Abstracts

The Montana Chapter of the American Fisheries Society
and
The Montana Chapter of the Wildlife Society
2009 Joint Conference

Adapting Fish and Wildlife Management to Human Demographic Change in Montana

February 9 – 13, 2009
Kalispell, Montana

Nearly 400 members of the Montana Chapters of the American Fisheries Society and The Wildlife Society gathered in Kalispell, Montana, February 9-13, 2009 for a joint meeting. The meeting's theme was "*Adapting Fish and Wildlife Management to Human Demographic Change in Montana*", recognizing that successfully solving looming fish and wildlife management challenges such as climate change and expanding energy development can only occur when human demography is included in solutions. The meeting began with two continuing education workshops designed to provide both scope and solutions to elements of the theme: *Human Demographic Impacts: Invasive Species and Other Species of Concern*, and *Human Demographic Impacts: Solutions to Fish and Wildlife Management Challenges*. Then, the plenary session, titled *Learning from the past, but focusing on the future – adapting fish and wildlife management to Montana's new demographics* presented both the progression of fish and wildlife management in Montana in response to human demographic changes over the last century, as well as a context for future changes. The plenary session concluded with panel discussions that provided perspectives from both public and private entities spanning most aspects of fish and wildlife management. A consistent message to the audience was that human demographic change is modifying some fundamental tenets of fish and wildlife management, and therefore will require development of both new models of management and collaboration, and different skill sets among future managers. Although this change presents challenges, it likewise offers exciting opportunities for disparate disciplines and groups to work together to solve these challenges. As such, it was very appropriate that the topic was addressed by a joint meeting of the two largest professional fish and wildlife societies in Montana.

After the plenary session, a day of three joint concurrent sessions ensued. Presentations were grouped in topics of mutual concern to both fish and wildlife managers. Consequently, both topics and attendees were diverse and interdisciplinary. The abstracts of those presentations at the 2009 joint meeting demonstrate the wide reaching, important and timely work conducted by Montana's fish and wildlife professionals. Based on this and past examples, there is no doubt that the dedicated individuals, agencies, and organizations represented by the Montana Chapters of The Wildlife Society and the American Fisheries Society will continue to strive to meet the challenges posed by a changing future.

Scott Barndt, President, Montana Chapter of the American Fisheries Society
Joe Weigand, President, Montana Chapter of The Wildlife Society

Joint Plenary Invited Abstracts

Montana's Wildlife Legacy – Decimation to Restoration

Harold Picton, Emeritus Professor of Wildlife Management, Department of Ecology, Montana State University, Bozeman, Montana 59717

Terry Lonner, Chief of Wildlife Research - Montana Fish, Wildlife and Parks (retired); Media Works - Multimedia Producer, Bozeman, Montana 59715

The main intent of the Montana Wildlife Legacy Project was to pay tribute to the generations of Montanans who made our current wildlife resources possible and for public education, especially in junior high and high schools and hunter safety classes. Use of the wildlife resources for the settlement of Montana produced a catastrophe by the end of the 19th century, but by the end of the 20th century wildlife was more abundant than at any time during the previous 130 years. Passage of protective laws during the latter 19th century, coupled with gradually increasing efforts to enforce those laws, accounted for a portion of this resource restoration. The remainder of the story is largely untold and is the subject of the DVD, "Back from the Brink - Montana's Wildlife Legacy" produced in 2005 and the companion book, "Montana's Wildife Legacy - Decimation to Restoration" published in 2008. Game bird resources were heavily affected by the "cow and the plow." New agricultural lands provided new habitats unsuited for native species. Pheasant introductions began before 1895 by private individuals and became a state bird farm program in 1929. Over 0.80 million pheasants were planted by the time the state discontinued this program in the early1980s. At the beginning of the 20th century elk occurred only in the Sun River-South Fork of the Flathead and Yellowstone National Park areas. Rod and Gun clubs held fund-raising events and paid $5/ elk to have the Northern Pacific Railroad deliver rail car loads of elk trapped near Gardiner, Montana just north of Yellowstone National Park, to areas near their towns. The transplants began in 1910 with releases near Butte, Hamilton and in the Glacier Park area. Transplants of elk continued until 1997 when the last of 11,364 were trapped and released. Similar programs for other species were developed after the Pitman-Robertson funds were accepted by the Montana Legislature in 1939 with the Wildlife Restoration Division of the Montana State Fish and Game Department established in 1940. For example, almost 4000 pronghorn antelope were trapped and transplanted, 1000 more than existed in the entire state in the 1920s. Significant, but regulated hunter harvests of the biological surplus and habitat preservation programs became prominent in the last third of the 20th century. This resurrection of Montana's wildlife resource was an epic effort extending through six generations, five wars, an economic collapse, and the greatest North American climate disaster of the 20th century. Citizen leadership arose in generation after generation and melded with the leadership and science furnished by the state, federal agencies, and universities to bring about a successful restoration effort. Wildlife resources that we enjoy today were a gift of the people from the 20th century to the people of the 21st century. They come with a message to care for and cherish them, to value and maintain them. Resources that are not valued tend to end up on the trash heaps of human history. For more information go to: www.montanaswildlifelegacy.com.

