



# Knowing the Public We Serve

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Missouri Department of Conservation

# **Midwest Association of Fish and Wildlife Agencies Climate Change Technical Working Committee Report 2016**

## **Meeting Time and Place**

The committee informally met by conference call on May 23, 2016 following a call to discuss research opportunities and a conference call is scheduled for early June 2016. Informational updates were also exchanged using email.

## **Attendance**

Eight states participated in the May 23 research opportunities conference call; six states submitted email updates; and six states have indicated they will participate in the June 6 conference call.

## **Executive Summary**

Participation and engagement in climate change discussions and work efforts continues to be highly variable by state. State agencies that have specifically focused staff time and/or funding on climate change and adaptation to potential impacts have continued to move forward with policies and plans, and integrating climate change considerations across agency activities. Those agencies that have not made climate change a high level priority continue with a minimal amount of focused effort, although there does appear to be a slowly changing shift toward greater understanding of how important programs might be affected.

The list of research priorities developed by this Committee in 2015 is bearing fruit and helping to inform federal agencies on state information and research needs. Information developed to address these research priorities will assist natural resource and conservation agencies in determining the possible threat of changing climate on agency interests and help prioritize management actions. This Committee will continue to work at the strategic planning level to advance these research priorities.

## **Director Action Items**

None

## **Director Information Items**

1. Because climate change is still considered a sensitive issue in several MAFWA states, the level of effort to specifically address the topic is highly variable across the agencies and other priorities often prevail when competing for time. This can lead to reduced Committee meeting coordination efforts and participation. Until climate change is recognized by all member agencies as an important threat to the natural resources and program delivery, and adaptation measures need to be considered, due to competing priorities it is likely overall participation in this Committee will continue to be low.
2. The Regional Climate Change Research Priorities (Appendix 3) recommended by this Committee in 2015 – 2016 is being used by the U.S. Geological Service (USGS) – Climate Science Centers (CSC) to guide research efforts for the Midwest, with respect to climate change information needs. This coordination is an important outcome of the

Committee. Minnesota Committee representative Olivia LeDee shared the priorities with USGS during the year and organized an interactive May 23<sup>rd</sup> conference call between the Committee, USGS and Association of Fish and Wildlife Agencies, to discuss agency interests and possible next steps of the USGS in addressing the research priorities. The call was well attended by state representatives and the Committee looks forward to continuing discussions with USGS - CSC representatives on these priorities. A goal of the Committee for this current year was to share the research priorities where and when effective. USGS representative Robin O'Malley stated he really appreciated the initiative of the Committee in developing its priorities and he will share these thoughts with the Directors at the annual meeting. This is an excellent example of a Committee member using their regular agency assignments to assist with the MAFWA Committee priorities.

3. In response to an inquiry on top agency work items/products with regards to climate change, the responses received were quite variable. They included: a new internal policy to address climate change in all aspects of agency management; developing a science and policy paper for climate change; additional training opportunities; developing a statewide multi-agency framework to address climate change; developing a "Climate Change Handbook" for staff; hosting a climate change forum for state and federal natural resource agencies and non-governmental conservation organizations; research studies with the Northeast Climate Science Center on winter severity and waterfowl migration impacts and deer impacts; vulnerability assessments; research on projected impacts to individual fish species and individual stream reaches; incorporating climate change and vulnerability assessments (if available) into revised State Wildlife Action Plans; managing communities for resilience, sustainability and connectivity; and tracking new information and initiatives. At a minimum among respondents, it appears most agencies are managing lands for resilience, sustainability and connectivity, and trying to keep informed on new information.
4. Committee members were asked if agency perspectives on climate change have changed over the last year. Unsurprisingly, those agencies that already are working on climate change initiatives continue to do so with increasing integration in programs and more product development, along with greater outreach to stakeholders. Agencies that are not as engaged in addressing climate change and impacts to fish and wildlife and habitats, in general, continue to have limited effort directed towards learning about and addressing climate change and impacts. However, in a couple of the less active agencies, it does appear that in the last year, discussions on the topic have increased at the division or unit level and adaptation strategies are being considered.
5. Federal Budget Priorities – These will be discussed in greater detail during the June conference call and relayed at the Director's report. In general, for the U.S. Fish and Wildlife Service programs, the State and Tribal Wildlife Grants Fund, and the Wildlife and Sport Fish Restoration Funds, are used most often to assist state programs with funding for stewardship work, research, and sustainability studies. Maintaining or increasing funding for these program is essential to continuing efforts. The \$223 million decrease from FY 2016 in the Wildlife Restoration program is problematic and not supported. For the U.S. Geological Service, funding to support the Climate Science

Centers is important to assist with climate research, as is funding to support stream gauges and other tools to assist in understanding water resources. Proposed funding for 2017 has been increased for these programs over 2016 levels.

6. This Committee will continue to rotate the chairperson by state. Nebraska's representative will assume the role for 2016-2017.

### **Time and Place of Next Meeting**

During 2016 – 2017, the Committee desires to meet three to four times by conference call, with a possible in-person meeting to be determined.

