

Advancing Human Dimensions Expertise Among State and Province Fish and Wildlife Agencies

**A Summary and Evaluation of the
Human Dimensions Training Program**

2007



Warner College of Natural Resources

Colorado
State
University

Table of Contents

Training Program Overview.....	3
Core Courses.....	4
On Site Training Schedule.....	5
Project Work.....	5
Academic Credit.....	5
Training Program Coordinators & Course Instructors.....	6 - 8
Featured Speakers.....	8 - 14
Participants.....	15 - 17
Project Abstracts.....	18 - 28
Summary of Course Evaluation	29
Course Evaluation (Survey).....	30 - 32
Additional Information.....	33

Training Program Overview

Background and Program Justification

Few would deny that the field of wildlife management has changed over the past several decades. Much of this change is borne from the struggle among contrasting, strongly held values that permeate our society. To better deal with the conflict that emerges from these value clashes, the wildlife profession has been exploring ways to improve its ability to deal with the human component of wildlife problems.

The shifting demands of the wildlife manager's job have been accompanied by shifting educational needs of those in the profession. In several universities across the country, wildlife programs are introducing new courses that familiarize future professionals with the human dimensions (HD) of wildlife management. In addition, several universities have introduced graduate level programs that offer training in this area. Yet for many state and province agencies, practical HD expertise has been difficult to attain. This is due, in part, to the broad nature of HD topics and disciplines and the lack of training that addresses the specific HD needs of fish and wildlife agencies. Though some states/provinces have established strong HD programs, there remains a significant gap between the growing body of knowledge about HD and the availability of well-trained and effective HD agency professionals.

Program Purpose

In response to these challenges, a training program was developed by Colorado State University (CSU) in cooperation with the Western Association of Fish and Wildlife Agencies (WAFWA) to increase the capacity of state and province fish and wildlife agencies to address HD issues. This program provides current agency employees with the tools and techniques necessary to perform the functions of an HD specialist. Funding for program development and implementation, as well as for provision of scholarships for participants to attend, was awarded through the 2006 Multi-state Conservation Grant. The initial offering of the training program was intended to primarily benefit fish and wildlife agencies belonging to WAFWA, although additional participants were also recruited from non-WAFWA fish and wildlife agencies throughout the U.S.

WAFWA Certification

A total of 25 employees selected by their directors to participate in the training program have completed the course. Participants were selected primarily on the basis of their interest in, and commitment to, learning about HD concepts and techniques and their potential to serve as leaders in advancing the application of HD-related skills for the benefit of their agencies. Participants will now be recognized as the first class to be awarded *HD certification* by WAFWA. In addition, participants have assisted in evaluating the training program for use in future years.

Program Goals and Areas of Training

The program has four main areas in which participants received training. Programmatic goals associated with each of the areas of training are as follows:

A. Tools and techniques for conducting human dimensions research

Goal: Upon completion of the training program, participants will be able to successfully implement and compile results for a descriptive human dimensions survey.

B. Conducting stakeholder processes

Goal: Upon completion of the training program, participants will be able to successfully implement, evaluate, and continually improve stakeholder processes.

C. Integration of human dimensions information into decision-making

Goal: Upon completion of the training program, participants will have the foundation for informing wildlife decisions with an HD perspective.

D. Providing human dimensions leadership within the agencies

Goal: Upon completion of the training program, participants will have increased awareness of the challenges and benefits of providing an HD perspective within the agencies as well as the nature of professional involvement and participation that can increase the agencies' HD capacity.

Core Courses

Program goals and objectives were met through the provision of six core courses (listed below) and project work, utilizing a combination of diverse instructional techniques. Courses involved both on-site sessions and off-site assignments.

Methods in Human Dimensions of Natural Resources (4 weeks of training)

This course provided training in how to identify research “problems” and how to adequately address those problems through research, the steps to successfully complete a research process, survey methodology and administration techniques, and validity and reliability considerations. Some of the skills participants learned in this course included how to identify appropriate target audiences, the various types of sampling methodology and various survey formats, as well as how to maximize response rates. Additionally, non-response bias, confidentiality concerns and other topics were addressed.

Analysis in Human Dimensions of Natural Resources (2 weeks of training)

This course provided training in data entry and encoding procedures using SPSS, hypothesis development, identification of appropriate statistical procedures for analysis questions, interpretation of statistical results, and write-up and reporting of results. Specific analytical techniques included codebook development and data entry, univariate statistics (e.g. frequency distributions, measures of central tendency and dispersion, Potential for Conflict Index), and bivariate/multivariate statistics (e.g. Crosstabs, Correlations, Regressions, Reliability, t-tests, 1-way ANOVA).

Key Concepts in Human Dimensions of Natural Resources (2 weeks of training)

This course provided training in key HD concepts. Topics included attitudes and attitude studies, understanding public values in relation to wildlife and wildlife management, the multiple satisfaction approach, carrying capacity, recreation planning frameworks, and defining and estimating demand for participation in wildlife-related recreation activities. Additionally, Fishbein and Ajzen’s Theory of Reasoned Action as well as the normative approach to standard setting were discussed. This course emphasized the implications for how to conduct studies within the agency and how findings using these concepts can be used in the decision-making process.

Integration of Human Dimensions into Natural Resources Decision-Making (1 week of training)

This course provided training in the application of HD information. Topics included how to effectively incorporate HD information into the decision-making process and how to use this information to address important agency challenges and questions. Emphasis was placed on the integration of biological/ecological and human dimensions in a comprehensive philosophy and effective practice of wildlife management in the 21st century, and included how to formulate effective policy, develop successful programs, and better understand the day-to-day practices of fish and wildlife management professionals.

Public Participation in Natural Resources Decisions (1 week of training)

This course provided training in stakeholder processes. Specifically, participants were exposed to a number of possible involvement methods and available organizational resources. From this, they learned which methods are appropriate for specific situations, issues, and stakeholders. Topics of discussion included how to identify stakeholder motivations and their ability to be supportive of one another, legal obligations and constraints, likely sources of tension between participatory groups, defining the problem and alternative courses of action, as well as the agency’s capacity to conduct the public participation process successfully.

Human Dimensions Leadership Forum

This course was offered in the form of a series of workshops throughout the four weeks of training. The emphasis of this course was to improve understanding of the context of wildlife decisions and the importance of the role and involvement of the HD specialist. The workshops exposed participants to the breadth of application areas of HD, the perspectives and needs of Directors and Commissioners, and the practical experiences, successes, and failures of current and former HD specialists and leaders within the agencies on a wide variety of HD-related topics.

On Site Training Schedule

On-Site Instruction and Off-Site Work

The training program used a combination of on-site instruction, spread across four one-week time blocks, and off-site correspondence with participants. Each of the courses identified on page 4 were taught during the four one-week time blocks of on-site instruction.

Below is the list of completed dates for the on-site training sessions.

August 6-12, 2006

January 7-13, 2007

March 11-17, 2007

May 13-19, 2007

In addition to on-site instruction, program participants were required to do reading and complete course assignments from home. More information about off-site tasks were provided by instructors in their course outlines and during onsite instruction. All instructors were available via email or phone for additional help.

Project Work

As part of the training program, each participant worked both on- and off-site toward completion of a project that has utility to his or her agency. The project was determined and assigned by the agency. A description of each participant's project begins on page 18. Example projects include development of the following:

A program of public involvement for the agency

A strategy for using HD information to address a specific issue or project

A plan for incorporation of HD information into Agency planning

Academic Credit

Training program courses were formally approved through CSU's curriculum committee. Participants were eligible for up to 16 academic credits that could be used in the future toward completion of a graduate degree at CSU or another institution. Those interested in credit enrolled as students and paid tuition. Below is a listing of the CSU course numbers and amount of credit participants could obtain for each course.

<u>Brief Course Description</u>	<u>CSU Course Number</u>	<u>Academic Credits</u>
HD Methods	NR 527	3
HD Analysis	NR 528	3
HD Concepts	NR 529	2
Application of HD	NR 530	1
Public Participation	NR 531	1
Project Work	RR 695 V	Up to 6

Training Program Coordinators and Course Instructors



Duane Shroufe

Chair of Training Program Advisory Panel and Speaker

Director of the Arizona Game and Fish Department and Chair of the Human Dimensions Committee of the Western Association of Fish and Wildlife Agencies

Duane Shroufe was born in Jackson, Michigan, graduated from Leslie High School in Leslie, Michigan, and received his BS in Wildlife Biology from Michigan State University in 1967. Prior to coming to Arizona, Duane worked for the Indiana Department of Natural Resources' Division of Fish and Wildlife for 17 years, where he served as a property manager, property staff specialist, and chief of wildlife.

Duane's employment with the Arizona Game and Fish Department started in April 1984 as an Assistant Director. Duane has been Director of the Arizona Game and Fish Department since January 1989. Duane was the President of the International Association of Fish and Wildlife Agencies in 1997, and currently chairs several of the Association's committees. He was the President of the Western Association of Fish and Wildlife Agencies in 1992. Duane was the President two different years of the Colorado River Fish and Wildlife Council and Chairman two different years of the Pacific Flyway Council. He is the current Chairman of the North American Wetlands Conservation Council. Duane also represents all of the state wildlife agencies on both the Invasive Species Advisory Committee and the Commission on Environmental Cooperation's Biodiversity Working Group.

Duane received the 2000 Director's Award from the Western Wildlife Law Enforcement Association for outstanding support of wildlife law enforcement. He was the recipient of the Seth Gordon Award in 2001 given by the International Association of Fish and Wildlife Agencies for working steadfastly and effectively for the best use of North America's natural resources in the public trust and for contributions to the programs of the International.

Duane has been chair of the Human Dimensions Committee for WAFWA since 2002, and while chairman, the Committee has submitted and was awarded two multi-state grant proposals involving and benefiting all WAFWA member agencies. *Wildlife Values in the West* which recently was completed, and the Human Dimensions training, which is why attendees are here today.



Michael Manfredo

Training Program Co-PI and Course Instructor

Professor and Head of the Human Dimensions of Natural Resources Department, Colorado State University

Michael J. Manfredo is a professor and Head of the Human Dimensions of Natural Resources Department. He received his B.S. and M.S. at the Pennsylvania State University and his Ph. D. at Colorado State University. He is founder and co-leader of the Human Dimensions in Natural Resources Unit at Colorado State University. Dr. Manfredo's research, teaching and outreach activities focus on the role of social science in natural resource management. His theoretical focus is on applying attitude and value theory to natural resource issues. He has published over 65 peer-reviewed articles in a wide variety of natural resource journals such as *Wildlife Society Bulletin*, *Educational and Psychological Measurement*, *Journal of Coastal Zone Management*, *Journal of Social Psychology*, *Journal of Travel Research*, *Society and Natural Resources*, *Journal of Forestry*, *North American Journal of Fisheries*, *Journal of Environmental Management*, *Human Dimensions of Wildlife Leisure Sciences* and *Journal of Leisure Research*. He was the founding co-editor of the journal entitled *Human Dimensions of Wildlife*. He recently co-edited his third book entitled *Society and Natural Resources: A summary of knowledge*. He is currently working on a book entitled *Who Cares About Wildlife?*. Professor Manfredo has been principal investigator on over 75 research projects with funds primarily obtained from fish, wildlife, and land management agencies.



