something that may resonate with stakeholders.

Clean water and clean air are routinely ranked high in importance to stakeholders.

Wildlife Conservation

- **Success stories?**
- **Not so successful?**
- **Where has the focus been historically?**

Success stories are limited, and often game species.

Plenty of not-so-successful examples – insects, amphibians, reptiles, birds, mussels, some mammals, etc.

Clear focus of wildlife conservation in NA has been on game species

A relevant, recent publication



Abstract: Half of all migratory bird species have declining population sizes. Losses span every region on Earth and raise urgent concerns for the long-term persistence of one of the planet's most visible and ecologically important groups. Without intervention, continued declines and extinctions are inevitable.

<https://www.nature.com/articles/s44358-026-00177-7>

Very recent paper highlighting global issues with migratory birds.
The first sentence in the abstract is very strong.

<https://www.nature.com/articles/s44358-026-00177-7>

An important publication from 2019

BIODIVERSITY LOSS

Decline of the North American avifauna

Science

Kenneth V. Rosenberg^{1,2*}, Adriaan M. Dokter¹, Peter J. Blancher³, John R. Sauer⁴, Adam C. Smith⁵, Paul A. Smith³, Jessica C. Stanton⁶, Arvind Panjabi⁷, Laura Helft¹, Michael Parr², Peter P. Marra^{8,†}

Abstract: ... Using multiple and independent monitoring networks, we report population losses across much of the North American avifauna over 48 years, including once-common species and from most biomes. Integration of range-wide population trajectories and size estimates indicates a net loss approaching 3 billion birds, or 29% of 1970 abundance. ... These results have major implications for ecosystem integrity, the conservation of wildlife more broadly, and policies associated with the protection of birds and native ecosystems on which they depend.

<https://www.science.org/doi/10.1126/science.aaw1313>

Science manuscript from 2019 demonstrating massive losses of birds in NA over the last 50 years.

<https://www.science.org/doi/10.1126/science.aaw1313>

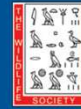
THE NORTH AMERICAN MODEL OF WILDLIFE CONSERVATION (NAM)

Many of the slides in this next section are excerpted from a lecture I've presented for multiple years.

The North American Model (NAM)

- *The North American Model of Wildlife Conservation* is a set of principles that, collectively applied, has led to the form, function, and successes of wildlife conservation and management in the United States and Canada.
 - **The Wildlife Society, 2012**

Technical Review 12-04
December 2012



<https://wildlife.org/wp-content/uploads/2014/05/North-American-model-of-Wildlife-Conservation.pdf>

Supportive view from TWS

The North American Model (NAM)

- ... an incomplete framing of history that serves to justify and perpetuate a system of wildlife management that privileges game hunting and hunters, administered by state agencies that are funded in large part by hunters, resulting in the marginalization and exclusion of other stakeholders and legitimate public interests in wildlife.
 - **Wildlife for All**

<https://wildlifeforall.us/myth-busters/north-american-model-of-wildlife-conservation-a-reality-check/>

Alternative, somewhat critical view.

The North American Model (NAM)

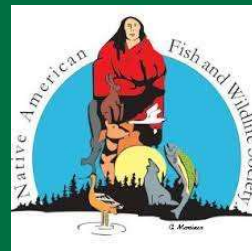
- Within the mainstream environmental movement, regulated hunting is commonly defended as a tool for preserving and managing populations of wild animals for future generations. We argue that this justification, encapsulated in the seven principles of the North American Model of Wildlife Conservation, perpetuates settler colonialism—an institutional and theoretical apparatus that systemically eliminates Indigenous peoples, expropriates Indigenous lands, and disqualifies Indigenous worldviews— insofar as it manifests an anthropocentric ideology that objectifies hunted animals as “natural resources” to be extracted. Because this ideology is antithetical to Indigenous views, its imposition through hunting regulation interrupts Indigenous lifeways, contributing to the destruction of Indigenous identity.
 - **Hunting for Justice - An Indigenous Critique of the North American Model of Wildlife Conservation. Environment & Society, 2018.**

An indigenous viewpoint.

May be a paywall to get this entire manuscript:
<https://www.jstor.org/stable/26879579>

The North American Model (NAM)

- “We [Native Americans] didn’t need a conservation model because we didn’t take too many”
 - **Dr. Julie Thorstenson, Executive Director, Native American Fish and Wildlife Society**
 - **North American Natural Resources Conference, 2022**



Statement from NAWFS ED during a special session on the NAM, North American Natural Resources Conference, 2022.

Historical origins

- **“Manifest Destiny” seemed to allow/promote rampant resource use, exploitation**
 - Unrestricted market hunting led to massive declines in some species, including extinction
 - Habitat alteration reduced some species to single digit percentages of their historical ranges and populations
- **Influential individuals (e.g., George Bird Grinnell, Theodore Roosevelt, Gifford Pinchot) recognized that resources needed to be preserved/conserved**

Extremely fortunate that influential individuals recognized and responded.