### **Appendix 1. Meeting Attendance**

Meeting/Conference Call/Email Update Attendance or Participation (to be updated following scheduled June conference call)

Illinois -	Ann Marie Holtrop – May 23 CC; email update Jim Renn – May 23 CC
Indiana -	Julie Kempf A. Wuestefeld – May 23 CC
Iowa -	Katy Reeder – May 23 CC; email update
Kansas -	Vacant
Kentucky -	Vacant
Michigan -	Chris Hoving – May 23 CC; email update
Minnesota -	Olivia LeDee – May 23 CC; email update Pete Jacobson – May 23 CC
Missouri -	Janet Sternburg – May 23 CC; email update
Nebraska -	Rick Schneider – May 23 CC; email update
North Dakota-	Terry Steinwand
Ohio-	Nathan Stricker
South Dakota-	John Lott
Wisconsin -	Tara Bergeson – May 23 CC Tricia Knoot

## Appendix 2. Organizational Guidelines

### ORGANIZATIONAL GUIDELINES FOR THE MIDWEST ASSOCIATION OF FISH AND WILDLIFE AGENCIES CLIMATE CHANGE TECHNICAL WORKING COMMITTEE

***Mission:*** Advance wildlife and fish conservation in the member states of the Midwest Association of Fish and Wildlife Agencies (MAFWA) by providing a forum to facilitate sharing of climate change adaptation information, strategies, and resources, activity that will result in coordinated fish and wildlife adaptation planning actions and recommendations to MAFWA from the member states.

***Objectives:***

1. Provide a forum for the discussion of how fish and wildlife agencies are addressing climate change in member states, including how agency staff view the role climate change plays in conservation, and how climate considerations are integrated into agency organizational structure, policy, and planning efforts.
2. Define common priorities, develop coordinated strategies, and seek multi-state grants to address climate change threats to fish and wildlife and their habitats in member states (as identified in their climate adaptation plans, if such plans exist).
3. Stimulate an exchange of information among member states on legislation, administrative rules, adaptation and mitigation activity, education, funding and research related to climate change and fish, wildlife, and habitat.
4. Ensure coordination and cooperation among member states and federal agencies in dealing with programs to address the likely impacts of climate change.
5. Work closely with the Association of Fish and Wildlife Agencies' Climate Change Committee, the Landscape Conservation Cooperatives, and other regional committees, institutions, organizations and groups working to address climate change.
6. Stay up-to-date on climate change issues that impact fish and wildlife and inform/advise the Midwest Association of Wildlife Agency directors on pertinent issues and solutions.

***Membership:*** The membership of the MAFWA Climate Change Technical Working Committee (MAFWA CCC) is open to employees of member states and provinces. Member states will be allowed one vote each, regardless of delegation size. Representatives of federal agencies, research institutions, conservation organizations, and other individuals may be invited to attend Working Group meetings.

***Officers:*** The MAFWA Executive Committee shall appoint a Chair each year. The Chair shall be an employee of a member state agency. The Chair and his/her member agency shall provide clerical support needed for conducting committee business and shall maintain a file of all minutes of committee meetings, correspondence and other items as necessary. The Chair's responsibility shall include, but not be limited to, organizing a minimum of one MAFWA CCC meeting per year, maintaining committee files, preparing necessary correspondence and

preparing a report of all CCC activities for submission to the MAFWA Executive Committee. The MAFWA Executive Committee shall appoint a Vice-Chair. The duties of the Vice-Chair will be to assist the Chair as required, assume the duties of the Chair in the event that the Chair is unable to perform those duties, and to succeed the chair when her/his term is over.

***Sub-Committees:*** Ad-hoc Sub-Committees may be appointed by the Chair to investigate and report on specific issues. Sub-Committees will be appointed by the Chair upon review of requests from members of the Executive Committee for specific Committee action.

***Meetings:*** The MAFWA CCC will meet at least once per year. The meeting may be held in any member state or in conjunction with other regional or national meetings that are timely or to reduce travel costs, or be conducted by conference call or webinar. The schedule and duration of each meeting will be determined by the Chair after consultation with other members of the Working Group. Notice of meeting dates and locations will be made available to members far enough in advance to enable them to secure out-of-state travel authorization for attendance.

***Meeting Agenda:*** The program will be organized to permit adequate time for discussion of agenda items. Each Working Group meeting should include a short (10-minute) report from each state on the status of climate change-related projects in that state. Other topics on the agenda will reflect current issues related to the relationship between climate change, fish and wildlife, and habitat, as well as progress toward meeting the objectives of the Working Group. The Chair may request special reports from states and individuals on current topics. State and special reports will also be submitted in written format to facilitate sharing them with agency directors, maintenance of proper files and provision of reports to other appropriate persons. Guest speakers may be invited to Working Group meetings to make presentations on topics of interest. Short field trips may be arranged in conjunction with the meetings.

***Attendance:*** To enhance an atmosphere of participation and exchange of ideas, attendance from all member states and provinces is strongly encouraged.

***Business Meeting:*** A formal MAFWA CCC business meeting will be held in conjunction with any Working Group meeting. The business meeting will discuss and determine specific recommendations to the MAFWA Executive Committee. Recommendations to the Executive Committee must represent the majority view of member states/provinces. Each member state with a representative in attendance will be allowed one vote. Invited agencies, private citizens, NGOs and others in attendance are not eligible to vote.