Tara Teel

Training Program Co-PI, Coordinator and Course Instructor

Assistant Professor, Human Dimensions of Natural Resources Department, Colorado State University

Tara received her Ph.D. in Human Dimensions from Colorado State University and M.S. and B.S. degrees in Fisheries and Wildlife Management from Utah State University. Tara's research interests are in human dimensions of natural resources, specifically in the application of social science theory and methods to natural resource-related issues. She works closely with wildlife and other natural resource agencies in collection and application of social science data to inform their planning, management, and communication efforts. Recently Tara was the primary coordinator along with Michael Manfredo of the study, "Wildlife Values in the West", a research program designed to assess and monitor public values toward wildlife over time in the western U.S. This effort, involving cooperation among 19 state fish and wildlife agencies, was sponsored by the Western Association of Fish and Wildlife Agencies.

Training Program Coordinators and Course Instructors (continued)



Alia Dietsch

Training Program Assistant

Graduate Student, Human Dimensions of Natural Resources Department, Colorado State University

Alia Dietsch is a graduate student in the Human Dimensions of Natural Resources Department at Colorado State University. She received her undergraduate degree in Forestry/Wildland Recreation with a minor in Wildlife Management from the University of Tennessee-Knoxville, where she explored the social sciences as well as natural resource management. Upon graduation, Alia moved west and worked in the field of wilderness therapy with at-risk youth and as a wilderness ranger and timber crew member for the US Forest Service. Wishing to return to wildlife work, Alia accepted a Biologist position in southern California, gaining critical knowledge in endangered species management of Peninsular bighorn sheep and the complicated role between NGOs, government agencies and the public they aim to serve. Guided largely by a desire to proactively investigate public perception and values toward wildlife, Alia has joined the Human Dimensions of Natural Resources Department and is pursuing a PhD in the Human Dimensions of Wildlife.



Esther Duke

Training Program Assistant

Coordinator for the Human Dimensions of Natural Resources Department, Colorado State University

Esther Duke is an M.S. candidate in the Human Dimensions of Natural Resources Department. Esther received her B.A. in International Studies/Latin American Studies and English/Creative Writing with a minor in Spanish from Illinois Wesleyan University (IWU) in 2001. As an undergraduate Esther completed the International Development and Environment program at American University's Washington Semester Program. She also studied for a semester at La Universidad Autonoma in Costa Rica and represented IWU at the Technos International Summer Program in Tokyo, Japan. Esther's previous professional experience includes development and community outreach for the Larimer Humane Society, contract grant writing, and program development/grant writing for Educo: Outdoor Adventure and Leadership School. At CSU Esther assists with departmental training and outreach projects. She is currently coordinating the 2008 International Human Dimensions of Fish and Wildlife Conference "Pathways to Success" and the Colorado Sustainable Tourism Roundtable.



Jerry Vaske

Course Instructor

Professor, Human Dimensions of Natural Resources Department, Colorado State University

Jerry J. Vaske is a Professor in the Human Dimensions of Natural Resources Department at Colorado State University, and a member of the Human Dimensions in Natural Resources Unit. He received his B.A. and M.A. degree from the University of Wisconsin and his Ph.D. from the University of Maryland. Dr. Vaske's primary teaching responsibilities focus on research methodology and statistics. Specific topics range from survey design to applied multivariate analysis. Courses at both the undergraduate and graduate level emphasize understanding data manipulation techniques and what statistics are appropriate for addressing theoretical and applied natural resource problems. For the last 30 years, Dr. Vaske's research has focused on the application of social psychological theories (e.g., norms, conflict resolution) to managerial concerns and problems. Recent specific research projects have examined: (1) Hunters' responses to Chronic Wasting Disease in eight states; (2) Recreationists' attitudes and norms toward endangered / threatened species such as the piping plover (Massachusetts) and the desert tortoise (California); (3) Urban residents' beliefs about human-wildlife conflict in Colorado and Alaska; (4) Visitors' reactions to entrance fee increases at 19 different National Wildlife Refuges across the United States. He has authored or co-authored 5 books, over 100 articles in scientific journals, and is the founding co-editor of the journal *Human Dimensions of Wildlife*.

Training Program Coordinators and Course Instructors (continued)



Daniel Decker

Course Instructor

Associate Dean and Director of the Cornell University Agricultural Experiment Station and Professor and Co-Leader of the Human Dimensions Research Unit, Cornell University

Daniel J. (Dan) Decker is a professor in the Department of Natural Resources at Cornell University and co-leader of the Human Dimensions Research Unit. In addition to his research responsibilities, he currently serves as director of the Office of Land Grant Affairs in the College of Agriculture and Life Sciences, and as Senior Advisor to the Dean. Dan was the 2003-04 President of The Wildlife Society (TWS), an international non-profit scientific and educational association dedicated to excellence in wildlife stewardship through science and education. Dan's research and extension interests include discovery and integration of human dimensions insights into (a) wildlife policy and management, (b) wildlife program planning and evaluation, and (c) professional wildlife management practice. Dan earned B.S. (74), M.S. (76), and Ph.D. (86) degrees at Cornell, where he has been involved in studies of the human dimensions of wildlife management for more than 30 years. His work is familiar to many wildlife professionals in that he has published regularly with his colleagues at Cornell and around the country, and with graduate students. He is a co-editor of the book, *Human Dimensions in Wildlife Management in North America*, published by TWS in 2001. Dan's complete resume and full publication list can be accessed from this web site: <http://www.dnr.cornell.edu/hdru/>.



Antony Cheng

Course Instructor

Assistant Professor, Forestry and Natural Resource Policy, Colorado State University

Antony S. (Tony) Cheng is an Assistant Professor of Forestry & Natural Resource Policy in the Department of Forest, Rangeland, and Watershed Stewardship at Colorado State University. For the past 10 years, he has been working in the field of participatory natural resource management. Dr. Cheng has several projects relating to participatory resource management, such as: partnering in the design, facilitation, and evaluation of an extensive community-based collaborative landscape assessment process as part of the Grand Mesa, Uncompahgre, and Gunnison National Forests plan revision in Western Colorado; collaborating with Dr. Sam Burns at Fort Lewis College in Durango, CO on an analysis of collaborative planning on 6 national forests in Region 2 and Region 4; coordinating an interdisciplinary research on the Ford Foundation's 13 demonstration projects in community-based forestry; and, most recently, participating on an interdisciplinary research team funded by the Joint Fire Science Program to examine collaboration in community wildfire protection planning (CWPP). Dr. Cheng is also co-author with Dr. Al Sample of *Forest Conservation Policy: A Reference Handbook* published in 2003 by ABC-CLIO and has published forest policy-related research in peer-reviewed publications such as *Society and Natural Resources*, *Environmental Management*, *Forest Science*, and *Journal of Forestry*. He received a BA in Political Science from Whitman College in Washington state, a M.S. in Forest Resource Policy from the University of Minnesota, and Ph.D. in Forest Resource Policy from Oregon State University.

Featured Speakers



Delwin Benson

Professor and Extension Wildlife Specialist, Department of Fish, Wildlife, and Conservation Biology, Colorado State University

Dr. Benson is Professor and Extension Wildlife Specialist at Colorado State University with 31 years of service. He currently teaches "Public Relations in Natural Resources" and "Science, Society and the Environment." Both courses deal with environmental issues and conflict management to solve problems through informed leadership and effective two-way communications. He also offers 7 distance education courses about wildlife management on private lands, communications and leadership, policy, education, and about the teachings of Aldo Leopold. He conducts research, outreach, management, and publishes about hunter education, hunting, and conservation on private and communal lands. His most recent book, titled "Wildlife Stewardship and Recreation on Private Lands," won The Wildlife Society education award in 1999-2000. His Internet site, www.LandHelp.info, helps citizens and professionals to access information about management of natural resources and to make plans for their lands. He uses Service Learning as a teaching method and chairs the Service Integration Project Advisory Committee at CSU. Recent work centers around sustainability and the role of institutions and citizens to have proper reactions to the environment and to each other.

Featured Speakers (continued)



Joyce Berry

Vice President for Development and Former Dean of the Warner College of Natural Resources, Colorado State University

Joyce Berry is a natural resources social scientist and faculty member in the Human Dimensions of Natural Resources Department. Berry began her career at the Yale University School of Forestry and Environmental Studies as an associate in research (1977-1986), director of student affairs (1986-1988) and director of career-long education (1989-1992). She received her bachelor's degree in political science and graduate teaching certificate from the University of California at Berkeley, a master's degree in regional resources planning from Colorado State University and her doctorate degree in forestry and environmental studies from Yale University.

Berry chairs the National Commission on Science for Sustainable Forestry, serves on the Executive Committee of the National Council of Environmental Deans and Directors and is a board member of the Colorado Governor's Forestry Advisory Committee, CSU Alumni Association, Center for Environmental Innovation and the Pinchot Institute for Conservation. She has previously served as Commissioner on the Connecticut Council on Environmental Quality, town of Hamden Connecticut Conservation Committee, and city of Fort Collins Colorado Natural Resources Advisory Board. Berry's husband, Joe has a doctorate in remote sensing and an MBA from Colorado State University and is the President of Berry & Associates/Spatial Information Systems and Keck Scholar in Geosciences at the University of Denver. Their daughter, Ali, former Communications Director for the American Cancer Society in Northern California is now pursuing an MBA at the Kellogg School of Management



Rob Brooks

Responsive Management Unit Coordinator, Montana Fish, Wildlife and Parks

Mr. Brooks has a B.S. in Business and M.S. in Agricultural Economics, both from the University of Idaho. Mr. Brooks currently works for Montana Fish, Wildlife & Parks as the Responsive Management Unit Coordinator. Responsibilities include leading the development of the agency's bi-annual strategic planning effort and human dimensions research work including economic analysis. In addition, Mr. Brooks is the lead person for MFWP on the Montana Challenge, a joint effort with the Forest Service to assist communities in Montana understand the social and economic forces at work in Montana and understand their impact on our wildlife resources and management. Mr. Brooks has extensive experience in facilitation and meeting management. He was a member of the first interdisciplinary team to develop an EIS for bison migrating out of Yellowstone Park and sat on the State Wildlife Grants, technical team for Montana Fish, Wildlife & Parks.

Mr. Brooks has a B.S. in Business and M.S. in Agricultural Economics, both from the University of Idaho. Mr. Brooks currently works for Montana Fish, Wildlife & Parks as the Responsive Management Unit Coordinator. Responsibilities include leading the development of the agency's bi-annual strategic planning effort and human dimensions research work including economic analysis. In addition, Mr. Brooks is the lead person for MFWP on the Montana Challenge, a joint effort with the Forest Service to assist communities in Montana understand the social and economic forces at work in Montana and understand their impact on our wildlife resources and management. Mr. Brooks has extensive experience in facilitation and meeting management. He was a member of the first interdisciplinary team to develop an EIS for bison migrating out of Yellowstone Park and sat on the State Wildlife Grants, technical team for Montana Fish, Wildlife & Parks.



Alan Bright

Associate Professor and Graduate Coordinator for the Human Dimensions in Natural Resources Department, Colorado State University

Alan Bright received a B.A. in Accounting from Illinois Wesleyan University in 1979. He later received an M.B.A. in Consumer Behavior and Human Resource Management from the University of Illinois in 1988. Alan continued on to receive a Ph.D. in Recreation Resources Management from Colorado State University in 1993. Dr. Bright's research focuses on human dimensions of natural resource management, including social psychological aspects of recreation behavior. He works with agencies such as the National Park Service and the United States Forest Service.