Manifest destiny.

North American Conservation

- Core principle: “public” resources
 - With appropriate controls
- Eliminating market hunting
- Establishing governance: state and federal management authorities
- Placing restrictions on take
- Restoring depleted resources (primarily game species)
- Scientific research (e.g., states, Wildlife Coop Units)
- Funding models (license fees, excise taxes, usage fees – both general revenue and user pay)
- Expanded legislation (e.g., MBTA, Lacey Act, ESA, CITES)

Conservation, as it unfolded in NA.
A very strong and adaptive set of responses.

Seven tenets/principles of the NAM

- **Wildlife resources are a public trust.**
- **Markets for game are eliminated.**
- **Allocation of wildlife is by law.**
- **Wildlife can be killed only for a legitimate purpose.**
- **Wildlife is considered an international resource.**
- **Science is the proper tool to discharge wildlife policy.**
- **Democracy of hunting is standard.**

The Wildlife Society, 2012

You can expound on the intent of each of these by looking at the 2012 TWS publication.

<https://static1.squarespace.com/static/5c6cafd6ebfc7f1452220ac5/t/5f74e60d1b1580467d263934/1601496596845/North-American-model-of-Wildlife-Conservation.pdf>

Who came up with this NAM?

- Essentially an after the fact description of how conservation was envisioned, developed, and implemented in the United States and Canada
- Initially articulated by Dr. Valerius Geist, University of Calgary, late 1980's
- Later co-authors:
 - Shane Mahoney – Conservation Visions
 - John Organ – USFWS Cooperative Research Units
- Formal articulation in 2001: *Why hunting has defined the North American model of wildlife conservation*
 - Geist, Mahoney, and Organ. 2001. 66th North American Transactions

Note the difference between the history of conservation in NA, and the manuscript developed by Geist, which summarized/organized this history into the seven tenets.

What was the impetus?

- Original goal of conservation in North America was to protect and restore depleted resources
- Geist recognized that dramatically increasing interest in “game ranching” in Canada was in opposition to the notion of “public resources”
- There were also additional apparent threats to the history of consumptive resource use
- Geist articulated this set of principles as a scholar, and in an effort to articulate and entrench the tenets in policy and law

Supporters of the NAM

- **Association of Fish & Wildlife Agencies (AFWA)**
 - State and federal natural resource management agencies
- **The Wildlife Society**
- **Hunting oriented NGOs**
 - Boone & Crockett
 - Pope and Young
 - Theodore Roosevelt Conservation Partnership
 - Etc.
- **Congressional Sportsmen's Foundation**
- **State legislatures**

The supporters of the NAM tend to be consumptive natural resource stakeholders.

The eight (unwritten) tenet?

- **User pay**
 - **State natural resource agencies are typically dependent on hunting license revenue**
 - **Direct license sales**
 - **Pittman-Robertson and Dingell-Johnson funding**
 - **Excise taxes on sporting goods (10-11%)**
 - **FWS apportions funding to states based on hunting/fishing license sales**
 - **WI PR funds exceed hunting license revenue by ~3:1 ratio**

Funding was not addressed in the tenets, but is a critical issue to the NAM (conservation is not free).

It is regularly referred to as the 8th tenet.

Consequences of the model

- **Historically:**
 - Absolute successes for some [game] species
- **There are winners (selected) and losers**
 - **Winners:**
 - Game species (some)
 - Species that thrive in habitat managed for those game species
 - **Losers:**
 - Most everything that cannot leverage the habitat managed for/by the winners
- **Hunters have outsized voice in management decisions**
 - Over time, this has become a reinforcing loop (systems thinking/modeling)
 - We fund you, so you must prioritize us We thrive on your funding, so

If possible, introduce systems thinking.

An excellent primer is the Donella Meadows book, an early version of which is available online.

<https://research.fit.edu/media/site-specific/researchfitedu/coast-climate-adaptation-library/climate-communications/psychology-amp-behavior/Meadows-2008.-Thinking-in-Systems.pdf>

<https://donellameadows.org/systems-thinking-resources/>

Criticisms of the NAM

- **Successes are overstated:**
 - While deer and elk populations have rebounded in many places, bighorn sheep have recovered to only about five percent of their mid-19th century numbers, while pronghorn are at about two percent and wild bison less than one percent
- **Failures often ignored:**
 - Widespread eradication and continued hostility of many hunters and wildlife managers towards carnivores such as wolves
 - Failure to stop the ongoing decline of many species that are not hunted but ecologically important, such as bats, insect pollinators and prairie dogs
 - Inability to shift focus from restoration to appropriate management and consequences to ecosystems
- **Ignores the contributions of non-hunters**
 - E.g., John Muir, Rachel Carson, etc.
- **Excluded native viewpoints, traditional knowledge**