***Report:*** Following any MAFWA CCC meeting, the Chair will prepare a report for the Executive Committee of the MAFWA. The Chair will also send a copy of the report to all members of the Working Group. MAFWA CCC members should brief their own administration immediately following the Working Group meeting. The report shall contain a summary of the information presented at the Working Group meeting, items covered in the business meeting, any recommendations from the Working Group, appropriate handouts obtained at the meeting and names and address of all attendees. This report shall be submitted to the Executive Committee not less than 30 days before the MAFWA Directors Annual Meeting.

# REGIONAL CLIMATE CHANGE RESEARCH PRIORITIES

Midwest Association of Fish and Wildlife Agencies

2015 – 2016

## Impact of climate change on lake systems and fish habitat



Declining ice cover, warming waters, and proliferation of invasive species are rapidly changing aquatic habitat in the region. As a result, fish communities are changing. Cold water species, like cisco and lake trout, are in decline; warm water species, like smallmouth bass and largemouth bass, are now dominant species in many lake systems. What does this mean for the future of fishing in the Midwest?

## Impact of rising stream temperature, altered flow, connectivity, and interspecific interactions on macro-invertebrates, including mussels



Stream temperatures are exceeding the physiological thresholds of some organisms. Changing flows, including extreme high and low flows, is reducing survival and reproduction in numerous species. Poor connectivity, due to dams, culverts and other human structures, reduce the resilience of threatened and endangered species to these changes. How can we best manage sensitive invertebrate populations in these systems?

## Response of deer, moose, and elk to the direct/indirect impacts of climate change



Winters in the Midwest are milder. Some species, like white-tailed deer, will be favored by warmer nights and decreased snow cover. For other species, like moose, warmer conditions will challenge survival and persistence in the Midwest. How do we adjust management to address changing big game populations and harvest dynamics?

## Habitat restoration outcomes under extreme weather events and climate change



The protection and management of large landscapes is an important strategy to buffer fish and wildlife from changing environmental conditions. States invest heavily in the restoration of lands, converting marginal lands to prime habitat. However, a longer growing season, floods, and drought reduce the viability of some restorations. How can we increase the long-term success of habitat restorations?

# Knowing Expectations...



- And knowing their expectations and desires.
- Knowing about:
  - Needs;
  - Wants;
  - And Demands.



# Get Actions Just Right



# New Era of Conservation



1. 1992 North American **“Market Information: Matching Management with Constituent Demands.”**
2. Aldo Leopold, **Conservation Esthetic.**
3. Peter Drucker, business is to **create a customer and apply innovation.**
4. Citizen **expectations.**
5. Expanding **programs to meet demands** and **ensure support.**

# Thinking Like Cooking



- The best dutch oven outdoor cooking starts with basic ingredients, a recipe, and actions.



# 1992 North American



- “Wildlife agencies are struggling to understand how their conservation activities can meet the demands of an increasingly diverse clientele.”



# Meeting Expectations



- “...responding to **demands for innovation**, while **satisfying traditionalists** who have provided the money and political base upon which modern wildlife conservation was founded.”
- Market information for a **new era** of conservation.
- **No resource agency can do everything** for everyone.
- **Allocate scarce resources** across wants and **stimulate support**.



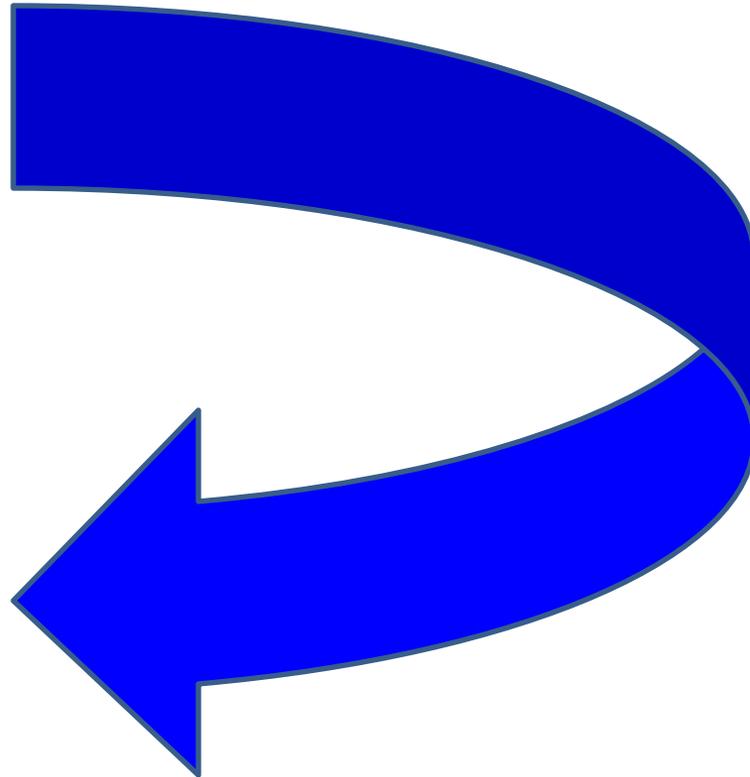
# Aldo Leopold, Conservation Esthetic

- “Who now is the recreationist, and what does he seek?”
- “there is the professional, striving through countless conservation organizations to give the nature-seeking public what it wants, or to make it want what he has to give.”
- “We seek contacts with nature because we derive pleasure from them.”

