
This paper argues for an acknowledgement of the influence of societal influences on conservation biology. The authors feel that a strictly positivist approach could result in conservation biology becoming merely a subdiscipline of biology rather than a distinct field. They believe that conservation biology is based on the value-laden premise that biodiversity is important in its own right and should be preserved. Without this underlying value, research may be reduced to conservation only for human benefit which could mean an emphasis in the molecular aspect of biology as opposed to focusing on ecosystems. The authors conclude that conservation biologists have an obligation to provide policy makers with not only knowledge, but with prescriptive recommendations. They also encourage biologists to be self-reflective in examining their own values and to engage in extensive cross-disciplinary research.
This study examines results of a survey of attitudes of the general public of Wyoming, residents surrounding Yellowstone National Park, and special interest groups (members of the Wyoming Stock Growers Association, Defenders of Wildlife, and the Wyoming Wildlife Federation) toward wolves and wolf reintroduction into the park. The survey was mailed or hand delivered and 1026 people responded. Defenders of Wildlife had the most positive attitudes toward wolves and Stock Growers had the least positive. Almost all the Stock Growers were against reintroduction while almost all the Defenders supported it. Even if financial incentives were offered, low livestock losses were guaranteed, the wolves would not be allowed to leave the park, or wolves that killed livestock would be killed themselves, very few respondents would change their opposition to the reintroduction. Those who supported reintroduction were also very unlikely to change their opinion even if it meant a tax increase. Proximity to the park was only found to explain 1% of the variance in attitude toward wolf reintroduction, while attitudes toward wolves was found to explain over 70% of the variance. The study found that knowledge levels were low among all groups, but the members of the wildlife organizations had higher scores than the other groups. The authors conclude that compromise is necessary in controversial situations such as this and that using the willingness of supporters to incur increased taxes might be used as a starting point. They also point out that the public is not well educated about wolves and knowledge must be increased in order to make working with the public productive.
This study identified attitudes toward biodiversity and barriers toward communicating the importance of biodiversity. It also identified the best approaches to overcoming these barriers. Seven focus groups composed of active voters who were neither committed to or antagonistic toward environmentalism and three groups composed of elementary through high school teachers, community leaders, and environmentalists were held in Baltimore, Jacksonville, Chicago, Tacoma, and Sacramento. The authors discovered a lack of attachment to nature among the respondents and more concern about issues other than the environment. The reasons that were cited for protecting the environment were anthropocentric and utilitarian (i.e., protecting human well-being and preserving the natural world for future generations) but human needs almost always took precedence over protecting biodiversity. Most respondents did not believe that losing biodiversity was having an adverse effect on humans and thought that preserving biodiversity was an unreasonable goal. Many also did not want to preserve species which do not appear to have any value (i.e. insect pests) to humans. Most respondents did not believe that people are responsible for species loss and thought that extinctions are natural and that nature is resilient. There was a lack of understanding about the meaning of biodiversity as well. Most people thought it indicated difference but not the connectedness of all living things. When given a choice, most respondents found the concept of ecosystems easier to understand. The authors concluded that biodiversity loss has not been presented in a coherent manner but instead in fragmented examples usually focusing on one species. To make their efforts more palatable to the public, managers should focus on preserving habitat rather than individual species. Education efforts about biodiversity need to focus more on the connection between human well-being and preserving biodiversity and between humans and the loss of biodiversity. Emphasis on ecosystem services, stewardship, aesthetics, and economic self-interest can help to promote biodiversity objectives.