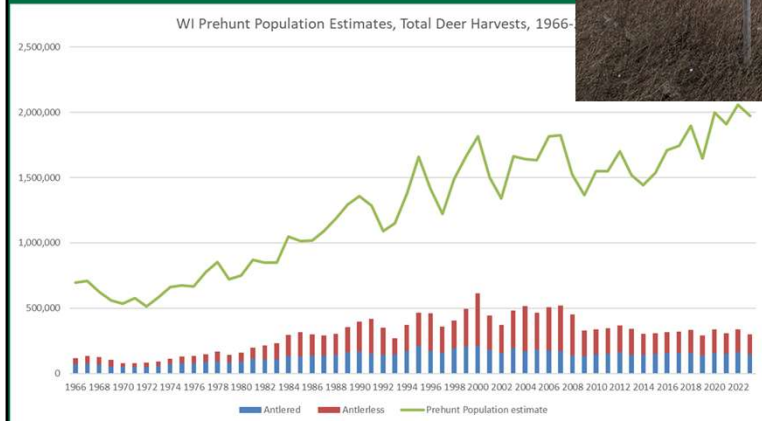
Wildlife for All, BJR

<https://wildlifeforall.us/myth-busters/north-american-model-of-wildlife-conservation-a-reality-check/>

Inability to shift from restoration is exemplified by white-tailed deer, snow geese, ...

The last bullet is more from the Mahoney review and other indigenous viewpoint manuscripts.

Wisconsin deer metrics



It is clear that recreational hunting has failed to keep deer numbers in check (in WI anyway).

There are many consequences to people and to conservation.

An example of how the NAM has not moved beyond restoration.

In WI we have:

- Declining hunter numbers (and consequently, funding)
- Diminishing access
- Stagnant harvest
- Restoration-based harvest structures
- Large and growing deer population
- Tremendous impacts to forest systems
- No obvious way (and maybe desire) to control/balance the deer population

Issues with the seven tenets

- Wildlife resources are a public trust.
 - Do we really follow the public trust doctrine?
- Markets for game are eliminated.
 - What about furbearers, commercial fisheries, herps, canned hunts?
- Allocation of wildlife is by law.
 - Access to the resource is limiting – people own property, but not the wildlife on that property, yet they control access
- Wildlife can be killed only for a legitimate purpose.
 - Killing contests, predator hunts
- Wildlife is considered an international resource.
 - Not all governments recognize, indigenous excluded
- Science is the proper tool to discharge wildlife policy.
 - Policy typically determined by political appointees
- Democracy of hunting is standard.
 - Only if you have access

Brief, and incomplete list of issues

The Public Trust Doctrine

- In the North American Model, wildlife is held in the public trust. This means that fish and wildlife are held by the public through state and federal governments. In other words, though an individual may own the land upon which wildlife resides, that individual does not own said wildlife. Instead, the wildlife is owned by all citizens. With origins in Roman times and English Common law, the public trust doctrine has at its heart the 1842 Supreme Court ruling *Martin v. Waddell*.
- *Martin v. Waddell* (1842)
 - held that the public maintained a common right to fish in navigable and tidal water because those waters and their underlying lands were kept in trust by the state for the common use of the people
- Management agencies have tended to select which species/systems to focus in their trust responsibilities

There are many resources available discussing the history of the PDT and the landmark *Martin v. Waddell* case.

A slightly different take on the PTD?

- Nature, including wildlife, is a public trust that the government has a “fiduciary” duty to protect for the benefit of the beneficiaries, including those not yet born.
- Beneficiaries of a Wildlife Trust:
 - All people
 - Ecosystems themselves, including invertebrates, plants, etc.

Wildlife for All, BJR

This take on the PTD focuses on the fiduciary responsibility of government to protect all biological resources, at the ecosystem level.

Yet, most NR agencies do not embrace this definition and responsibility

Modern issues with the NAM

- **Managing for growing wildlife numbers**
- **Accounting for the interplay between public wildlife and private habitat**
- **Developing more hunter-conservationists while being more inclusive of non-hunting conservationists**
- **Funding**
 - **Property and Environmental Research Center (PERC)**

Directly from PERC

<https://www.perc.org/wp-content/uploads/2023/04/perc-reports-summer-2019-1.pdf>

THE CHANGING FACE OF STAKEHOLDERS

Move on from the NAM to how stakeholders of conservation have and likely will continue to change.