# Knowing the Public We Serve



- Interest.
- Participation.
- Satisfaction.
- Trust.
  
- Decisions.
- Innovation.
- Actions.



# More Ingredients...



- Adding more ingredients.
- Adding and combining information to refine our approach.



# What's Our Business?



- **Peter Drucker**, on business management...
- “There is only one valid definition of business purpose: **to create a customer.**”
- “...the business enterprise has two—and only two—basic functions: **marketing and innovation.**”
- “...innovation is **not invention.** Nontechnological **innovations—social or economic**...are at least as important as technological ones.”

# Really Cooking...



- Now, we're cooking;
- Let's turn up the heat on understanding what our constituents demand...



# Knowing the Public



- The keystone of the North American Model is that fish and wildlife are managed as a **public trust resource**.
- An uninformed public makes management difficult to implement.
- We must know what our citizens demand.



# Listening to Earn Trust



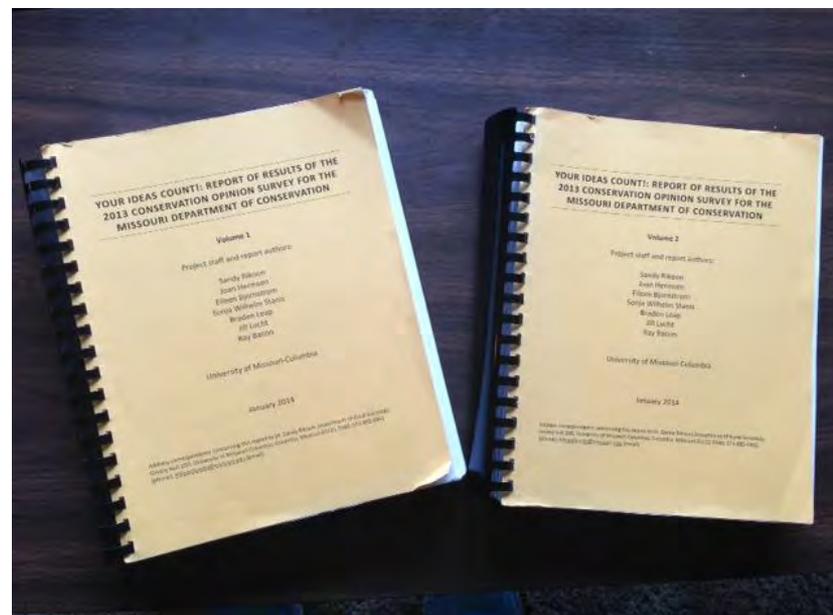
# We Listen



- Listening, through quantitative and qualitative efforts to gather information, which are the **“human dimensions”** of conservation, including opinions, participation, and economic information.

# Social and Economic Information in Missouri

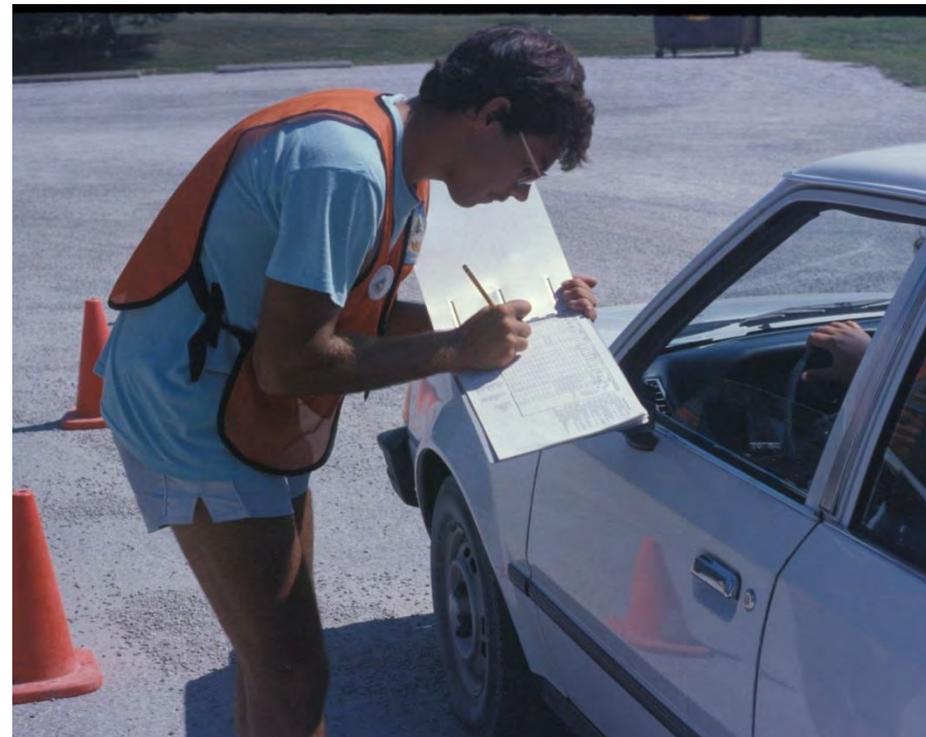
- Opinion surveys;
- Participation and harvest;
- Readership surveys;
- Internet usability;
- National Survey;
- **Wildlife Values;**
- Focus groups;
- Public meetings and open houses.



# We Listen



- In FY2015, **129 efforts** with over **75,000 people** to collect scientifically sound information to understand opinions and participation.