Rabel Burdge

Adjunct Professor, Department of Sociology and Huxley College of the Environment, Western Washington University

Rabel J. Burdge is an Adjunct Professor in the Department of Sociology and Huxley College of the Environment at Western Washington University in Bellingham, where he taught courses on environmental sociology and social impact assessment from 1996-2004. Educated at Penn State (Ph.D.) and Ohio State Universities (B.S. and M.S.), Burdge has also served on the faculties of the University of Kentucky (Lexington), 1968-1976; and the U.S. Air Force Academy in Colorado Springs, 1965-68 (active military duty with final rank of Captain). Recent consultancies include: 2001--preparation of the SIA manual for the Bureau of Reclamation, US Department of Interior; 2002--international expert for UNEP-Malaysia on the preparation of SIA guidelines; and 2003--preparation of Principles and Guidelines for Social Impact Assessment for the US National Marine Fisheries Service (NOAA). Annually, he gives training courses on social impact assessment for such professional organizations as the International Association for Impact Assessment (IAIA) and the International Association for Society and Natural Resources (IASNR) where he received the *Lifetime Achievement Award*, and the Rural Sociological Society (RSS). He is now serving a four year term (2003-06) on the Whatcom County (State of Washington) Planning Commission. To contact him, see www.socialimpactassessment.net or call 1-360-676-9892.

Featured Speakers (continued)



Len Carpenter

Southwest Field Representative, Wildlife Management Institute

Len received his BS in Wildlife Biology (1968) and his Ph.D. in Range Science (1976) at Colorado State University. He worked with the Colorado Division of Wildlife as a State Manager for Terrestrial Resources, where he directly supervised 7 research leaders and/or managers, and was indirect responsible for 43 full time employees and directly responsible for a 4 million dollar budget. Len later worked as Director of Wildlife Operations for Helicopter Wildlife Management, an organizations that captures and censuses large mammals throughout North America. In this capacity, he was responsible for design, conduct, and evaluation of all biological aspects of company contracts and operations. Currently Len works with Wildlife Management Institute based out of Washington, D.C. As the organization's Southwest Field Representative, Len is responsible for all Institute contacts and initiatives in AZ, CO, WY, UT, NV, TX, OK, and NM. Additionally, he maintains close contact with all Federal, State, and non government organizations in the region, comments on federal and state legislation, policies and activities, and participates in reviews of natural resource agencies and programs.



Terry Cleveland

Director of the Wyoming Game and Fish Department

Terry was raised in Rawlins, WY. In 1969, Terry graduated with a bachelor's degree, with honors, in Wildlife Biology from Colorado State University. Began work with the Wyoming Game and Fish Department in 1969 in Elk Mountain. Subsequently served as a game warden in Jeffrey City, Greybull and Saratoga. Was promoted to Regional Wildlife Supervisor in Casper over northeast Wyoming in 1978. In 1996, was promoted to Assistant Chief, Wildlife Division, in Casper. Supervised field operations including law enforcement and damage claims. Terry earned several awards within the Game and Fish Department over the years, as well as a Shikar-Safari wildlife officer of the year award. In December 2003, Terry was promoted to Director. Terry is happily married to wife, Donna, for 36 years. They have a daughter and a grandson.



Charles Davidshofer

Director of the University Counseling Center, Colorado State University

Charles Davidshofer received his doctorate degree in counseling psychology from the University of Iowa in 1970. He began his professional career as a senior psychologist in the University Counseling Center and Assistant Professor of Psychology in the fall of 1970. Over the next 30 years, he assumed increasing levels of administrative responsibility and eventually became Director of the Counseling Center in 1986. He has been very active in professional associations serving two terms on the accrediting board of the International Association of Counseling Services, Inc., a non-profit organization that accredits college counseling centers, and later served as President of the organization. He currently is a governing board member of the Association of University and College Counseling Center Directors and has served as treasurer of that organization for the past 10 years. As an Associate Professor in the Psychology Department, Dr. Davidshofer continues to teach at the graduate level in his specialty area of testing and personality assessment. He also provides clinical supervision for students in the doctoral program. He is a co-author of the text *Psychological Testing*, now in its 6th edition, that is widely used in undergraduate testing classes.

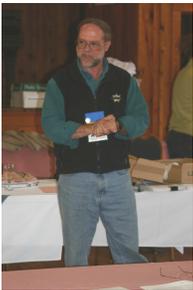


David Fulton

Assistant Unit Leader and Adjunct Associate Professor, Minnesota Cooperative Fish & Wildlife Research Unit, U.S. Geological Survey and Department of Fisheries, Wildlife, and Conservation Biology, University of Minnesota

David Fulton is a research scientist with the U.S. Geological Survey and has served as Assistant Unit Leader in the Minnesota Cooperative Fish and Wildlife Unit since 1998. He is also Adjunct Associate Professor at the University of Minnesota in the Department of Fisheries, Wildlife and Conservation Biology. Prior to arriving in Minnesota, he was the Regional Wildlife Planner and Human Dimensions Research Specialist for the South-central Region of the Division of Wildlife, Alaska Department of Fish and Game. He has a BS from Texas A&M University in Sociology and Psychology; MS from Washington State University in Environmental Science and Regional Planning; and a PhD from Colorado State University in Human Dimensions of Natural Resources. He applies social psychological theory and methods to understand human values, attitudes, norms and motivations concerning fisheries and wildlife and how they influence human thought and behavior concerning the use and conservation of these resources. He is active in The Wildlife Society and American Fisheries Society and is an associate editor for the North American Journal of Fisheries Management.

Featured Speakers (continued)



Larry Gigliotti

Planning Coordinator and Human Dimensions Specialist, South Dakota Department of Game, Fish and Parks

Larry M. Gigliotti is the Planning Coordinator / Human Dimensions Specialist for the South Dakota Game, Fish and Parks Department (since 1993). He obtained his B.S. in biology / wildlife ecology from Pennsylvania State University and M.S. and Ph.D. in human dimensions from Michigan State University, Department of Fisheries and Wildlife. Larry is a Certified Fisheries Scientist and a Certified Wildlife Biologist and has been a member of The Wildlife Society since 1976 and a member of the American Fisheries Society since 1987. Larry was a recent president (2005-06) of the Organization of Wildlife Planners and his primary research interests are in the area of human dimensions.



Bruce Gill

Former Wildlife Biologist and Researcher, Colorado Division of Wildlife

Bruce received a Bachelor of Science Degree in 1962 and a Master of Science Degree in 1965, both from Colorado State University; both degrees were in Wildlife Biology. In February 1966, he began work as a Wildlife Researcher with the Colorado Division of Wildlife. He has conducted research on sage grouse, wapiti, and mule deer demographics, movements, and distribution. In 1973, he assumed responsibilities for supervising all mammals research statewide; a position he maintained until he retired in February

2001. He has authored and co-authored more than 70 scientific articles in peer reviewed journals. He has been involved with studies of mule deer, wapiti, bighorn sheep, mountain goats, moose, black bears, mountain lions, swift foxes, kit foxes, and river otters. Currently he has formed a nature photography enterprise called Wild Reflections and is in the process of preparing some of his photos for public display and sale.



John Gordon

Pinchot Professor of Forestry and Environmental Studies and Former Dean of the Yale School of Forestry and Environmental Studies

John C. Gordon is Chairman of Interforest, LLC, and a founder of the Candlewood Timber Group, Inc., a sustainable forestry company with forestland and operations in Argentina. He is also Pinchot Professor Emeritus of Forestry and Environmental Studies at the Yale School of Forestry and Environmental Studies, where he was Dean from 1983-1992, and again in 1997-98. Before that he was Head and Professor, Department of Forest Science, Oregon State University, Professor of Forestry and Iowa State University, and Principal Plant Physiologist at the Pioneering Project in Wood Formation, USDA Forest Service, Rhinelander, Wisconsin. He has a B.S. (forest management) and a Ph.D. (plant physiology and silviculture) from Iowa State University, and has been a Fulbright Scholar in Finland (University of Helsinki) and India (Bangalore). His primary expertise is in the biological basis of forest productivity, the management of research, and forest policy and management. He has consulting experience with public and private organizations, including forest product firms, the World Bank and the United Nations Development Programme. He has authored, coauthored or edited over 100 papers and books, and has overseas experience in a variety of places, including India, Pakistan, China, Costa Rica, Brazil, Argentina, Finland and Scotland.



Bob Hernbrode

Commissioner, Arizona Game and Fish Department

Bob Hernbrode worked as a wildlife biologist for more than 35 years in the Arizona Game and Fish Department (8 years) and the Colorado Division of Wildlife (more than 27 years). Over his career in the two State Wildlife Agencies, Bob held a variety of positions from District Wildlife Manager (AZ), Regional Game Specialist (AZ), Federal Aid Coordinator (CO), Big Game Supervisor (CO), Watchable Wildlife Coordinator (CO) to Chief of Wildlife Education (CO). After retiring in late 2003, Bob and his wife moved back to Tucson to be close to their families and to the Sonoran Desert. In January 2005 the Governor of Arizona nominated Bob for a 5 year appointment to the Arizona Game and Fish Commission.

Featured Speakers (continued)



Cindi Jacobson

Wildlife Planner, Division of Wildlife Conservation, Alaska Department of Fish and Game

Cynthia A. Jacobson has been a Wildlife Planner for the Alaska Department of Fish and Game for eight years. In addition, she is a Ph.D. candidate in the Department of Natural Resources at Cornell University. The focus of her Ph.D. research is on understanding the dynamics of state wildlife management from an institutional perspective. She received her B.A. in Environmental Conservation at the University of Colorado and her M.S. in Natural Resources Policy and Management from Cornell University. She is currently an Associate Editor for the *Journal of Wildlife Management* and *Society and Natural Resources: An International Journal*.



Kurt Kraiger

Professor and Co-Director of the Center for Organizational Excellence, Department of Psychology, Colorado State University

Kurt Kraiger is a Professor of Psychology and Co-Director of the Center for Organizational Excellence at Colorado State University. He received his Ph.D. in Industrial/Organizational Psychology from The Ohio State University in 1983. He is a noted expert on training and training evaluation. Dr. Kraiger has co-edited two books on training and published or presented over 120 academic papers, most on topics related to training and performance appraisal. Dr. Kraiger has also consulted with a number of public and private sector organizations including the Army Research Institute, National Association of Legal Assistants, and Qwest Communications.



John Loomis

Professor, Department of Agricultural and Resource Economics, Colorado State University

Dr. John Loomis began his career as an economist in the BLM in Moab, Utah, and worked for five years as an economist for the U.S. Fish and Wildlife Service. Dr. John Loomis is currently a professor in the Department of Agricultural and Resource Economics at Colorado State University. He is the author of three books (*Integrated Public Lands Management, 2nd edition*, *Environmental Policy Analysis for Decision Making* and *Recreation Economic Decisions, 2nd edition*) as well as over 100 journal articles dealing with economic valuation of non-marketed natural resources such as fishing, wildlife viewing, wilderness, wetlands, in-stream flow and old-growth forests. These articles have been published in journals ranging from *Journal of Forestry*, *Water Resources Research*, *Journal of Environmental Economics and Management* and *Review of Economics and Statistics*. Prior to coming to Colorado State University, Dr. Loomis was an Associate Professor at University of California-Davis in Division of Environmental Studies.