Participation

Perspectives

USFWS National Survey - 2022

- **Wildlife watchers: 148 million (57.2%) U.S. residents, 16 years or older, participated in wildlife watching in 2022, expended \$250.2 Billion**
- **Anglers: 39.9 million (15.4%) U.S. residents participated in angling in 2022, expended \$99.4 Billion**
- **Hunters: 14.4 million (5.5%) U.S. residents participated in hunting in 2022, expended \$45.2 Billion**
- **Recreational shooting: 47 million participants, expended \$39 Billion* (*Southwick and Associates, 2020)**

<https://www.fws.gov/program/national-survey-fishing-hunting-and-wildlife-associated-recreation-fhwar>

Direct from the 2022 FWS survey.

Note this is the first time that FWS has directly looked at 'recreational shooting'

The \$39 B note is not from FWS (FWS did not break the \$\$\$ out), but from a 2020 manuscript from Southwick and Associates

<https://www.fws.gov/program/national-survey-fishing-hunting-and-wildlife-associated-recreation-fhwar>

<https://www.southwickassociates.com/2020-economic-impact-of-hunting-and-shooting-technical-report/>

Long-term trends

- **Wildlife Watching Growth:** participation has steadily climbed over past decades, showing the highest level of overall engagement.
- **Angling Stability:** participation has experienced periods of growth and remains stable, more than doubling in overall participants since the survey began in 1955.
- **Hunting Decline:** While total hunter numbers grew slightly between 1960 and 2022, participation rates dropped relative to the size of the U.S. population, influenced by older participants leaving faster than younger recruits join.
- **Recreational shooting:** not previously tracked by FWS, other data sources suggest 'rapid growth'
 - Consequences for P-R funding
- * U.S. population: 1955 – 166 million, 2022 – 334 million

If I'm interested in focusing on a particular set of stakeholder, wrt the future of conservation, it seems that wildlife watchers deserve attention.

Southwick Associates data indicates that non-hunting purposes accounted for 74.2% of all taxable firearm and ammunition retail sales in 2020 – this has tremendous ramifications for PR funding

Stakeholders and their values

- **Wildlife Value Orientation (WVO) (HD Literature)**
 - Two predominant value orientations: Domination, Mutualism
 - Four distinct types of people (stakeholders):
 - Traditionalist (Utilitarian) - prioritize human well-being over wildlife. Specifically, utilitarians believe wildlife should be managed for human benefit.
 - Mutualist - believe that humans and wildlife are meant to co-exist or live in harmony, and thus wildlife deserve rights similar to the rights of humans.
 - Pluralist - possess both value orientations. Situational
 - Distanced – lack wildlife value orientation, less interest in wildlife issues

Definitions, from Human Dimensions, for the next section on wildlife values

Public surveys

- **2018 Public Survey**
 - Looked at Wildlife Value Orientations (WVOs) across all 50 states
- **2004 Public Survey**
 - Looked at WVOs across 19 western states
 - Allows insights on change over time
- **Sponsored/conducted by AFWA, WAFWA, CSU, OSU, Responsive Management**

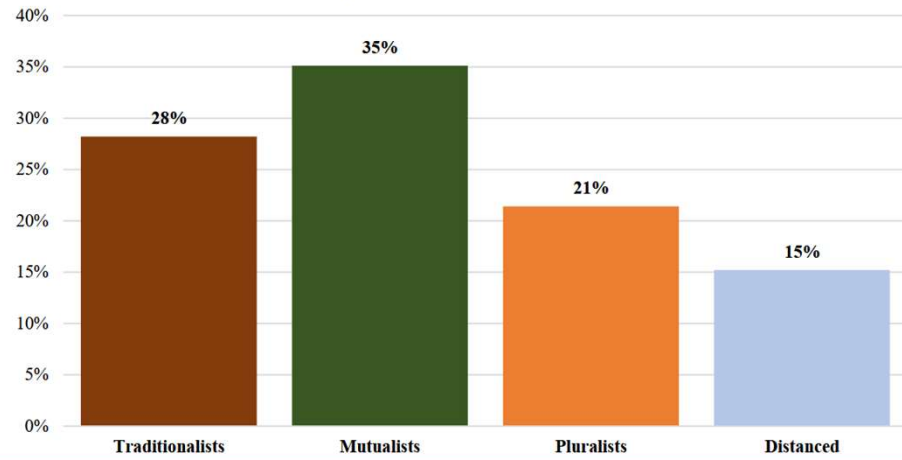


America's Wildlife Values
The Social Context of Wildlife
Management in the U.S.

https://www.fishwildlife.org/application/files/9915/4049/1625/AWV_-_National_Final_Report.pdf