# The Unique Legacy in Missouri



# Broad Constituency



- “Mr. Montgomery...made a most enlightening speech,...that any proposed law or amendment should include in its provisions attention not only to game and fish, but **to song-birds and other wildlife of a non-game nature, and significantly to forestry.**”

E. Sydney Stephens, President  
Restoration and Conservation  
Federation of Missouri

# Demand for Action



- An example is the **statewide vote in 1936...**
- Support to ensure sustainable fish, forest, and wildlife resources and to improve Missourians **quality of life.**



# Leopold, Callison, Fox Report



- 1970 **Missouri Conservation Program Report** ("MCP Report");
- By **A. Starker Leopold** (School of Forestry and Conservation, University of California);
- **Irving K. Fox** (Water Resources Center at University of Wisconsin);
- and **Charles H. Callison** (National Audubon Society);
- Examined **Department goals, opportunities, and funding.**

# Department Response



- **1971-"Design for Conservation"** a strategic and marketing plan, *citizen-driven*:
  - 22 specific action items.
- **Statewide vote in 1976** for the Conservation Sales Tax...
  - Support to increase and expand fish, forest, and wildlife efforts.



# Missouri Values Conservation



# Missouri Values Conservation



- 1 in 4 hunts or fishes...



# Missouri Values Conservation



- And more participate in viewing wildlife and nature.
- It's the beginning of a much larger picture of how Missourians value conservation and the outdoors...



# Vote by Spending Money



# ...Spending Impacts



- Angling **Impacts** = \$1.2 billion.
- Hunting **Impacts** = \$1.8 billion.
- Viewing **Impacts** = \$1.7 billion.
  - Forest **Impacts** = \$8.0 billion.

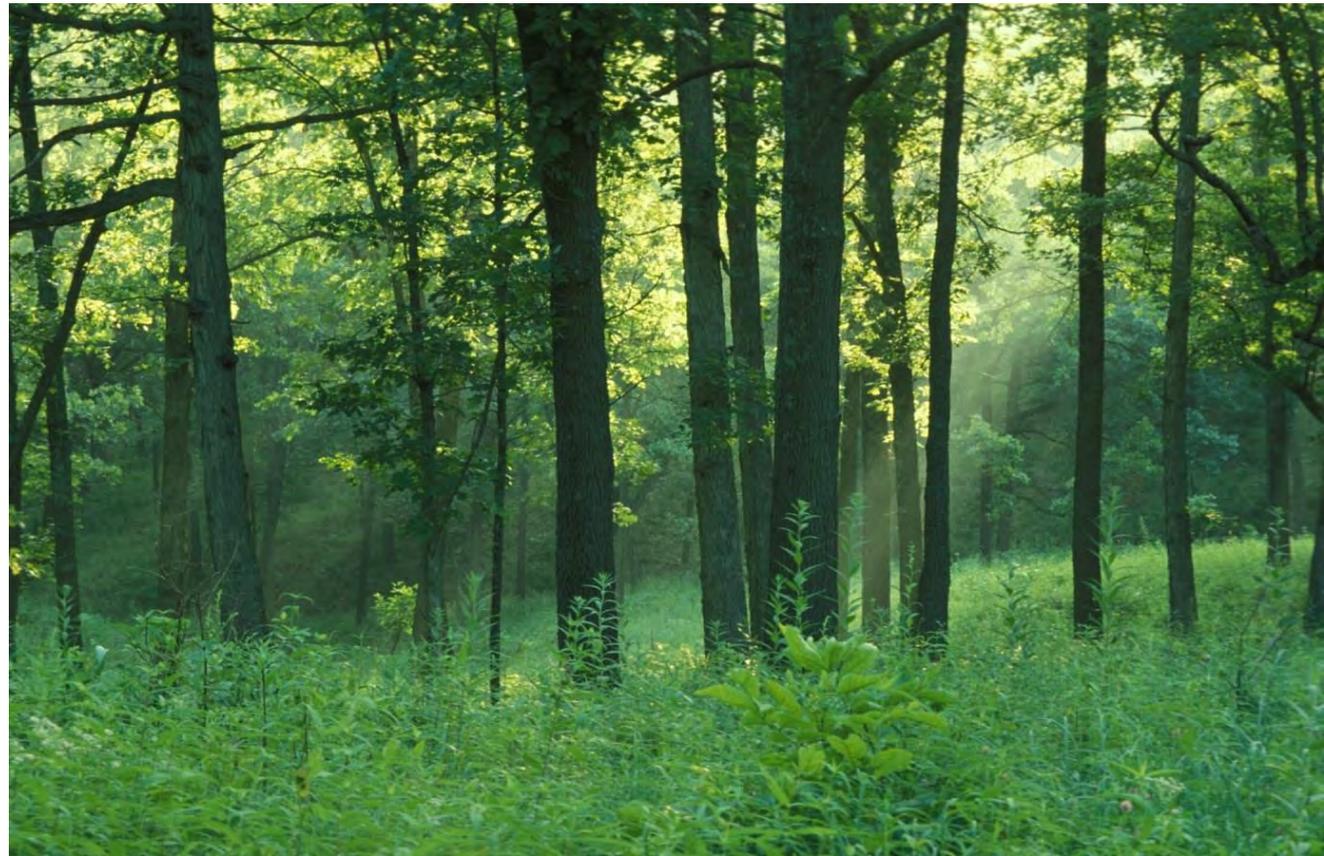
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**Overall Impacts = \$12.7 billion.**

# Other Conservation Values...



- **There are other values...**like expecting better **resources for future generations**, or...