Mike Mascia

Ph.D. - Senior Program Officer/ Social Scientist

Mike's area of expertise is in environmental politics and policy; social dimensions of biodiversity conservation; and marine conservation. As a WWF scientist and President of the Society for Conservation Biology's Social Science Working Group, Mike Mascia works to strengthen conservation social science research and its application to conservation practice. His research focuses on natural resource governance and environmental policy, particularly the design and management of marine protected areas (MPAs) in coral reef systems. A formal AAAS Fellow and NSF grant recipient, Mike has research and policy experience in the United States, Caribbean, Central America, South Pacific, West Africa, and Southeast Asia. He has also provided technical assistance to numerous government agencies, conservation organizations, and donors. Mike holds a Ph.D. in Environmental Politics and Policy from Duke University and a bachelor's degree in Biology and Government from Bowdoin College.

Featured Speakers (continued)



Peter Newman

Course Instructor

Assistant Professor, Human Dimensions of Natural Resources Department, Colorado State University

Dr. Newman's research focuses on the human dimensions of natural resource management and social carrying capacity decision making in the context of protected areas management. He is the principal investigator or co-principal investigator on research currently underway in the Pawnee National Grasslands in Colorado, Yosemite National Park, Fulufjallet National Park in Sweden, and is beginning research with the Natural Sounds Program of the National Parks Service. He also has work experience as a National Park Service Ranger in the Division of Resources Management in Yosemite and as a naturalist/instructor for the Yosemite Institute.



Mark Pinkerton

Commissioner, Nebraska Game and Parks

Dr. Mark Pinkerton is a general dentist practicing in Wilber, Nebraska. He was appointed Commissioner to the Nebraska Game and Parks Commission in August 2002, and will serve until January 2011. Mark has been actively involved in many aspects of commission work, and has previously served as chairman of the commission. He is an avid hunter, fisherman, and has a passion for running his English Pointers in field trials. Mark has also been a certified hunter education instructor since 1987.



Linda Sikorowski

Former Assessment Coordinator for the Human Dimensions Section, Colorado Division of Wildlife

Linda Sikorowski worked as the Assessment Coordinator in the Human Dimensions Section of the Colorado Division of Wildlife for 10 years. In this role, she was also the liaison with Colorado State University during a very productive partnership to advance the human dimensions of wildlife management. Since her retirement from the state in January, 2005, she has traveled extensively and continues to consult on wildlife-related projects and work as a technical editor.



John Smeltzer

Former Leader of the Human Dimensions Section and Public Services Administrator, Colorado Division of Wildlife

John received his Bachelor Degree in Biological Sciences (1975) from Westmar College in LeMars, Iowa, with minors in Chemistry, Math and Sociology. Upon graduation, John worked as a Seasonal Law Enforcement officer with the Iowa Conservation Commission and as a Public School Science teacher. He went on to pursue an M.S. Degree from the Department of Wildlife and Fisheries (1981) at Colorado

State University with an emphasis on Fish Culture and Environmental Law. John then worked as a Law Enforcement Researcher with the Colorado Division of Wildlife from 1982-1991, and was a Regulation Manager for the Division of Wildlife from 1991-1996. At that time, John became the first section manager for the Colorado Division of Wildlife Human

Dimension Section, and served in this position until 2002. He currently serves as principle regulatory contact with the Colorado Wildlife Commission, and is a retired Colorado Division of Wildlife Assistant Director for Field Operations. John also serves as Vice Chairman of the Colorado Wildlife Federation.

John is married to Marsha, Associate Athletic Director at Colorado State University - Fort Collins. They have two children, Katie 19 and David 22. John's hobbies include photography, gardening, genealogy, auto restoration, amateur radio, hunting, fishing, cowboy action shooting, dog training and more.

Featured Speakers (continued)



George Thornton

Professor, Department of Psychology, Colorado State University, and Diplomate, American Board of Industrial/Organizational Psychology

George C. Thornton III, Ph.D. Dr. Thornton is Professor of Psychology, Colorado State University. Dr. Thornton earned his Ph.D. from Purdue University in 1966. He is a Diplomate in Industrial/ Organization Psychology awarded by the American Board of Industrial/Organizational Psychology, and a Fellow of the Society of Industrial and Organizational.

Dr. Thornton specializes in assessment centers, selection practices, test development and validation, and implications of employment discrimination law for personnel psychology. He has developed, validated, and implemented assessment centers and other situational exercises for selection and development for numerous jobs.

Dr. Thornton is the author of over 55 publications in refereed journals, 6 book chapters, and 3 books, namely *Assessment Centers and Managerial Performance* (with William Byham) and *Assessment Centers in Human Resource Management, Developing Organizational Simulations: A Guide for Practitioners and Students* (with Rose Mueller-Hanson). Dr. Thornton has made presentations on the assessment center method to professional conferences such as the International Association of Chiefs of Police, the International Congress on Assessment Center Methods, and the Society for Industrial and Organizational Psychology, and to professional audiences throughout the United States, and in Germany, Switzerland, England, Israel, South Africa, Indonesia, and China.



Larry White

Practitioner in Organization Development/Intervention, Designed Solutions

Mr. White has over 20 years training and experience in the areas of organization development/intervention, strategic planning, team development, and executive/personal coaching. He has worked with a wide variety of clients such as serving as Department of the Interior representative for Vice-President Al Gore's reinventing government effort, high ranking military personnel, federal government agencies, non-profits, churches, correctional wardens and staff, educational institutions, families and individuals.

Mr. White has found one of the underpinnings of success, of any effort, is to understand how individuals are different and why. His experience working with teams and individuals has led to develop a process that ensures optimum outcomes and successes by utilizing the Myers-Briggs Type Indicator (MBTI) as a first step. He believes for people to be able to work together, they need to know and understand, for themselves and others, why they do, think, respond, and process their environment the way they do.

The saying, "if you always do what you always did, you always get what you always got," is a favorite of Mr. White and underscores the philosophy of his work helping individuals and organizations to truly create, permanent effect and positive results.



Dan Witter

Market Research Director, D.J. Case & Associates, and Former Human Dimensions Specialist, Missouri Department of Conservation

Dan joined DJ Case in early 2005 as market research director, specializing in human dimensions research. As a 26-year career veteran with Missouri Department of Conservation, Dan is skilled in human dimensions, natural resource administration, policy and public involvement. His focus is on program development, research, project evaluation and crisis management for clients. During his career in Missouri, Dan:

- Conducted 100 surveys, program assessments/evaluations, and market analyses in natural resources management
- Helped establish Missouri's Public Profile series that reports and interprets human dimensions and market research
- Published 50 professional papers
- Presented 250 talks in the U.S. and Canada on fish, forest and wildlife policy

He's served as associate editor of the *Journal of Wildlife Management* and president of the Missouri Chapter of The Wildlife Society (TWS). He participated on the technical committee for the National Survey of Wildlife-Associated Recreation. Dan contributed to projects for the International Association of Fish and Wildlife Agencies, including Responsive Management and Proactive Strategies. He was named conservationist of the year by the Conservation Federation of Missouri in 2000, received the E. Sydney Stephens Professional Wildlife Award from the TWS Missouri Chapter in 2002, and named 2005 Outstanding Alumnus of the School of Natural Resources, University of Arizona. Dan received a doctorate in watershed management with a minor in sociology (University of Arizona), a master's (Penn State), and bachelor's (Millersville University in Pennsylvania).

Participants

George Weekley

Alaska Department of Fish and Game
ANILCA Program

Role in Agency: Review federal land management agencies' plans and coordinate responses accordingly. Review human dimensions research projects, study designs and instruments that affect public uses and recreation management.

Julie Lefebvre

Alberta Sustainable Resource Development - Fish and Wildlife Division
Manager, Education and Outreach

Role in Agency: Responsible for public education and outreach programs, including needs assessments, program planning, coordination of program delivery, and monitoring of program effectiveness. Develop shared initiatives with key stakeholders.

Tom Finley

Arizona Game and Fish Department
Field Supervisor

Role in Agency: Supervise six district Wildlife Managers in north-central Arizona. Implement department programs including wildlife management (game and nongame), habitat management, fisheries management, law enforcement and information and education.

Scott Gurtin

Arizona Game and Fish Department, DOFP
Resource Planner, Responsive Management Coordinator

Role In Agency: Conduct employee evaluations and public opinion surveys, trend surveys, economic impact surveys, etc. Analyze and interpret information and present to Department leadership for integration into management and strategic planning.

Randy Hampton

Colorado Division of Wildlife, NW Region
Public Information Officer

Role in Agency: Handle media relations and public affairs. Coordinate media coverage, write press releases, design and edit brochures, photos, video and other publications, assists management in communicating agency message to public through meetings, personal contacts and other methods.

Bruce Ackerman

Idaho Department of Fish and Game
Biometrician

Role in Agency: Design and conduct hunter surveys

Lance Hebdon

Idaho Department of Fish and Game
Regional Fisheries Biologist

Role in Agency: Responsible for collecting life history, population and habitat information on fish. Provide information on fishery resources, regulations and policies to various stakeholders in public and professional meetings.

Kacie Ehrenberger

Indiana Department of Natural Resources
Wildlife Diversity Staff Specialist

Role in Agency: Develop public involvement and awareness of NonGame and Endangered Species program, which is entirely funded through donations and grants. Negotiate and administer contracts with firms/universities in relation to conducted surveys.

Participants (continued)

Peter Fritzell

Iowa Department of Natural Resources - Wildlife Bureau

Natural Resources Biologist

Role in Agency: Ranges from collecting CWD samples and maintaining the Wildlife Bureau's web presence to creating human dimensions surveys and analyzing waterfowl band recoveries.

Jason Goeckler

Kansas Department of Wildlife and Parks

Aquatic Nuisance Species (ANS) Program Coordinator

Role in Agency: Coordinate and implement ANS management activities. Conduct research, educate public about ANS, ensure coherent ANS strategy, participate in national coordination forums.

Matt Peek

Kansas Department of Wildlife and Parks

Wildlife Research Biologist

Role in Agency: Responsible for research and management of furbearer, pronghorn, and elk programs. Conducts population monitoring surveys, harvest surveys, hunter/public opinion surveys, regulatory recommendations, etc. Coordinate collection of data, analyze data, write reports, and maintain data bases.

Brian Clark

Kentucky Department of Fish and Wildlife Resources

Regional Coordinator, Wildlife Division

Role in Agency: Oversee field operations and administrative functions for land management programs on public and private lands. Provide input into statewide planning and program development and implementation.

Kathy Don Carlos

Minnesota Department of Natural Resources

Natural Resources Program Consultant

Role in Agency: Design, implement, and facilitate "roundtable" meetings, deer population review and goal setting sessions, private lands program planning, aquaculture and wetland impact work groups, and a nontoxic shot advisory committee. Coordinate federal assistance program, manage systems for cost accounting and reporting, etc.

Tom Flowers

Montana Fish, Wildlife and Parks

State Game Warden

Role in Agency: Ensure compliance of all relative FWP Statutes and Administrative Rules relative to hunting, fishing and outdoor recreation. Education and interaction with recreationalists, landowners and agencies.

Joe Weigand

Montana Fish, Wildlife and Parks

Landowner/Wildlife Resource Specialist

Role in Agency: Coordinate with private landowners through field staff. Provide literature, project design, recommendations, and funding to help landowners deal with wildlife conflict issues. Assist Hunter Access Enhancement Program (Block Management, Access Montana). Serve as noxious weed management coordinator.