2018 WVO survey

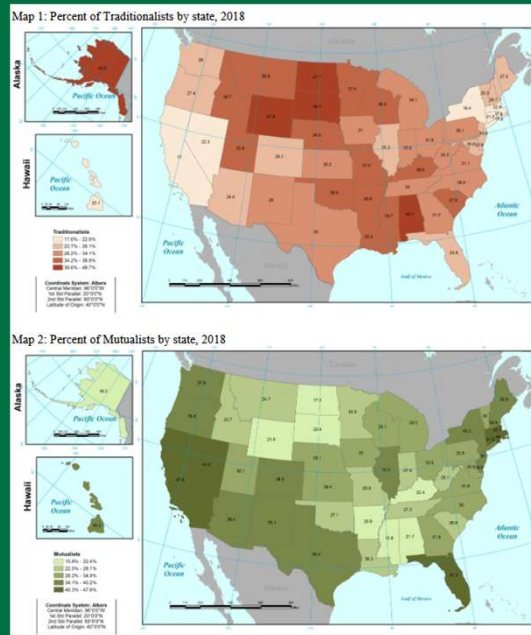
Figure 2: Wildlife value orientation types across the United States



In multiples of seven: 4 to 5 to 3 to 2

National vs. Wisconsin

- **Traditionalist:**
 - National: 28%
 - Wisconsin: 36.4%
- **Mutualist:**
 - National: 35%
 - Wisconsin: 29.1%
- **Pluralist:**
 - National: 21%
 - Wisconsin: 21.3%
- **Distanced:**
 - National: 15%
 - Wisconsin: 13.1%



In WI, we're 5 to 4 (traditionalists over mutualists (or were in 2018)).
 Pretty 'middle of the road'

Change over time

- 19 Western states (Dakotas to Texas west)
- Based on change between 2004 and 2018
- Traditionalists: 5.7% decline
- Mutualists: 4.7% increase
- Pluralist, Distanced: negligible change

While we do not have data for WI, it is not unreasonable to assume similar changes to traditionalist and mutualist viewpoints over time.

Takeaways

- Participation in consumptive activities is relatively steady (angling) to declining (hunting), and represents a relatively small proportion of the overall population (5.5% hunt, 15.4% fish)
- Participation in non-consumptive activities is increasing; over half of residents participate
- Traditionalists are declining; mutualists are increasing
- Consequence: hunting-associated funding (license revenue) is declining
- **A substantial portion of P-R \$\$\$ are contributed by recreational shooters**

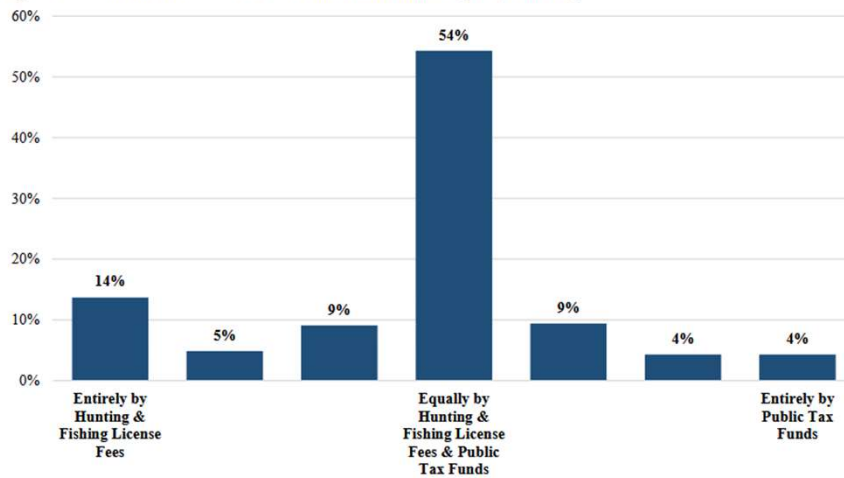
1st three bullets directly from the reports.

4th is a direct consequence of declining hunter numbers (and is reflected in the budgetary woes of the WDNR Wildlife Bureau).

5th bullet is very important – PR \$\$\$ are a tremendous source of revenue, the majority of which now comes from recreational shooters, who are not typical natural resource stakeholders (some are, but this activity is not). Bills have been filed to repeal PR as these shooters are being “unfairly taxed”

What do stakeholders think about funding for conservation?