# Values Into the Future



- **Passing on family outdoor traditions--** my boys were more interested in inspecting fish than noticing I had hair...

# What Do Your Citizens Value?



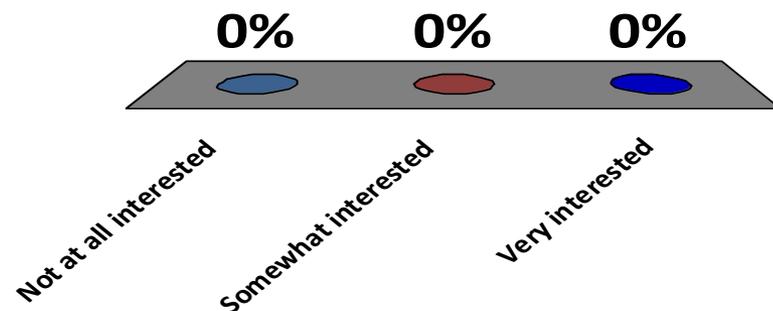
- Opinion surveys have been conducted in different formats since 1936.
- Similar questions with mail, telephone, and online options beginning in 1980.





# How interested are the citizens in your state in fish, forests, and wildlife? (Select only one).

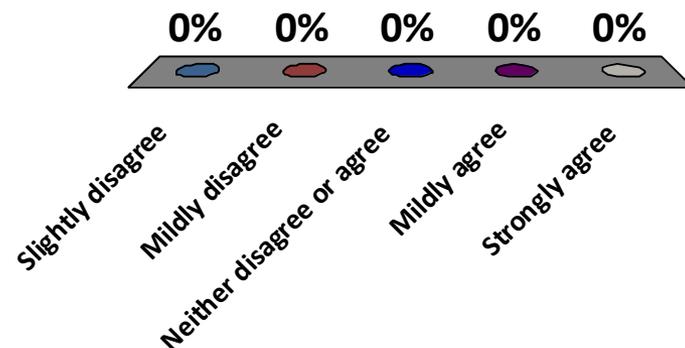
- A. Not at all**  
interested
- B. Somewhat**  
interested
- C. Very** interested





# It is important for outdoor places to be protected even if your state residents don't plan to visit the area.

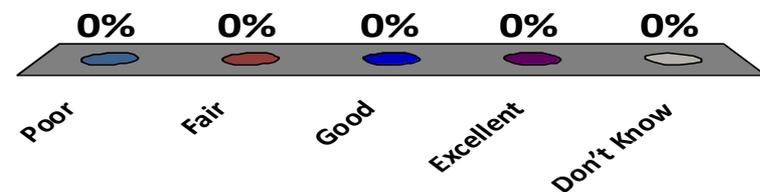
- A. Slightly disagree
- B. Mildly disagree
- C. Neither disagree or agree
- D. Mildly agree
- E. Strongly agree





# Please rate the job your state fish and wildlife agency is doing in providing services for your state residents...

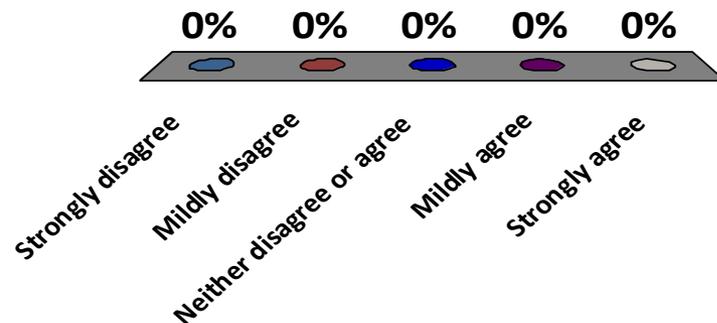
- A. Poor
- B. Fair
- C. Good
- D. Excellent
- E. Don't Know





# The citizens in your state will say their fish and wildlife agency is a name they can trust.

- A. Strongly disagree
- B. Mildly disagree
- C. Neither disagree or agree
- D. Mildly agree
- E. Strongly agree



# Missourians



- Thinking **about Missourians...**
- The Missouri population is approximately **6.0 million**, based on the 2010 Census.
- About **2.4 million households**.
- When we ask a representative sample of Missourians about their **fish, forest, and wildlife opinions...**

# Missourians Interest...



- Most Missourians report they **“are interested in Missouri’s fish, forests, and wildlife” (95 percent)**.



# Familiar With Department



- **Familiarity with the Department** has increased since 1990;
- From **72 to 86 percent**.



# Interest in Observing



- **Bald eagle**-94 percent;
- Deer-92 percent;
- Ducks and geese-90 percent;
- Turkey-89 percent;
- Butterflies and ladybugs-87 percent;
- River Otter-80 percent;
- Bear-66 percent.



# Missourians Interest...



- Most Missourians agree that **“It is important for outdoor places to be protected even if you don’t plan to visit the area” (89 percent)**.
- Strong support for wise stewardship.