Neal Bedlan

Nebraska Game and Parks Commission

Federal Aid Administrator

Role in Agency: Administrate the Land and Water Conservation Fund and Trail Development Assistance Program. Coordinate the Capital Facilities Plan and supervise the outdoor recreation planning activities.

Participants (continued)

Alicia Hardin

Nebraska Game and Parks Commission

Assistant Division Administrator

Role in Agency: Budget tracking, purchasing, personnel matters, grant tracking, regulation promulgation, contracts/agreements, marketing and Human Dimensions work for Wildlife Department.

LuAnn Tafoya

New Mexico Department of Game and Fish

Public Information and Outreach Officer

Role in Agency: Provide professional information and education on wildlife resources and management to the public. Assist in public compliance of laws and regulations.

Andrea Crews

Oklahoma Department of Wildlife

Responsive Management Specialist

Role in Agency: Conduct annual hunter surveys and other survey projects on an as-needed basis.

Jeremy Leitz

Texas Parks and Wildlife Department

Human Dimensions Research Specialist

Role in Agency: Responsible for developing and implementing various studies to better understand anglers.

Sally Williams

Texas Parks and Wildlife Department

Consumer Research Manager

Role in Agency: Conduct and present agency-wide outdoor recreation and marketing research. Analyze departmental databases and direct mail programs.

Jill West

Utah Division of Wildlife Resources

Volunteer Program Coordinator

Role in Agency: Coordinate volunteer programs. Responsible for administration of the Dedicated Hunter program. Coordinate the Becoming an Outdoors Woman program.

Steve Pozzanghera

Washington Department of Fish and Wildlife

Deputy Assistant Director of Wildlife Program

Role in Agency: Responsible for statewide direction and supervision of regional operations. Serves as program lead on legislative affairs.

Teresa Cole

Wyoming Game and Fish Department

Information/Publications Supervisor

Role in Agency: Supervise the information and publications work units. Responsible for outgoing news via newspapers, radio and television, and produce a monthly magazine and semi-monthly newspaper. Complete reports, legislative updates and summaries on behalf of director's office.

Eric Keszler

Wyoming Game and Fish Department

Assistant Division Chief, Public Information Officer

Role in Agency: Oversee Information and Education Programs, including publications, media relations, hunter and conservation education.

Assessing attitudes, beliefs, and norms about the role of human dimensions research in a state fish and wildlife agency

George Weekley, Alaska Department of Fish and Game

In several state fish and wildlife agencies, the role of human dimensions research has increased over the last several years. In the past, human dimensions research by fish and wildlife agencies often examined demographic profiles of hunters and anglers or harvest statistics. However, through increasing urbanization and public values changing in regards to views on fish and wildlife, state fish and wildlife agencies are increasingly using human dimensions research to determine norms, attitudes, and behaviors of the public in complex issues involving fish and wildlife management. However, few studies have examined the norms, attitudes, and beliefs of agency personnel and agency decision-makers. This study will attempt to examine those norms, attitudes, and beliefs within the context of a state fish and wildlife agency by using scenario-based questions to gather information on respondents. The study population is current full-time professional series biologists within the Alaska Department of Fish and Game (Wildlife, Habitat, or Fisheries Biologist levels or equivalent job classification within the agency). Respondents will be given a link to a web-based questionnaire with various management scenarios and will be asked to answer questions about each given scenario intended to assess norms, attitudes, and beliefs. By determining normative standards, beliefs and attitudes for the use of human dimensions research for agency personnel and agency decision-makers, the information will be useful to determine how and what type of human dimensions research fits within the norms of the agency. The study will also attempt to predict behavior by agency personnel in the use of human dimensions research. Finally, results of the research will be used to develop educational courses on human dimensions research methods and applications to inform agency staff and decision-makers on the use of human dimensions research in decision-making.

Landowner knowledge and attitudes toward Chronic Wasting Disease

Julie Lefebvre, Alberta Sustainable Resource Development

Alberta Sustainable Resource Development (ASRD) is considering undertaking survey research to support management actions intended to eradicate Chronic Wasting Disease (CWD) and prevent its spread to other areas in the Province. Since the first case of CWD was diagnosed in September 2005, a total of 29 cases have been identified in wild deer (*Odocoileus* spp.) in Alberta. There are many values threatened by the occurrence of CWD and implications related to the geographic spread of CWD in Alberta. Managers fear a localized loss of deer populations with increased incidence levels of CWD. Landowners play an integral part in the success of management responses since they must agree to increased hunting activity on their property and must allow Fish and Wildlife access to their lands to conduct herd reduction activities.

Results of this study are anticipated to provide sociological data that can be used to guide wildlife management decisions related to CWD. Particularly, the information is expected to: guide decisions regarding planning and management actions; develop communication products to enhance Albertans' awareness of the disease and provide information in a format that is most effective in reaching landowners; and, enhance the credibility and public trust in ASRD's stewardship of Alberta's natural resources. The research, planned to begin in late summer 2007, will focus on obtaining perspectives and opinions from landowners in six Municipal Districts along the Alberta Saskatchewan border where CWD was detected. Individuals who own and reside on properties within one of the Districts will be requested to complete a questionnaire. The study will differentiate between landowners who have hunted in the last two years from those who have opted not to hunt.

Understanding Arizona's hunters and anglers: Research into license buying habits and demographics

Scott Gurtin and Tom Finley, Arizona Department of Game and Fish

Recruitment and retention has been a focal point of interest for many state wildlife management agencies. Nationwide trends indicate declining recruitment and retention in fishing and hunting as well as shooting sports. The Arizona Game and Fish Department has experienced declines and overall stagnancy in license sales since approximately 1980. The Department has investigated hunter recruitment and retention issues in the recent past by chartering the Hunter and Shooting Sports Recruitment and Retention Team. This team identifies strategies and approaches to promote participation in hunting and shooting sports in a manner that increases license sales. Another significant step to address the issue is to understand differences between customers that purchase licenses on an annual basis, versus those that purchase intermittently or opportunistically.

We propose to examine our sportsman's database to conduct a comparison of basic demography among loyal buyers versus opportunistic buyers. To start we will examine those that purchased a hunting license, and thereafter fishing license holders. Data will be analyzed using principal components analysis to determine if there are sufficient demographic characteristics that promote categorizing license holders. If warranted, we propose to further research by conducting an elicitation study of hunters and anglers and develop a follow-up survey. Questions will be developed to identify advantages/disadvantages of purchasing a license (beliefs), identify enabling factors as well as barriers to purchasing a license (perceived behavioral control), attitude towards buying a license, and likelihood of buying a license (behavioral intent). Demographic data may include age, gender, annual household income, ethnicity, location of residence (urban/rural), highest education level achieved, and whether they have children in the household under the age of 18.

This project will benefit the agency by enhancing our understanding of customers that purchase licenses. Thereafter, by incorporating the information into a marketing campaign, we may be able to curtail declining initiation and retention rates for hunting and fishing. More importantly, it should identify target segments of our public that may be more receptive to Agency efforts.

Assessing advisory group participation

Randy Hampton, Colorado Division of Wildlife

The Colorado Division of Wildlife (CDOW) would like to improve public involvement in citizen advisory groups, specifically the Sportsmen's Advisory Group (SAG). Founded in 2002 to help develop a license fee increase proposal for the Colorado legislature, the SAG is a method for public input into agency policy decisions. There are four regional SAGs and a statewide SAG. Regional SAG meetings are held quarterly and representatives from the regional groups are welcome to participate in the statewide SAG meetings, which are typically held twice a year. SAG membership consists of representatives of organized sportsmen's groups, individual sportsmen, outfitters, and some environmental organizations. All meetings are open to the public and anyone who shows up at the regional and statewide meetings are considered "members" of the SAG.

Attendance at regional and statewide meetings was initially strong, however attendance has waned since completion of the license fee bill. Current membership seems strongly committed to the process, however CDOW would like to better understand and encourage active sportsmen involvement in the SAG. The proposed study will utilize internal and external surveys to determine what belief structure and/or demographic characteristics do active participants have in common, does the demographic makeup of the SAG represent the demographics of the overall sportsmen community, what prompted active SAG participants to become involved in SAG, and what keeps avid sportsmen from participating in citizen advisory groups? By answering these general questions, the CDOW will be able to target SAG opportunities and public outreach efforts to audiences that are more likely to participate in SAG, determine if there are underrepresented demographic groups that should be encouraged to participate, determine if certain techniques could be more effective in encouraging new SAG participation, and assess whether modifications in current SAG methodology might increase participation.

Idaho wolf opinion survey

Dr. Bruce B. Ackerman, Idaho Department of Fish and Game

Wolves were re-introduced into Idaho in 1995, after 60 years. Idaho is the only western state where wolves are substantially “recovered” following re-introduction. Wolf numbers increased rapidly since 1995, from 35 to about 670, far surpassing goals in the 1987 Recovery Plan (10 packs totaling 100 wolves). The U.S. Fish and Wildlife Service plans to delist the “experimental” population in 2007. The Idaho Department of Fish and Game (IDFG) will assume some management authority over wolves in Idaho.

Most management actions concerning wolves are controversial and result in polarized feedback from stakeholder groups. Some people perceive wolves as negative (danger to people, pets, and hunting dogs, risk to livestock, reduced elk and mule deer populations, reduced big game hunting opportunity, and economic impact). Other see benefits (wolves as part of healthy ecosystem, wolves not endangered, a desire for wolves to hunt and wolves to watch).

IDFG has proposed a limited sport harvest of wolves, to reduce the population to a smaller stable size and to provide hunting opportunity. This would reduce depredation on livestock and predation on elk and deer populations.

An opinion survey will be conducted in Idaho in May 2007 to assess attitudes and opinions about wolves and the proposed hunt. Questionnaires will be sent to 3 groups of Idaho residents: the general public, deer and elk hunters, and ranchers (1000 to each group).

IDFG is also seeking guidance from Idaho hunters in designing the proposed hunting season (time of year, allowable weapons, etc.), whether they would buy a wolf permit, and the probable hunting success.

Objectives are to categorize Idaho residents, based on their attitudes and opinions, demographic information, their support for a proposed hunting season, and their interest in watching of wolves. Results will indicate the proportions of various attitudes among Idaho citizens. Results will help IDFG understand why wolf management is so controversial, and will provide input into the decision to have a sport harvest.

Evaluating the contribution of urban ponds to recruitment and socialization of kids into fishing in southwest Idaho

Lance Hebdon, Idaho Department of Fish and Game

As the population of Idaho becomes increasingly urbanized the sheer number of people living in urban environments presents an opportunity to introduce a large number of people to recreational fishing. Two counties (Canyon and Ada) in Southwest Idaho account for over 35% of Idaho’s population with over 500,000 residents. Although fishing is traditionally a rural activity, Southwest Idaho has a well developed infrastructure for creating and enhancing fishing opportunity with over a dozen ponds and 24 miles of the Boise River associated with cities throughout these counties.

This project is designed to evaluate the role that urban ponds play in recruiting and socializing kids to fishing in Southwest Idaho, to evaluate the amount of use urban ponds are receiving and to help Idaho Fish and Game design a Community Fisheries Management Program to address the desires of anglers fishing in urban environments.