Figure 25: National Preferences for Fish and Wildlife Agency Funding



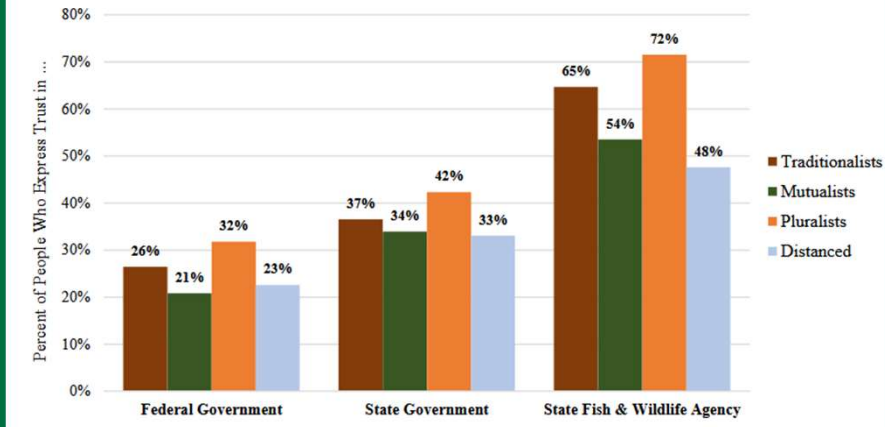
Stakeholders seem willing to help fund conservation.

But are they willing to pay for the current implementation of wildlife conservation (heavily skewed towards game species)?

e.g., Should tax funds be used to raise/release pheasants for a very small minority to utilize?

Trust (nationally, by WVO)

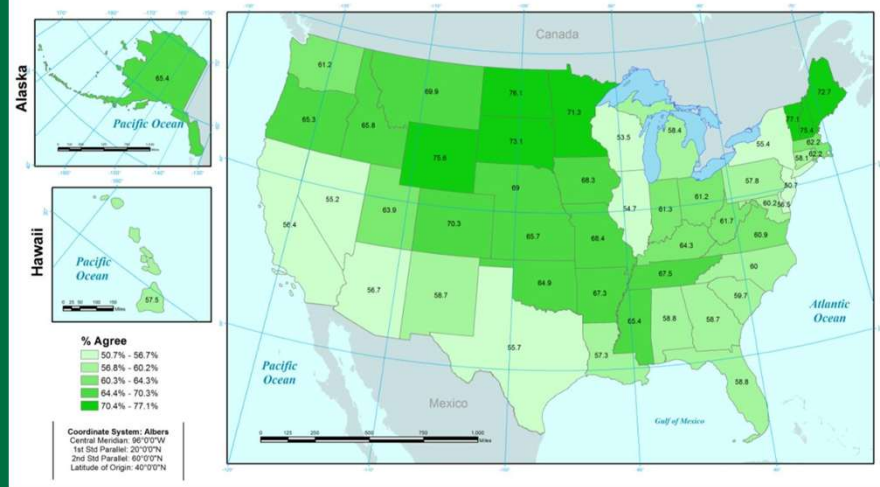
Figure 43: Public trust in governing institutions across the U.S. by wildlife value orientation type



In general, stakeholders 'trust' game agencies more than state or federal government.

Trust, by state

Map 26: Percent who express trust in their state fish and wildlife agency by state



Although the differences are very small. It is interesting to note that WI ranks 49th in agency trust.

Note this was in 2018.

OUR NATURAL RESOURCE AGENCIES

Stakeholders have and are changing; what about the NR agencies that represent them and are the 'trustee' for their resources?

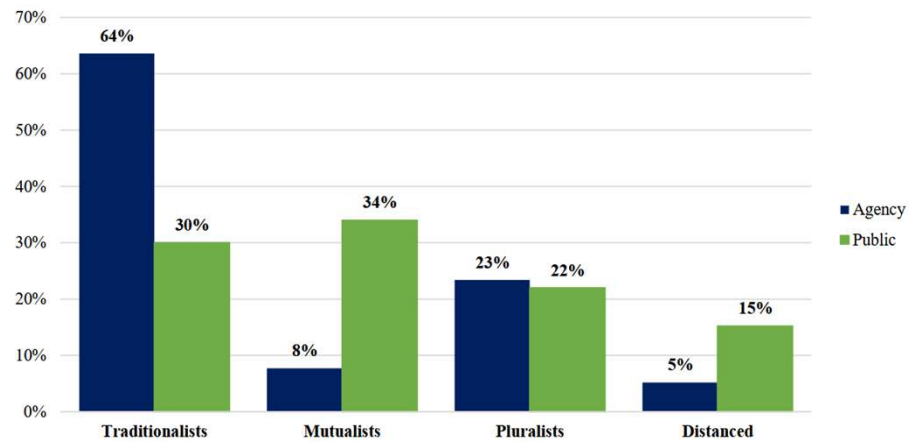
Agency survey

- **2018 Agency survey**
 - **Examined Fish and Wildlife agency culture, attitudes, and WVOs of 28 states**
 - Wisconsin did not participate in that survey
 - Minnesota and Michigan did
 - Perhaps we can gain insights about WI from our neighbors?
 - **Allows us to compare the values/orientation of natural resource agencies with those of their stakeholders**

I do not have any idea why WI was not included in the survey, but perhaps we can learn from MN and MI

National comparison (agency vs. public)