Chris Hunter's Interpretation of Hugh Zackheim's History of Montana Fish, Wildlife and Parks Fisheries Division 1901-2005

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The Fisheries Division was created in 1901. The first resident licenses were created at the same time, with more than 30,000 of the $1 licenses purchased in the first year. For the first 50 years the emphasis of the division was on stocking fish. The first fisheries biologist was hired in 1947. The results of scientific investigations by these biologists led to changes in fish management including changes in stocking policy and increased emphasis on the effect of environmental damage to Montana's fishery resources. A spate of new environmental laws in the 1960s and 1970s made significant progress toward protecting Montana's aquatic environments. In 1974 the Fish and Game Commission adopted the wild trout policy. The 1980s and 90s saw increasing emphasis on native fish, T&E species issues and continuing efforts to secure water for instream flows. There was also an increased emphasis on habitat restoration with the Future Fisheries Program, hydro relicensing and Natural Resources Damages suits. These areas of emphasis have continued into the new millennium. State and national trends for hunting and fishing are clearly on the decline. There is increasing concern about the lack of time our children spend involved in nature related activities. What are the implications for the future of our agencies and the resources we manage?

The Montana Challenge

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The Montana Challenge begins with a question posed by the USDA Forest Service and Montana Fish, Wildlife and Parks. How can management of Montana's fish and wildlife resources best contribute to Montana's social and economic well being? By employing prominent socioeconomic researchers from across the Rocky Mountain region, and digging for authoritative public-sector data, **The Montana Challenge** established an unexpectedly vital role of clean air, clean water, fish, wildlife, and wild lands in Montana's culture and economy. The Rocky Mountains are the fastest growing section of the U.S. in population, personal income, and total employment; while the Great Plains are in population and economic decline. Montana's counties reflect this trend with rapid growth along the mountains in the west, slower growth along the Rocky Mountain front, and rapid decline in the eastern plains. "Quality of life" is driving the Rocky Mountain West's population and economic growth and natural resource amenities are key to quality of life and economic prosperity. Montana and other Rocky Mountain states are in the midst of a transition from an economy based on natural resource commodities to a human resource based economy where jobs follow the people. Montana's prosperity depends on attracting people who create economic opportunities. Healthy ecosystems, healthy fish and wildlife populations, and broad public access create Montana's unique and desirable lifestyles. Montana's wild resources draw people and economic activity. Diversity is a source of strength for both ecosystems and economies. Human resource sectors are the most rapidly growing sectors of Montana's economy, especially in the western region. Montana's traditional natural resource based economic activities remain important to Montana, especially in the eastern region. Montana's challenge is to both utilize and protect its natural resources.

Fish and Wildlife Values in the West

Michael J. Manfredo and Tara L. Teel, Human Dimensions of Natural Resources, Department, Colorado State University, Fort Collins, Colorado

Western states are going through a number of changes that have affected and will continue to affect wildlife management. Changes include population growth, changes in in-migration rates and land ownership patterns, increasing income and education levels, growth in technology, and urbanization. The recent study, **Wildlife Values in the West**, explores how some of these broad societal forces are shaping the composition of public values toward wildlife throughout the western region. **Wildlife Values in the West** is a project of the Western Association of Fish and Wildlife Agencies Human Dimensions Committee. It is a collaborative regional effort involving social science researchers from Colorado State University and representatives from 19 participating state fish and wildlife agencies who assisted in development of a mail survey. Data were collected through administration of the survey to a sample of residents in each state in the fall of 2004 (**n** = 12,673). Results and related implications from this 19-state effort will be discussed, including the impacts value shift may have on public acceptance of wildlife management strategies and on demand for participation in wildlife-related recreation activities in Montana. We will also discuss how study results provide a broad context to assist state fish and wildlife agencies better understand diverse publics and plan for the future of wildlife management in the west.