Developing long term financial support for Indiana's Nongame Fund

Kacie Ehrenberger, Indiana Division of Fish and Wildlife

Revenue for Indiana's Nongame Fund (NGF) is generated partially through direct donations, but primarily from Indiana taxpayers donating all or part of their state income tax refunds. The Wildlife Diversity Section (WDS) relies on public donations to the NGF to carry out its mandated responsibility to conserve and manage over 750 species in Indiana. Since the inception of the NGF, WDS has had little direct contact with our donors. Previous studies demonstrate the public considers conservation and management of nongame and endangered species to be important, but is unaware of how these programs are funded. The goal of this project is to develop long term financial support for the NGF which will benefit Indiana's wildlife and citizens. A literature review will synthesize any known information from the United States regarding donors to nongame programs and Indiana's economic history (i.e., state GDP, yearly tax revenue, unemployment, population size). I will work with the Indiana Department of Revenue (DOR) to acquire the following data for each year of the 25 year history of the NGF: number of tax returns processed, number of refunds given, participation rate (number of donors), percent of donors and nondonors that do or do not use a tax preparer, percent of donors and nondonors by refund category (i.e., how many people who got a refund of under \$20 donated), donation amounts (average, min, max) and demographic information (zip code, income) for donors and nondonors. I will also investigate donor turnover (we need to know about returning v. new donors from year to year). Results of this analysis will determine the next steps in the study. Potential surveys include a survey of known donors to identify key issues relating to their motivations to donate and a focus group with tax preparers to identify why they do/do not ask clients to donate.

Relaxing quotas placed on nonresident deer hunters: Predicting resident deer hunter response in Iowa

Peter A. Fritzell, Jr., Iowa Department of Natural Resources

Iowa's Department of Natural Resources (DNR), like many other states, annually limits the number of Nonresident hunters it allows to hunt big game within its borders to preserve hunting opportunities for residents. Iowa also depends upon sales of nonresident hunting licenses to fund wildlife management and conservation law enforcement operations. Operational costs have increased and fee increases required of resident and nonresident hunters are unpopular. Efforts to increase revenue by recruiting new resident hunters have been ineffective, while nonresident deer license sales are restricted to 6,000 licenses, approximately three percent of total license sales.

In 2004, the DNR proposed increasing the allowable number of nonresident deer licenses by 6,000 licenses. This proposal was rejected by resident hunters and the Iowa legislature. The DNR proposed an increase of 3,000 licenses in 2006, this too was rejected.

This study examines factors that influence resident deer hunter resistance to allowing the DNR to issue more nonresident any-deer licenses. Preliminary analysis suggests strong correlations between a respondent's intention to support a DNR proposal that increases nonresident any-deer licenses by 1,500 licenses and respondent's perceived certainty: of having a place to hunt; that the deer population can withstand an additional harvest consistent with issuing 1,500 additional licenses; of seeing an acceptable number of bucks; that they will have an opportunity to take a buck, and that they will have an un-crowded place to hunt. Further analysis and the development of a regression model that predicts resident hunter's support for issuing 1,500 additional any-deer licenses is continuing.

Baitfish use and aquatic nuisance species in Kansas

Jason Goeckler, Kansas Department of Wildlife and Parks

The mission of the Kansas Department of Wildlife and Parks (KDWP) is to conserve and enhance Kansas' natural heritage, its wildlife, and its habitats. KDWP's underlying philosophy is to manage natural systems properly by striking a balance between natural resource integrity and human benefits. As a natural resource agency, KDWP is greatly concerned with the risk ANS pose to the natural environment. ANS can disrupt the natural ecosystems by altering the composition, density, and interactions of native species. To protect the natural resources of Kansas and to prevent the spread of ANS through public uses of these resources, KDWP needs to better understand the public's values associated with baitfish collection, transport, and use. Further, based on public values and resource utilization, KDWP needs to evaluate the potential for ANS spread via the collection and transport of baitfish. To comply with the Department's mission, KDWP needs to balance the public's use of the baitfish resource with resource protection from ANS.

We will randomly select a sample subset of 2006 Kansas licensed anglers stratified by resident and nonresident license type (i.e. annual license, lifetime license, 24-hour license, 5-day license). A postcard will be mailed to 5000 participants with the address to a web-based survey in an effort to receive a proportionate return of surveys from each license category. Participants that would prefer to fill out a paper survey will have that option. To identify non-response bias, we will conduct a short phone survey of 50 individuals as a non-response check. If an insufficient number (<400) of completed surveys are returned, a second set of postcards will be mailed. SPSS will be used to test hypothesized relationships. With a cost around \$5,000, the study is to be completed by July 1, 2007. Upon completion of the survey, the data generated will identify public use of the baitfish resource of Kansas and angler use patterns to inform strategies aimed at eliminating the spread of ANS via baitfish collection, transport, and use. A final project report will be drafted and presented to the KDWP Commission. A revision of baitfish regulations will be conducted if warranted.

An evaluation of trapping on Kansas Department of Wildlife and Parks managed public lands

Matt Peek, Kansas Department of Wildlife and Parks

Trapping on public lands in Kansas can be a contentious issue, particularly related to dog captures, and there is a need to obtain information on this subject. However, traditional disputes limit the reliability of information available from hunters and trappers on this issue. Kansas Department of Wildlife and Parks (KDWP) public land managers are familiar with the issues pertinent to trapping on KDWP managed public lands, but their opinions on the subject have not been collected. The characteristics of dog captures in traps on KDWP managed public lands are also not known. The purpose of my study is to evaluate whether Department intervention is needed to minimize incidents between trappers and dog owners. The primary objectives of the study are to determine whether KDWP public land managers support the current trapping regulations on KDWP managed public lands, and to evaluate the frequency and injury status of dogs captured in traps on KDWP managed public lands. To obtain this information, a census of KDWP public land managers (n=32) and their respective supervisors (n=5) will be conducted. The results of the survey will allow KDWP staff to make informed decisions about trapping on KDWP managed public lands. Specifically, the information obtained will help us evaluate whether current public lands trapping regulations are acceptable, identify which trap types are most problematic relative to dog captures, identify trapper education needs, and defend the current regulations or justify regulatory alternatives. At least partial analysis of survey results will be completed by June 21, 2007, at which time select results will be presented to the KDWP Commission. A report on the project will be completed and provided to KDWP employees so that they may better respond to future inquiries about trapping on public lands.

Identifying key terms for a 1/8-cent dedicated sales tax initiative for wildlife conservation in Kentucky

Brian Clark, Kentucky Department of Fish and Wildlife Resources

Traditional sources of funding for wildlife conservation in Kentucky are inadequate to meet future needs. Factors including declines in hunting and trapping participation rates, shifts in Kentuckians' demographics, and nontraditional demands for resources and services all contribute to the need for a stable, long-term funding source. In 1997 a Task Force on Funding for Wildlife Conservation recommended that Kentucky adopt a new 1/8-cent sales tax dedicated for wildlife conservation through a constitutional amendment, similar to measures Missouri and Arkansas have enacted. The report cited a contemporary survey of Kentuckians that revealed a general public that was deeply divided on support for such a tax. However, a series of 2006 public meetings for Kentucky Department of Fish and Wildlife Resources' (KDFWR) strategic planning revealed support for such a measure by many participants. KDFWR and its Commission are evaluating the viability of this means of potential long-term funding.

In this study we will review, through literature and staff interviews, Missouri's and Arkansas' case histories regarding terms used in research and communications in their conservation sales tax initiatives. We will also investigate public opinion on alternative terms that could be used in a conservation sales tax initiative in Kentucky. In each of 5 iterations (100 each, $n=500$) of a telephone survey administered in September 2007, we will substitute different terms to represent possible sales-tax funding targets and message components ("wildlife conservation," "fish and wildlife conservation," "state parks," "forest and farmland conservation," and "clean water"). We will elicit from randomly selected, active Kentucky voters: advantages and disadvantages of, and likelihood of voting for, a conservation tax amendment (for the respective terms used); voter registration status and recent general election voting status; and basic demographic data. We will conduct a nonresponse check by telephone with 50 nonrespondents (10 for each term stratum).

Fish and wildlife policy making: Identification of issues, level of public involvement, and models for integrating biological and social information

Katherine DonCarlos, Minnesota Department of Natural Resources, Division of Fish and Wildlife

Public participation in environmental decision making has evolved over time and can be characterized using three models (Beierle & Cayford, 2002). In the managerial model, which was popular in the late 1800's to 1950's, agencies designed policies which produced the most good for most of the constituents for the longest time. Beginning in the 1950's, a pluralism model was utilized where government administrators arbitrated among differing public interests. More recently in the 1990's, agencies began using a popular democracy model where public participation processes influence policy making.

Modern natural resource agencies recognize the need to better understand and incorporate public values in policy making (Teel et al., 2005). Natural resource agencies also need to reflect on the types of issues or problems that should be addressed with the public, appropriate roles for the agency and its public for identifying solutions, and approaches for balancing social and biological information in policy making. Not being able to anticipate, identify, and address major issues benefiting from social information can lead to decreased effectiveness of programs, disenfranchised public and stakeholders, and decreased effectiveness in policy-making.

The overall purpose of the study is to discover and describe agency approaches for identifying resource issues that benefit from or require public input and for understanding the weight of social influence on solutions to those issues. Specific study objectives include describing frameworks for: (a) the types of natural resource issues or problems that agencies should address with the public, (b) appropriate roles for the agency and its public for identifying solutions, and (c) models for integrating biological and social information in natural resource policy making.

Information will be collected from public policy and natural resource professionals, social scientists, and public participation practitioners in North America through an interview process. Potential participants will be identified based on their current or past involvement or research pertaining to public policy making, natural resource policy making, and human dimensions. The findings from the interviews will be summarized in a written report along with related literature.

Assessing Montana resident license holder's attitudes toward Montana Fish, Wildlife, and Parks enforcement efforts, activities and interactions

Thomas B. Flowers, Montana Fish, Wildlife and Parks

Montana resident hunters, anglers and park users have never been specifically queried as to their interaction with and attitude toward, Montana Fish, Wildlife & Parks (MFWP) Wardens. Other MFWP program areas have been assessed by surveying the particular user attitude and expectations. MFWP Wardens collectively contact more resident license holders in the field and disseminate more information than other Department employees. How are these interactions with MFWP Wardens perceived by the license holders? What are their attitudes toward wardens? In this relationship, are there areas of strengths and weaknesses that can be recognized and/or addressed? Potential respondents (resident FWP license holders), will be identified by their willingness to participate in an expanded survey effort pursuant to their interaction in the field with an identified MFWP Warden. At the time of contact in the field, mail back cards will be distributed, respondent address recorded and a subsequent in depth survey mailed out to the willing participants. Data collected from these mail back surveys will be analyzed to assess Montanan resident license holders' attitudes toward and expectations of MFWP Wardens.

Elk hunter access to private land in Montana: Is limited access really the cause of burgeoning elk populations?