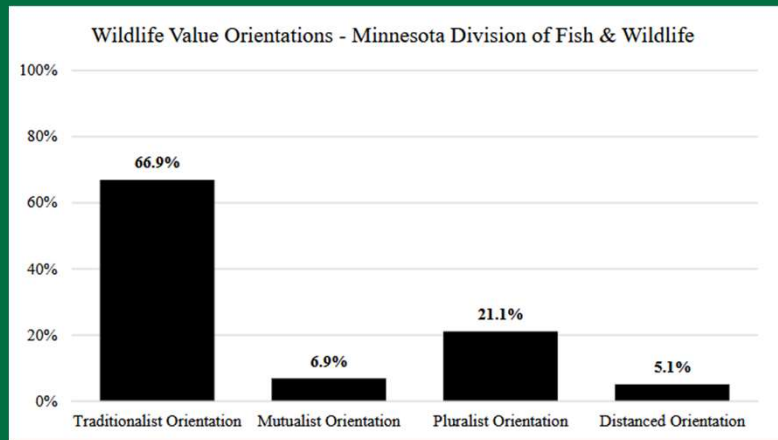
Figure 61: Comparison of wildlife value orientation types across state fish and wildlife agencies and the public



A very large disparity between agency makeup and the stakeholders they serve.
Agencies are overwhelmingly traditionalist

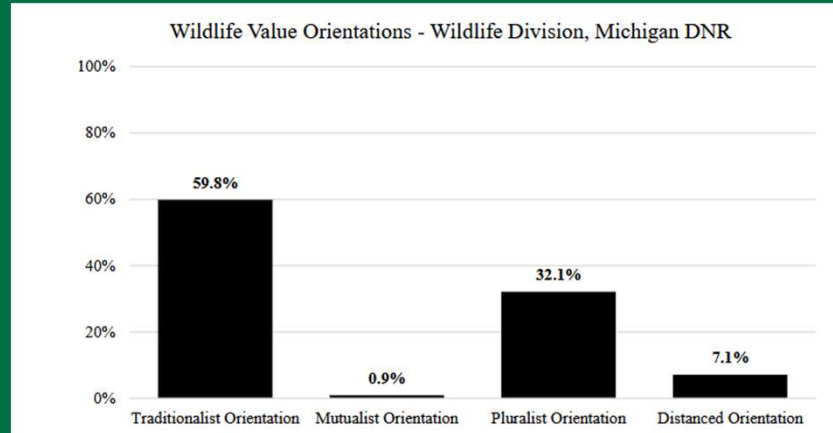
We even often send new agency leaders to a course to teach them how to hunt and fish, if they are not from that background.
Perpetuating the traditionalist perspective inside of agencies

Minnesota



MN is aligned with national breakout

Michigan



So is MI, except that they have essentially no staff that identify as mutualists

Agencies

- Skewed towards traditionalist values
- Large programs (and funding) geared towards game species propagation
- Less focus on:
 - Ecosystems
 - System health
 - Habitat acquisition
 - Connectivity

In systems thinking, there is clearly a reinforcing loop at play in perpetuating the traditionalist perspective in NR agencies.
And there are consequences.

Minnesota

	Agency	Public
Traditionalist	67%	37%
Mutualist	7%	27%
Pluralist	21%	24%
Distanced	5%	12%

Perspectives, and gaps, are very similar to national.

Michigan

	Agency	Public
Traditionalist	60%	34%
Mutualist	1%	29%
Pluralist	32%	23%
Distanced	7%	14%

Other than the disparity in mutualists, pretty similar situation

Agency values vs their stakeholders

- **Agencies are skewed towards traditionalists**
- **Stakeholders are trending toward mutualism**
- **Consequences:**
 - **There is a broadening gap between agencies and their stakeholders**
 - **This impacts agency trust, support, funding support, etc.**

Summary slide on stakeholder WVOs.

Suggested reading

Conservation Science and Practice
A Journal of the Society for Conservation Biology

Open Access

SPECIAL SECTION: AGENCY ORGANIZATIONAL CHANGE

Building a systems framework to facilitate adaptive organizational change in state fish and wildlife agencies

Richard E. W. Berl¹ | Michael J. Manfredo¹ | Mark Gasta² | Dean Smith³ |
Leeann Sullivan⁴ | Cynthia A. Jacobson⁵ | Chad Bishop^{6,7} |
Judy Camuso⁸ | Thomas Eason⁹ | John P. Hayes¹⁰ | Rick Jacobson¹¹ |
Curt Melcher¹² | Jennifer Newmark¹³ | Pete Novotny¹⁴ |
Sara Parker Pauley¹⁵ | Carter Smith¹⁶ | Catherine Sparks¹⁷ |
Kathryn Stoner¹⁸ | J.D. Strong¹⁹ | Jeff Ver Steeg²⁰

Abstract (excerpt): Our findings point to the importance of developing interventions that will lead to changes in agency culture, systems of governance, and policy and action, and enhance the accessibility of natural resources and opportunities for diverse publics to engage with and benefit from fish and wildlife.