Greater Yellowstone Area Elk Movements: Brucellosis Risk and Hunter Access

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We examined elk movement data from across the Greater Yellowstone Area (GYA) from 1976-2006, comparing and contrasting movement patterns within and between herds. Our objectives were to understand how public hunter access related to elk movements and brucellosis risk in different areas of the GYA. We focused on the Madison Valley, Gallatin Valley and east side Paradise Valley. In the Madison Valley, we compared elk movement dynamics between 27 cow elk monitored 1976-1986 (VHF collars) and 43 cow elk monitored 2005-2006 (GPS collars). Over this time period, land ownership changes resulted in reduced hunter access to private lands for cow elk hunting. We found that, compared to the 1976-1986 movements, 2005-2006 elk migrated earlier to wintering ranges, left later to summer ranges, and used private land areas more extensively. During 2005-2006, cow elk were less available to hunters due to use of private land refuges during the hunting season. In the Northern Yellowstone, we compared elk movements from 1984-1987 (VHF collars) with preliminary data from 2007-2008 (GPS collars). Preliminary analysis suggests that elk migrated to and from winter range generally with expectation given weather conditions. Some individuals were more available to public hunters than others (range = 0-100%) based on behavioral and movement patterns. Flight and GPS data from 2007-2008 elk indicate Northern Yellowstone elk spend summertime further south and west in Yellowstone National Park than had previously been thought, and that Northern Yellowstone elk may be coming into contact with Jackson Hole, WY, elk on these ranges.

A Fishery Manager's Challenge

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Fisheries management is increasingly defined by changes in human populations, loss of access to public waters, native fish management and the struggle to maintain aquatic habitat in the face of both climate change and physical alterations. Angling pressure has not kept pace with population growth and combined with the decline of rod and gun clubs and the increase in special interest groups threatens both funding and social and political support for aquatic resource management. Changes in land-ownership funnels that increases numbers through fewer access sites results in conflicts. Changing land ownership also leads to increasing applications and violations for fish ponds and streambank alterations and old financial constraints do not always apply. Many anglers do not have a good grasp of biological principles that leads to illegal fish introductions and challenges to management programs. Today's biologists are better trained than ever but recruitment and retention is an increasing problem for Fish, Wildlife and Parks. Many management tools have not changed but new technologies offers greater understanding if we use them intelligently. Native fish management increasingly drives management through statutes, policies and funding priorities. Suppression of unwanted species is the latest strategy but not always applied well. The angling public has not been educated well on the need for native fish management and often challenges programs. Climate change and a growing demand for energy development could trump many of today's programs.

Hunter Access – A Moving Target for Managers

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Traditionally, fish and game agency program managers deal with science as biologists or laws as game wardens. Agencies typically adopt regulations, issue licenses, and hunters set forth on their own to find a place to hunt. However, in recent years, Montana Fish, Wildlife, and Parks has found it necessary to develop access programs and become more involved in helping ensure that the hunters who buy the licenses have a place to hunt. This has become necessary not only to maintain Montana's hunting heritage and traditions, but also to ensure that public hunting remains an effective tool to help manage the state's populations of deer, elk, and antelope. Changes in who owns the land, how the land is managed, what hunters expect, and what hunters are willing to do all pose challenges for wildlife agency program managers as the world changes around them.

Protecting Public Resources on Private Land: Adapting Business Strategies to Changing Demographics and Demands

David Greer, Plum Creek Timber Company, Inc. Columbia Falls, Montana 59912

Plum Creek is the largest private forest landowner in the United States with 7.4 million acres in 19 states and1.1 million acres in Montana. While Plum Creek's core business is timber management, real estate transactions have always been a part of the business, including conservation transactions and land sales to private entities. Conservation strategies, beyond easements and sales, are integrated into routine management efforts including adherence to the standards of the Sustainable Forestry Initiative ®, habitat conservation plans, cooperative

agreements, and land exchanges. Since 1989, conservation transactions to public agencies, conservation organizations, and timber companies have accounted for 81 percent of all Plum Creek land sales in Montana. Additionally, conservation easements sold to public agencies in Montana have amounted to more than 149,000 acres and include one of the largest easements completed in the U.S. Private parties seeking Montana property increasingly want to be viewed as "green" and consequently are more receptive to deed restrictions and protection practices that address public resources, such as grizzly bears and native fish habitat. The "recipe" for success in conservation land transactions includes (1) availability of large, strategically important tracts, (2) willingness by Plum Creek to work with innovative partnerships, and (3) patience; and adherence to a "win-win" strategy for the company and the public. The potential for future conservation transactions in Montana will hinge on finding creative financing solutions and incorporating active forest management provisions to support local timber-based economies. The Montana Working Forest Project, seeking to transfer 320,000 acres of Plum Creek property to federal, state, and other private ownership is an example of this type of conservation transaction.