Joe Weigand, Montana Fish, Wildlife and Parks (FWP)

Limited hunter access to elk on private land is suspected to be a primary cause of burgeoning elk numbers in Montana. Despite progressively liberal hunting seasons, this trend has continued to the point of many areas far exceeding population management objectives. This project seeks to answer the question: "What is the current elk hunter access situation on private lands in areas that have exceeded elk population objectives?" Through this project, FWP will gain a better understanding of the current access situation and assess future direction, possible implications, and guidance for future management decisions related to access. The specific objectives are to assess the impacts of changing large-tract landownership on elk hunter access and how landowner access management preferences determine hunter access and therefore elk population management. Large contiguous tracts of land (>640 acres) are considered to provide the greatest opportunity for elk harvest, assuming that hunters have access to it. Therefore, a targeted mail census will be completed using self-report mail-back questionnaires of landowners owning 640 acres or more. FWP wildlife managers have identified 43 specific hunting districts (HDs) that are particularly problematic regarding elk populations being above objective levels. HD boundaries will define census areas that will be used to target private lands that hold elk populations in excess of management objective. Montana landowner databases were used to generate details for 3308 landowners within these HDs. Questionnaires will be mailed to these landowners. Two-week reminder postcards will be mailed to non-respondents and after four-weeks a replacement census form will be mailed to remaining non-respondents. To obtain near census quality data an abbreviated phone survey might be attempted with remaining non-respondents. Data analyses will be performed using Statistical Package for the Social Sciences (SPSS), Version 14.

Public response to state park naturalist programs and the benefits

Neal Bedlan, Nebraska Game and Parks Commission

Studies have shown that the children and adults of today are becoming more and more disconnected from the outdoors and the natural environment. For the Nebraska Game and Parks Commission this disconnect from the outdoors might be blamed for the decrease in State Park attendance and possibly even the decrease in hunting activities. One approach to reconnect people with nature is to provide the public with naturalist program opportunities in the State Parks system. As Nebraska State Parks is looking to increase attendance, providing naturalist program opportunities could be one solution to reconnect people to nature and increase park attendance at the same time. A study will be conducted that examines the benefits of naturalist programs in Nebraska State Parks. The study will determine if naturalist programs originally attract people to the State Park and if the naturalist programs reconnects people to the natural environment. The study will also look at the theory that a person attending a naturalist program has a better chance of being connected or reconnected with nature. In turn, that person might plan to participate in more nature based recreational activities such as attending state parks, bird watching or hunting. The study will review all the benefits of the naturalist programs and provide management with information needed to assist them in the decision making process. This study will be conducted at Ponca State Park which is Nebraska's premier environmental education parks. Ponca has the most established naturalist program and can accommodate the various demands of this study.

Motivations and constraints behind the Nebraska small game hunter

Alicia Hardin, Nebraska Game and Parks Commission

In conjunction with a Recruitment, Development, and Retention Plan, Nebraska Game and Parks Commission is conducting a survey to provide insight on the constraints and motivations of Nebraska small game hunters. After a review of the Nebraska hunting license database, it was found that Nebraska small game hunters could be stratified into four groups; resident high purchasing rate, resident low purchasing rate, non-resident high purchasing rate, and non-resident low purchasing rate groups. Someone considered in the high purchasing rate group will have purchased a license three or four years out of four, whereas the low purchasing rate group will have purchased one or two years out of four. One of the purposes of this study is to find the motivations and constraints behind low and high purchasing rate small game hunters at the individual and macro levels, including comparing resident and non-resident Nebraska hunters. Some of these constraints or structural variables are those at an individual level, such as circumstances of one's life (married, single, children, etc.), having time to hunt, friends to go with, and enough income to purchase equipment and travel. Some constraints are those at the macro level, such as distances from good hunting locations, public access for the type of hunting pursued, and urbanization. The macro constraints should be identifiable between metro and rural resident hunters. It would be expected that hunter living in a Nebraska metro area would be more likely to be affected at the macro level due to the need to travel farther distances to hunt than a rural resident.

Contributors of Pittman Robertson Funds

LuAnn Tafoya, New Mexico Game and Fish Department

Nationally, hunters and shooters contribute \$150 million annually to wildlife conservation through an excise tax on ammunition and firearms. This excise tax filters into the Pittman Robertson Fund. The PR Fund helps state agencies fund wildlife improvement projects and conservation efforts in general. Hunters contribute another \$560 million to conservation through the purchase of hunting licenses. These funds are beneficial in helping wildlife and its habitat nationwide. The New Mexico Department of Game and Fish would like to know the breakdown of contributors of the PR Fund in its state and the overall satisfaction rating of their wildlife conservation efforts. The Game and Fish Department's mission is to focus on what hunters want, but in this day and age hunters are not the sole contributors to the PR Fund. Target shooters are increasing and the amount of dollars that is contributed by this group is rising.

According to the National Shooting Sports Foundation, there are 28 million target shooters and hunters. In New Mexico, there are approximately 100,000 hunters. How many target shooters in New Mexico are there? Are there target shooters that do not hunt, but yet contribute to the Pittman Robertson Fund? Has this group's concerns about wildlife been addressed by the Department? These questions need to be answered. All contributors' voices need to be heard and have a say as to how the state's wildlife resources are managed. This study by the New Mexico Department of Game and Fish is to find out who contributes to the PR Fund, what their concerns about wildlife are, and what actions the Department will need to take to implement better wildlife management practices.

Human dimensions of black bear management in Oklahoma

Andrea Crews, Oklahoma Department of Wildlife

After extirpation from Oklahoma in the 1930's, black bears have re-established in the southeast region of the state. Preliminary results of a study at Oklahoma State University indicate the black bear population can sustain a limited harvest. In 2006, the Oklahoma Department of Wildlife Conservation (ODWC) was granted the authority to open a black bear season, and may do so in the fall of 2008. This study examines hunter interest in participating in the proposed black bear hunting season as well as willingness to pay for a black bear hunting license. A telephone survey of 400 hunting license holders will be used. Data analysis will include comparisons between hunters residing in southeast Oklahoma versus the rest of the state. Study results will supplement information gained through ODWC's formal public hearings and comment period, allow ODWC to gauge latent demand for a black bear season to guide selection of season parameters, and

Socioeconomic study of the Lake Amistad Reservoir recreational fishery

Jeremy Leitz, Texas Parks and Wildlife Department

Texas Parks and Wildlife Department (TPWD) will conduct a survey of Lake Amistad Reservoir anglers using an access point creel survey design starting in January of 2007. The sampling frame for this study is all Lake Amistad Reservoir anglers. To ensure adequate numbers of anglers, the number of days spent creeling at local boat ramps will be increased as necessary. As is typical with TPWD surveys, the Dillman (2000) survey methodology will be used to ensure the best possible response rate. This consists of two mailings with a cover letter describing the study, the questionnaire, and a postage-paid return envelope. A thank you/reminder post card will be mailed one week after the first mailing of the questionnaire. To help reduce recall bias, surveys will be sent out on a monthly to bi-monthly time frame. This study will provide an understanding of the fishing clientele in terms of social and demographic characteristics as well as the various anglers segments currently served in terms of their characteristics, experience preferences, attitudes, and managerial preferences. Fisheries management personnel also want angler feedback on a variety of management scenarios so they could better meet angler wants and needs and to enhance overall satisfaction with their fishing experiences at Amistad. Aside from an overall perspective on fishing at the reservoir, an interest exists in knowing more about the tournament anglers, their expenditures, and the overall local and state level economic output. The extent of total economic output from angler expenditures (direct economic impacts) and their indirect economic impacts on the local and state economy will be analyzed. The I-O (Input-Output) model developed by the IMPLAN program will be used to present total estimates of output, labor income, value added, and employment.

Resident hunters in Texas: Analysis of license databases and focus groups

Sally Williams, Texas Parks and Wildlife Department

Maintaining the hunter population is important to the Texas Parks and Wildlife Department. Sales of resident hunting and combination licenses in Texas have been flat, at approximately 1 million, since the mid 1980's, despite increases in the state population. This research is the first part of a longer-term human dimensions project to help TPWD develop programs and marketing efforts to improve retention of current hunters and encourage more frequent license purchase amongst hunters. An analysis of the license databases for the past 5 years will provide a measure of hunter "churn," which occurs when individual hunters do not purchase a license every year even though they have not stopped hunting entirely. A preliminary analysis of the data indicates that only 21% of resident hunters have purchased every year in the last five, 42% have purchased two to four times, and 36% have purchased only once, demonstrating an opportunity to increase license sales to existing hunters. The analysis will also yield the size of hunter segments based on individual hunters' license purchase patterns over the 5 year period: Core, Intermittent, Lapsed, and New hunters. The license database and Business Analyst software, supplying additional lifestyle data tied to a hunter's place of residence, will be used to identify the characteristics that typify and differentiate these hunter segments. Focus groups held with male Core (purchased 5/5 years) and Intermittent (purchased 2/5 years) hunters in the three primary centers of the Texas hunter population will give insight into the differences in the attitudes and experiences of these two groups. Topics for the qualitative research include barriers to yearly participation faced and navigated by hunters, including discussion around common reasons for non-participation such as "access" and "lack of time," hunting history, social support desired and obtained by hunters, and motivations for hunting.

Assessing the public's ability to support legislative amendments to voter-approved initiatives: A case study and public attitude survey regarding Washington's Initiative-655

Stephen A. Pozzanghera, Washington Department of Wildlife

The use of dogs for hunting cougar has become increasingly controversial and has been eliminated through ballot initiatives in a number of western states including in Washington. However, unlike other western states, legislative amendments have made substantive changes to the voter-approved initiative in Washington and have liberalized the use of dogs for hunting cougar. The Washington Department of Fish and Wildlife (WDFW) will utilize a modified Dillman approach (i.e., 3-wave mail survey) to assess 1) the public's knowledge of the original initiative, 2) the current public understanding of legislative amendments to the initiative and 3) the conditions/circumstances whereby the residents of Washington find the use of dogs for hunting cougar to be acceptable. The random survey of Washington residents will be stratified such that results can be compared between 6 different cougar management units encompassing 34 of Washington's 39 counties. Results of the survey will be used to make recommendations to the state legislature regarding the use of dogs for hunting cougar in Washington.

Creation of a user-pay system for wildlife watchers in Utah

Jill West, Utah Division of Wildlife Resources

Funding for wildlife management is not keeping pace with population growth in Utah. Wildlife viewing is increasingly popular as a form of recreation, both as a recreational end in itself, and as a more casual form of recreation that is integrated with other activities such as hiking, biking, cross-country skiing, and sight seeing. Wildlife viewers, (whether avid or casual) are not required to purchase a license to participate, and therefore do not directly fund wildlife management in Utah. The Utah Division of Wildlife Resources would like to create a mechanism whereby the wildlife watching public would financially support the Division and its programs. To successfully generate revenue from the wildlife watching public without seeming antagonistic, the Division must better understand how to serve the wildlife viewing public in Utah. In particular, we should ask them how they would like to help pay for wildlife management in Utah. The proposed study will consist of two phases: generating possible ways the UDWR could better serve the wildlife viewing public and a quantitative survey of wildlife viewers to evaluate their level of interest in and willingness to pay for each idea. Ideas will be gleaned from surrounding states' Watchable Wildlife programs and a series of personal interviews with avid wildlife viewers in Utah. UDWR personnel have supplied the names of several avid wildlife viewers, and I will use a snowball sampling technique to acquire the additional names necessary for the study. The quantitative survey will be conducted on the Internet, using images and sound in addition to verbal descriptions. The survey sample will be a self-selected group of wildlife viewers in Utah. Postcards and Internet postings will be the primary means of alerting the public about the survey. Upon completion, I will have a prioritized list of recommendations to UDWR regarding potential tools for generating revenue from the wildlife watching public in Utah, while better serving their needs.