<https://conbio.onlinelibrary.wiley.com/toc/25784854/2022/4/2>

An incredibly important manuscript.

11 state NR agency leaders (including Texas, Missouri, Colorado, etc.) participated and signed on as co-authors.

They recognize this issue (agency staff no longer reflecting the values of their stakeholders) and are searching for ways to address it.

The manuscript concludes that ‘change must come from within.’

AN ALTERNATIVE APPROACH TO CONSERVATION?

Conservation

- A land ethic, then, reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land.
- Health is the capacity of the land for self-renewal.
- Conservation is our effort to understand and preserve this capacity
 - Aldo Leopold: The Land Ethic (Sand County Almanac)

Back to Leopold's Land Ethic.

Relative to systems thinking, and ecosystem health, Leopold coined a very logical definition for 'health' (something we struggle with).

And his definition for 'conservation' may be the best ever penned.

Health – resilience, can stand up to almost any threat.

Conservation – keeping the land whole.

And whose responsibility is it

An alternative to the NAM?

- *“What we need is a Continental Conservation Policy, and we need it now”*
 - Shane Mahoney, 2023
 - President of Conservation Visions and Founder of the Wild Harvest Initiative
 - Co-author of the original NAM manuscript (with Geist, Organ)
 - North American Natural Resources Conference special session on the NAM



From Shane Mahoney, one of the three original authors of the NAM.
He maintains, and rightfully so, that the model was extremely important and valuable.
But we need something that goes further, and time is NOT on our side.

Status, threats, ... migratory birds

Abstract (cont.): Current conservation momentum is focused on area-based and threat-based approaches, yet most migratory birds spend the majority of their life cycles outside protected areas, and threat mitigation remains largely localized, underscoring the need to advance species-level approaches that target limiting factors before populations become threatened. Reversing declines requires a coordinated framework that integrates **full annual cycle understanding** with **human dimensions**, expands **monitoring**, prioritizes **landscape-scale habitat protection**, delivers **targeted threat reduction**, and **strengthens governance** and **financing**, supported by **precautionary action** and more **effective communication** to conserve Earth's migratory birds.

<https://www.nature.com/articles/s44358-026-00177-7>

What would this 'continental conservation' look like?

Back to the recent Nature manuscript, there are keywords for action (highlighted in orange font).

None of these will be simple, or inexpensive, but they are parts of the comprehensive approach that it will take to be successful.

Continental Conservation Policy

- Habitat-focused
- Connectivity emphasized
- Public-private partnerships
- Holistic, system-based orientation
- Cannot be consumption oriented
- Public support
- Financed
- Must represent everyone and their needs
- Agencies must change; hunters must change

Likely the most limiting factor for conservation is habitat.

But it's not just isolated blocks of habitat, there must be connectivity.

With 60% of US lands in private ownership, this will require strong public-private partnerships.

Move beyond individual species to system-based conservation efforts.

Conservation needs to move beyond consumption-based focus

The public cannot be expected to support, and fund conservation unless it is geared towards their needs.

The type of funding required will be substantial, but there is a tremendous risk if we do not act.

Change is never simple, but will be required if we want to be successful.

The last bullet, regarding hunters changing, is captured by PERC (developing hunter-conservationists)

Suggested reading



Property and Environment Research Center (PERC)

<https://www.perc.org/2019/06/19/the-north-american-model-of-wildlife-conservation/>

A very readable synopsis of the NAM, including shortfalls, and what we need to address, by one of the three original co-authors.

THE ASK – WHAT CAN YOU DO?

Geared towards WOCA

You are communicators, influencers

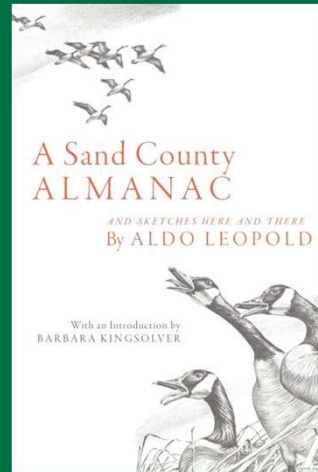
- The type of changes called for (to achieve Continental [global] Conservation) will require public support, and will likely result from grassroots efforts
- The work you do is critical to generate, inform, and foster this support
- Help the public understand the importance of conservation, ecosystem services, system health

We need public support.
You can help with that.

Recommended reading

- Leopold's The Land Ethic

- Thank you!



How do we proceed?

Change must come at the agency level, be supported by the public, and be financed.