# Missourians Interest...



- Three-quarters agree that **“Land should be acquired for fish, forest, and wildlife conservation”** (75 percent).



# Missourians Interest...



- Most Missourians agree that the Department should **“help private landowners who want to restore native communities of plants and animals” (80 percent).**



# Missourians Interest...



- Over three-quarters agree that the Department **“should assist communities that want to include trees and green spaces in housing, business, and shopping developments” (78 percent).**



# Missourians Satisfaction...



- About two-thirds **rate the job** the Department is doing **as “Excellent” or “Good.”** (68 percent).



# Missourians Satisfaction...



- A majority of Missourians agree that **“The Missouri Department of Conservation is doing a good job of enforcing fish and wildlife laws” (78 percent).**



# Missourians Satisfaction...



- **73 percent** believe that the Department is **doing a good job of providing services to themselves;**
- **71 percent,** to their **family;**
- **69 percent,** to their **community;**
- **71 percent,** to the **state** of Missouri.



# Missourians Trust...



- Over three-quarters agree that “The Missouri Department of Conservation is **a name I can trust**” (**76 percent**).



# Expectations for Communication

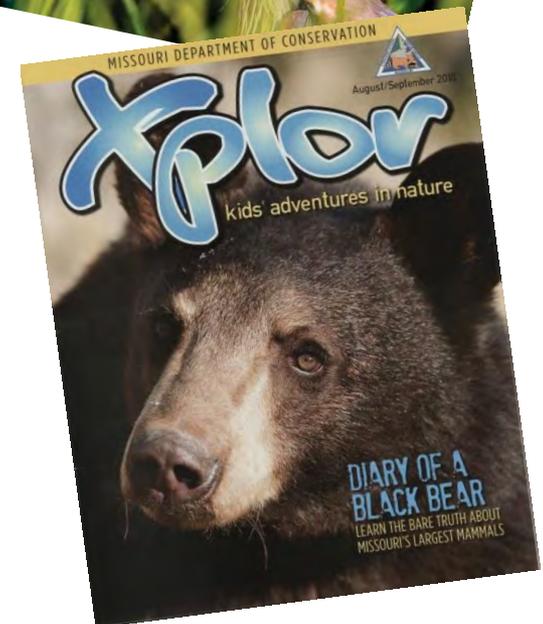
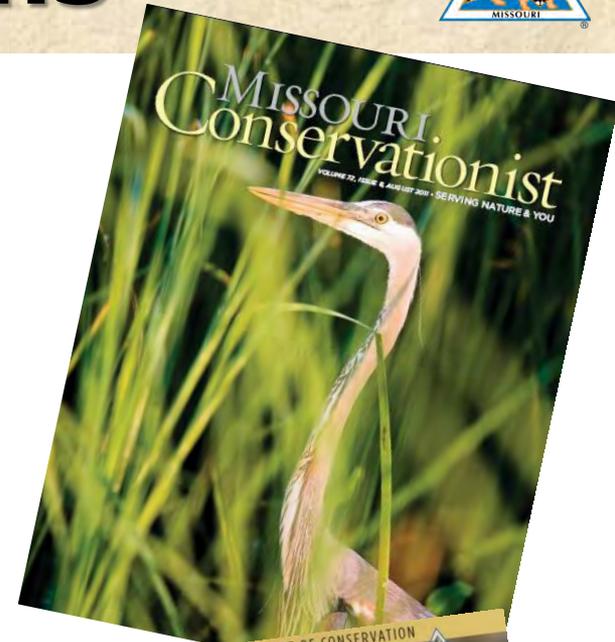


- **More people are utilizing the *Missouri Conservationist* in 2013**, at 60 percent, compared to 51 percent in 2003.
- Compared to 2003, **fewer people use radio, newspapers and television** for conservation information.
- **1 in 5 Missourians do not have Internet** in their home.

# More Expectations



- **Over 1/2 million households** request the free Missouri Conservationist magazine.
- Teachers request **free educational materials**.
- Missourians continue to request a statewide network of **interpretive centers and shooting ranges**.



# More Expectations...



- Request for **activities** on the one million acres of Conservation Areas, river and stream accesses, and community lakes.
- **Ask to provide input** on area plans.
- Private landowners **request farm and forest technical assistance.**



# More Expectations



- **Rural fire departments** request grants, training, and equipment.
- Communities request assistance through the Community Lake Program to provide **close-to-home fishing opportunities**.
- Over 100 partners have requested **agreements** for managing 170 **public lakes**, 42 **stream access areas**, 4 **lake access** areas, and 8 **aquatic education ponds**.

# Legacy Expectations



- Conservation legacy continues in Missouri.
- Innovation is required for future generations since funds are not unlimited.

# Applying the Information



- Let's test our progress...



# Vision, Goals, and Planning



- Apply what we know.
- Turn information into **actions**.
- **Connect Missourians** with actions to cultivate a conservation ethic.



# Based on Expectations



## CONSERVATION PRIORITIES



**MISSOURI DEPARTMENT OF CONSERVATION THREE-YEAR STRATEGIC PLAN**  
Fiscal Years 2017-2019

### Our Mission

To protect and manage the fish, forest, and wildlife resources of the state; to facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.