Perspective of a Non-traditional Landowner/Manager

Russ Miller, Turner Enterprises, Inc. Bozeman, Montana 59718

TEI's philosophy is to manage their lands in an economically sustainable and ecologically sensitive manner, while promoting the conservation of native species.

Montana's Landowners: Management Implications of Montana's Changing Demographics For Water Rights

Stan Bradshaw, Trout Unlimited, Montana Water Project, P.O. Box 412, Helena, Montana 59624

Water rights, long recognized as a property right in Montana, are among the least understood of all property rights. It's not like a chunk of land—it's a "use right." A viable water right doesn't exist simply as a statement on a certificate. If it is not put to a beneficial use, it can be lost. For over 100 years, it was widely believed that water had to be diverted to establish a water right. Water left in stream was a waste. Over the past four decades, Montana's changing demographic—a gradual shift to a less rural population--first enabled the passage of instream flow legislation in the 1960s and 1970s and then again in the 1980s and 1990s when the legislature authorized leasing. So the first management implication is that we now have some tools. The changing demographic doesn't always understand the limitations of those tools, but we have tools nonetheless. The other changing demographic is the influx of a new species onto traditional ranch lands—the amenity buyer. Always well-heeled, often well-intentioned, they can occasionally cause more problems than they can solve. On the other hand, the newcomers bring with them a different perspective that can enhance watershed restoration in ways not previously possible. The greatest challenge, will be educating both the traditional landowner and newcomer alike in the limitations of their water rights, while showing them the possibilities of creative change to those rights.

Changing Human Demographics Influence Forest Service Management in Montana

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Human demographic changes in Montana have been occurring for some time, bringing both challenges and opportunities for Forest Service Managers. Movement of people into urban/forest interfaces have created social, political and legal interest and action regarding the management of forests with respect to both fire and wildlife habitat. Human demographic changes have brought increasingly diverse perspectives to bear on issues surrounding management of the National Forests, making analysis and decision on issues such as travel management very complex. Emerging issues involving open space, aquatic health, invasive species and instream flow needs have also shaped management on the National Forests in Montana. We have also seen recent successes where diverse public interests have come together to resolve issues.

Stream Access: Past, Present and Future

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The public's right to recreate in streams, rivers, and lakes will be discussed starting with its past roots in public trust concepts, covering how the present statutes and case law define the public use of streams and rivers, and concluding with an examination of how ongoing and future controversies will or may continue to shape rights of the public to recreate in streams, rivers, and lakes. The presenter covered (1) how Montana's Stream Access Law and rules and the Natural Streambed and Land Preservation Act (SB 310 Law) protect and help direct management of streams and rivers, (2) how these laws and rules are balanced with private property rights, and (3) what the public trust means for fisheries managers.

The Future Ain't What It Used To Be!

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Montana's demographic landscape is comprised of three states within a state: The rapidly growing West, the modestly growing Central and the shrinking East. Close examination of each reveals important value shifts affecting fish, wildlife, recreation and habitat protection. Among these shifts are reduced opportunities for access to private lands for hunting and fishing, producing either a corresponding increase in pressure on public lands or fewer people choosing to hunt and fish. In response, managers will have to re-evaluate geographic and demographic priorities. The state's new demographic profile, which includes counties with high population growth rates that also have high rates of population turnover, means that traditional perspectives about wildlife and fish are in flux and influenced to an inordinate degree by values honed outside Montana or in an increasingly media-influenced world. Change elsewhere in the country, including that precipitated by a shifting climate, new resource demands, immigration, wealth transfer and the desire to live where the quality of life is high, could overwhelm the traditional bottlenecks that have moderated population growth in Montana, including winter weather, limited employment opportunities, and shortcomings in communication and transportation infrastructure. Demographic trends in Montana will necessitate new types of fish and wildlife managers, with different skill sets, tools and priorities that focus more on effective communication with greater attention to ecosystem protection, non-consumptive wildlife and fish values and equitable access to public resources possibly resulting in less attention to traditional management that focuses on hunters and anglers as primary beneficiaries.