Wyoming Game and Fish Department employees' attitudes and values towards wildlife and wildlife management in Wyoming

Teresa Cole, Wyoming Game and Fish Department

The values of stakeholders and other publics in Wyoming represent important information for an integrative approach to wildlife management and collaborative decision making. While some information is known about the public's wildlife values and orientation, no quantitative information exists on the wildlife values and orientation of the employees of the Wyoming Game and Fish Department themselves. This study will help further the effort to better understand and interact with the public by researching the attitudes and values of Game and Fish Department employees towards wildlife and wildlife management in Wyoming. Through an online census, the study will collect social data on agency personnel – what values do employees, positions, regions or the agency as a whole place on wildlife. Questions will be taken from and compared to the larger "Wildlife Values in the West Study," completed in 2003 for Western Association of Fish and Wildlife Agencies by the Colorado State University, Human Dimensions in Natural Resources Unit. Knowledge about the disparity between the wildlife value orientations held the public and those held by agency employees can help managers better gauge support for or opposition to management policies and select appropriate personnel and tools to reach sectors of the public with information about wildlife policies and recreation opportunities.

Improving public input processes for the Wyoming Game and Fish Department

Eric Keszler, Wyoming Game and Fish Department

This project involves developing an effective and efficient system for gathering and analyzing public input related to wildlife management for the Wyoming Game and Fish Department. Although any existing guidelines are very general and vague, the department is required to gather public input related to its management and policy decisions. All Wyoming Game and Fish Commission meetings are open to the public, and the public is provided time to comment. In addition, the department currently makes numerous proactive attempts to gather public input through a variety of means, including open houses, public meetings, surveys, and a variety of informal means.

However, there is little structure to the department's current public input efforts. For example, sometimes we allow 30 days for the public to comment on an issue; sometimes we allow 45 days; sometimes 90 days; and sometimes even more. We sometimes allow people to comment by e-mail, but we often don't. For a few issues, we have formed community-based working groups to provide input and to participate in establishing management plans. But on most issues, a policy or plan is developed internally and then released for public comment.

The result of this unstructured approach has been some dissatisfaction both internally and externally. Internally, many of our personnel feel that public input is a drain on resources for little meaningful return. Many of our season-setting meetings are poorly attended, and it seems that those who do attend are usually in the vocal minority. In this case, the input we receive is probably not representative of all of the views of all of our stakeholders.

At the other extreme, we receive tens of thousands of comments on some of the high-profile issues we deal with, like grizzly bears and wolves. These comments come from both inside and outside Wyoming and represent the whole spectrum of opinions from either extreme and all points in between. The department struggles with how to analyze these comments and somehow draw some useable conclusions from them.

As in many other western states, times are changing in Wyoming. For a variety of reasons, it's becoming more important, if not absolutely critical, to gain a better understanding of the public's attitudes and desires concerning wildlife, and to involve the public in decision-making processes in a meaningful way. This project is designed to create a more effective system for gathering and analyzing public input. An internal working group will use information gained from the human dimensions course to design a well-thought-out, structured system that is flexible and can be applied to different situations and needs.

Summary of Course Evaluation

Upon completion of the Human Dimensions Training Program, each participant filled out a fixed-format survey (see Course Evaluation Survey, p. 30) regarding the following components of the course:

1. Self-assessed abilities related to the Training Program goals, both prior to and upon completion of the Training
2. The overall course format
3. The priority of topics covered during the Leadership Forum Speaker Sessions
4. The preferred emphasis of core courses

Analyses of the completed surveys determined that participants felt their skill levels and abilities in relation to the four goals (see page 3) set forth by the Training Program were higher upon completion of the training. Skill levels and abilities were rated on a 7-point scale ranging from low to high skill level. On average, participants felt they doubled their skill level after completing the course.

Participants were then asked questions on a yes/no scale about the overall program format, in the event that the Training Program is to be continued. All participants felt that the program should definitely be continued; however, respondents were divided on whether there should be changes to the following: the types of topics covered during the Leadership Forum Speaker Sessions, the program format of four week sessions held over the course of a year, and the core courses that were offered.

Participants were then asked to rank the topics covered during the Leadership Forum Speaker Sessions in order of priority on a 4-point scale from low to high. The only topic ranked by more than 50% of participants as high priority was "Perspectives of Directors and Commissioners on the Need for HD Approaches." Other topics that had more than 35% of participants ranking them as high priority (listed in descending order of importance) include "Surviving as an HD Specialist," "Attitude Change and Persuasion," "Economic Approaches," and "Personality Tools and How They are Constructed."

Participants were also asked on a 3-point scale (decrease, about the same, and increase) how much emphasis should be placed on each of the core courses that were taught (excluding the Leadership Forum Speaker Sessions). More than half of the participants (60%) wanted to increase the emphasis of "Public Participation in Natural Resource Decisions," which was taught as a one-week session. Almost a third of participants wanted "Key Concepts in HD of Natural Resources" (taught as a two-week session) to increase in emphasis. The majority of participants ($\geq 60\%$) wanted all courses other than the Public Participation course to have about the same emphasis as they did in the 2006-2007 offering of the Training Program.

An additional debriefing of the course was conducted onsite by Training Program coordinators and course instructors at the conclusion of the last weekly session in May 2007. Recommendations from the fixed-format survey and the debriefing with participants have been compiled and will be submitted to the Western Association of Fish and Wildlife Agencies (WAFWA) in a separate document.

Course Evaluation (Survey)

	<h3 style="margin: 0;">Human Dimensions Training Program Survey</h3>	
---	--	---

This survey is intended to measure your opinions regarding the Human Dimensions Training Program. Please answer every question - your input is highly valuable! Your answers will be used in evaluating the success of the Training Program as well as the potential need for future training programs.

The following is a list of goals for the Human Dimensions (HD) Training Program. Please indicate your perceived level of ability on the two separate scales for each goal listed. The first scale relates to **your perceived level of ability prior to the first week** of Training. The second scale relates to your perceived **level of ability after the last week** of Training.

		Low					High	
Knowledge and skills necessary to conduct a descriptive human dimensions survey for my agency.	Prior to Training	1	2	3	4	5	6	7
	Post-Training	1	2	3	4	5	6	7
Able to successfully implement, evaluate, and continually improve stakeholder processes.	Prior to Training	1	2	3	4	5	6	7
	Post-Training	1	2	3	4	5	6	7
Have the foundation for informing wildlife decisions with an HD perspective.	Prior to Training	1	2	3	4	5	6	7
	Post-Training	1	2	3	4	5	6	7
Have an awareness of the challenges and benefits of providing an HD perspective within the agencies.	Prior to Training	1	2	3	4	5	6	7
	Post-Training	1	2	3	4	5	6	7
Have an increased awareness of the nature of professional involvement and participation that can increase the agencies' HD capacity.	Prior to Training	1	2	3	4	5	6	7
	Post-Training	1	2	3	4	5	6	7

Course Evaluation (Survey continued)

The following is a series of statements regarding the Human Dimensions Training Program and whether you would recommend this course in the future. Please place a check mark next to the statement that represents how you feel regarding the Training Program. If you feel there needs to be changes, please use the second set of questions.

The HD Training Program should be continued, as is, with no changes.

OR (check all that apply)

The HD Training Program should be continued, but with some changes to the types of topics discussed.

The HD Training Program should be continued, but with some changes to the format of having four weeks of class spread throughout the entire year.

The HD Training Program should be continued, but with some changes to the core courses that are offered.

The HD Training Program should not be continued.

The following is a series of statements regarding the speaker sessions from the Human Dimensions Training Program. Please indicate the extent to which you think **the topics covered during the speaker sessions should have priority** should the training be offered in the future. (Note: Please make your decision based on the course content, and *NOT* the speakers).

	Low Priority			High Priority
Personality Assessment Tools and How They Are Constructed (Larry White & Chuck Davidshofer)	1	2	3	4
Perspectives of Directors and Commissioners on the Need for HD Approaches (Duane Shroufe, Terry Cleveland, Bob Hernbrode, & Mark Pinkerton)	1	2	3	4
Philosophy of HD in the Agency (Bruce Gill)	1	2	3	4
Leadership Assessment (Peter Newman, Kurt Kraiger, & George Thornton)	1	2	3	4
Surviving as an HD Specialist in the Agency (Larry Gigliotti, Dan Witter, John Smeltzer, Rob Brooks, Cindi Jacobson)	1	2	3	4
HD and the U.S. Fish and Wildlife Service (David Fulton)	1	2	3	4
Needs & Approaches for HD Internationally (Michael Mascia)	1	2	3	4
Attitude Change and Persuasion (Alan Bright)	1	2	3	4
Economic Approaches (John Loomis)	1	2	3	4
Social Impact Assessments (Rabel Burdge)	1	2	3	4
Environmental Leadership Workshop (Joyce Berry & John Gordon)	1	2	3	4
Public Relations (Delwin Denson)	1	2	3	4

Course Evaluation (Survey continued)

The following is a series of statements regarding the core courses of the Human Dimensions Training Program. Please indicate whether you think **the core courses should have an increase or decrease in emphasis** in future trainings. Please circle your response. (Note: Please make your decision based on the course content, and *NOT* the speakers).

	Decrease emphasis	About the Same	Increase emphasis
Integration of Human Dimensions into Natural Resources Decision-Making: Provides training in the application of human dimensions information. Participants will learn how to effectively incorporate this information into the decision-making process and use this information to address important agency challenges and questions.	-1	0	1
Key Concepts in Human Dimensions of Natural Resources: Provides training in key human dimensions concepts. Topics include attitudes and attitude studies, understanding public values in relation to wildlife and wildlife management, the multiple satisfaction approach, carrying capacity, recreation planning frameworks, and defining and estimating demand for participation in wildlife-related recreation activities.	-1	0	1
Methods in Human Dimensions of Natural Resources: Provides training in research problem identification, steps in the research process, survey methodology and administration techniques, and validity and reliability considerations.	-1	0	1
Analysis in Human Dimensions of Natural Resources: Provides training in data entry and encoding procedures using SPSS, hypothesis development, and identification of appropriate statistical procedures for analysis questions, interpretation of statistical results, and write-up and reporting of results.	-1	0	1
Public Participation in Natural Resources Decisions: Provides training in stakeholder processes. Specifically, participants will be exposed to diagnostic tools; from the menu of possible involvement methods and available organizational resources, they will learn which methods are appropriate for specific situations, issues, and stakeholders.	-1	0	1

Please use the following lines to express your ideas on how to structure future Training Programs, including both classroom content and scheduling of the Training Program. We will discuss this as a group, so you can be brief.

Additional comments?

**Thank you for your time and involvement in the first Human Dimensions Training Program.
We greatly appreciate your enthusiasm and support for this effort.**

For additional information,
please visit the Human Dimensions Training Program website at:
<http://www.warnercnr.colostate.edu/NRRT/hdnr/hdtraining/>

Or contact the following:

Tara Teel
Training Program Co-PI, Coordinator and Course Instructor
Warner College of Natural Resources
Colorado State University
Fort Collins, CO 80523-1840
tteel@lamar.colostate.edu
970.491.7729

Alia Dietsch
Training Program Assistant, Graduate Research Assistant
Warner College of Natural Resources
Colorado State University
Fort Collins, CO 80523-1840
alia@cnr.colostate.edu
970.491.4865