### Our Values

**Excellent public service is essential**  
We work to deliver more than is expected.

**All citizens are important**  
We respect their opinions and value their trust.

**Missourians are partners to achieve conservation success**  
We communicate openly and look for ways to make it easier to partner.

**Fairness, objectivity, sound science, integrity, accountability, and transparency guide our actions**

**Employees are the Department's most important asset**  
We all work to advance conservation by being results driven, working as a team, serving as ambassadors for conservation, and living out the conservation ethic through our actions.

### Our Vision

A future with healthy fish, forests, and wildlife where all people appreciate nature.



### Conservation Priorities

The Conservation Department's mission and vision are achieved by sustaining and improving fish, forest, and wildlife resources; connecting citizens to fish, forest, and wildlife resources; increasing citizen access to fish, forest, and wildlife resources; and enhancing operational excellence and superior customer service.

The following conservation priorities are the most important areas of emphasis for the next three years.

#### Cultivate a conservation ethic by promoting the relevance, importance, and value of fish, forests, and wildlife.

This means increasing understanding and interest in natural resources beginning at an early age; communicating the social and economic value and quality of life provided by fish, forests, and wildlife; increasing citizen participation in outdoor activities; and partnering with landowners, non-profits, businesses, agricultural groups, communities, schools, and others to increase support of fish, forest, and wildlife conservation efforts.

#### Focus fish, forest, and wildlife management in identified priority geographies.

This means implementing the Department's comprehensive conservation strategy; coordinating with partners to identify the best opportunities to invest resources on a larger scale across the landscape that will sustain fish, forests, and wildlife; and targeting land acquisition in priority geographies.

#### Help citizens connect with fish, forests, and wildlife where they live, through a statewide approach to community conservation.

This means providing citizens across the state with opportunities to learn about and experience the outdoors where they live; providing technical assistance to communities and partner organizations to help citizens protect fish, forests, and wildlife; and demonstrating and promoting conservation-friendly development practices in urban settings.

#### Promote water quality and quantity for healthy fish, forest, and wildlife resources.

This means working with partners, including individuals, farmers, landowners, communities, non-profits, and other governmental agencies to promote best practices and policies that ensure sufficient aquatic habitat for fish, forests, and wildlife; communicating to citizens the relationship between water quality and quantity and healthy fish, forests, and wildlife; and setting an example for best practices in fish, forest, and wildlife management activities.

#### Implement a strategic approach to land acquisition to enhance habitat management and public access.

This means focusing land acquisition to both maximize fish, forest, and wildlife habitat conservation and increase citizen access to outdoor opportunities near where they live; and partnering with private landowners to implement voluntary access and easement programs.

#### Implement an equitable compensation system that balances fiscal responsibility with the ability to attract, retain, and develop staff.

This means investing in high-performing staff to deliver fish, forest, and wildlife conservation to Missourians; enhancing the Department's ability to recruit staff that reflect the diversity of the citizens we serve; and providing incentives for staff to advance their skills and abilities in both leadership and supervisory assignments.



Missouri Department of Conservation Three-Year Strategic Plan • Fiscal Years 2017-2019

# Archery in the Schools



- Missouri National Archery in the Schools Program (MoNASP).



# Archery in the Schools



- MoNASP:
- **Over 500 participating schools;**
- Over 140,000 Missouri students;
- Added schools after using video.



# Discover Nature Schools



- **Discover Nature Schools** program connects children through age-specific curricula.
- In almost every school district.
- Student books, teacher guides, and science notebooks, with training.



# Master Naturalists



- **12 community-based chapters;**
- **62,000 hours** for conservation projects;
- **Tree planting, seed collection, invasive species removal, trail construction, and habitat restoration;**
- Participated in **12,000 hours of training.**



# Facebook and Social Media

- @MDCOnline Facebook page has nearly 200,000 "likes."
- Also Youtube, Twitter, Instagram, and mobile Apps.



# Stream Teams



- Over 4,000 active teams;
- In the 25-year history, teams report removing over 20,000 tons of trash, planting 300,000 trees, and dedicating over 2.4 million hours of volunteer time.



# Area Plan Public Input



- Since August, 2013, 198 area management plans covering 363 conservation areas have been posted for month-long public comment periods.

## **DRAFT Danville Conservation Area**

**Ten-Year Area Management Plan  
FY 2017-2026**



**To submit a comment on this document,  
click on the following link:**

<https://mdc.mo.gov/node/10013?ap=13374>

# Shooting Ranges



- **5 staffed ranges** and education centers;
- Over **65 unstaffed ranges**;
- Ongoing unstaffed shooting range public use survey with 4H Survey Clerks;
- Most visitors **travel about 20 miles and stay for about an hour.**



# Turn It Upside Down...



- Meeting expectations requires thinking outside the box, (or dutch oven)...
- Apply innovation.



# Get Actions Just Right



- Knowing **the people** we serve.
- Knowing **what they will support** with time, money, and emotional capital.



# Summary



1. Knowing about the people we serve is the way for agencies to enter a **new era of conservation service and experience.**
2. Apply information about **interest, participation, satisfaction, and trust,** to **“create a customer”** to build support and a future for fish, forests, and wildlife.
3. Knowing expectations to **expand and improve** programs with **innovation.**



[David.Thorne@mdc.mo.gov](mailto:David.Thorne@mdc.mo.gov)





*Serving nature and you<sup>®</sup>*