This study attempted to determine public opinion on the environment, focusing on five areas: attitudes toward environmentalism and the environmental movement, public's assessment of the state of the environment, public's assignment of priorities concerning the environment, the environmental issues of most concern, and the role of government in environmental protection. The authors reviewed and analyzed several surveys which addressed environmental issues conducted during 1992-1995. In general, 2/3 to 3/4 of respondents agreed that the U.S. should do whatever it takes to protect the environment. Almost half agree that there should be stricter laws and regulations to protect the environment and that people should be willing to pay more to protect the environment. Over 30% thought that protecting the environment was a critical issue but only 1-2% said the environment was the most important issue facing the country. In rankings of the most serious environmental problems, pollution is typically deemed the most serious, while habitat and species loss are at the bottom of the list. However, half the respondents felt that government had not done enough to protect endangered species. The authors concluded that there is general support for protecting the environment and for increasing or maintaining laws and regulations concerning the environment but people do not view preserving biodiversity as one of the more pressing environmental issues.
The purpose of this study was to determine the values which inform people's view of the environment and, specifically, biodiversity. Data were gathered from 2005 phone surveys of Americans. Respondents typically placed protecting the environment lower on a priority scale than crime, public education, the economy, health care, and cutting government spending. Among environmental issues, toxic waste, loss of rain forests, land development, and loss of natural places were typically ranked as the most serious problems. Almost 70% believed that species are decreasing and almost 60% believe that most extinctions are caused by human actions. Biological diversity was not a familiar term but when it was defined, over 80% said that maintaining it was important to them; however, when trade-offs, such as protecting jobs, were introduced, support fell by half. Specific biodiversity issues which were of the most concern to respondents were the consumption of toxins in food and water and the effects of those toxins on humans and the destruction of the natural environment which serves to clean air and water. The most important reasons for protecting the environment were wanting one's family to live in a healthy, pleasing environment, leaving the earth in good condition for future generations, and recognizing the nature is God's creation. The authors concluded that it is more important to educate the public as to why biodiversity loss is important to humans rather than stress that species loss is happening.
The objective of this study was to determine the values and attitudes of Americans toward sprawl and related habitat destruction. Twenty focus groups made up of homeowners, renters, suburbanites, and city dwellers were carried out around the nation. The core values which form the basis for deciding where to live were responsibility to family, freedom, and appreciation of nature. People chose sprawl housing because of privacy, space, freedom from congested centers, and appreciation of nature while others chose different housing because of convenience and a sense of community. Both groups sought similar community characteristics such as sidewalks, wider streets, and bigger yards. The majority of respondents wanted to live in a culturally, but not economically, diverse neighborhood. Suburbia was often association with a loss of individuality but is seen as being planned, unlike sprawl. Respondents agree that sprawl could not be stopped but should be controlled to mitigated the negative consequences such as pollution, wildlife habitat destruction, overcrowding, and "cookie cutter" housing developments. Environmental reasons for controlling sprawl were frequently mentioned and strongly supported by many of the groups. The word sprawl had generally negative connotations and was associated with unplanned growth, overcrowding, and smog though some respondents associated it with quiet, lack of crowding, and economic growth. The authors recommended that public relations campaigns against sprawl should focus on the core values (responsibility to family, personal enjoyment of nature, and freedom) discovered in this study and how sprawl violates those values. Protection of green space is very important to people and this should also be emphasized. Planning for growth should also be stressed as opposed to stopping sprawl since this may be viewed as hindering economic progress.
The objective of this study was to determine the attitudes and values of Americans concerning the environment and biodiversity and to compare these results with those from a similar survey done in 1996. To achieve this 1500 phone surveys were obtained from Americans across the country. The results were mixed. Though fewer people felt that a variety of environmental problems, including species and habitat loss, were extremely serious problems, more people felt that the environment was worsening in the U.S. More people had heard of the term biological diversity and slightly more believed maintaining biodiversity was very important. Slightly more felt we should maintain a strong ESA but fewer people believed that saving species was more important than saving jobs and fewer disagreed that some species could be eliminated. Fewer people rated any of the possible reasons listed for protecting the environment (nature is God's creation, nature for its own sake, etc) as extremely important but protecting the environment for future generations was the most important reason cited. Respondents were most concerned about the loss of ecosystem services and new medicines connected with a reduction in biodiversity. The most effective individual way to protect biodiversity was believed to be the cessation of pesticide use, followed by biking or walking instead of driving once a week. The most effective governmental way to protect biodiversity was believed to be tougher enforcement of anti-pollution laws on business and industry followed by strongly enforcing development regulations to protect habitat. The authors concluded that more awareness of the concept of biological diversity was not necessarily translating into more concern for loss of biodiversity but that people still want to protect the environment for future generations which can be emphasized in management plans.

The object of this study was to determine some of the environmental perspectives of the American Indian community. The authors conducted content analysis of 383 articles written by American Indians from 1991-2002 concerning natural resource management and found several themes. Traditional knowledge was viewed as more important as scientific knowledge but was also seen as needing to be integrated with scientific knowledge. Spiritual values help to identify what object, places, and management practices are revered and which are taboo. These concepts are then integrated with subsistence and commercial uses of resources. Environmental justice and racism were common themes which indicated a lack of trust between Indians and dominant institutions stemming from past thefts and abuses of Indian land. Ecosystem management is viewed as a traditional way of managing land which the government has only just taken up. Other themes included the link between sovereignty and management of natural resources, importance of subsistence uses of the land, and economic benefits from natural resources. The authors concluded that the deeper spiritual values of American Indians should be taken into account when developing management plans for areas they occupy, use, or view as important to them in some way.

The objective of this study was to examine trends in forest values in the U.S. The data was gathered from a content analysis of newspapers published between 1992 and 1996. The authors defined four broad categories of forest values: recreation, commodity-related, ecological, and moral/spiritual/aesthetic. They analyzed both the U.S. as a whole and in three separate areas (West, Interwest, and East) based on Forest Service Regions. The data indicated that recreation was the most commonly expressed value followed by commodity, ecological, and moral/spiritual/aesthetic values. Commodity values declined as recreation values while the other two value groups stayed about the same over time. Regionally, the results were very similar to the nation and there was little difference between regions. The authors conclude that, although commodity values are still important, other forest benefits are becoming more important. They also believe that, despite moral/spiritual/aesthetic benefits being placed at the lower end of the spectrum, these values reflect the deeper values of the public and may not be measured accurately by a technique like content analysis.

The objective of this study was to determine if attitudes toward ecological restoration are related to cognitive (perceived outcomes, value orientations, objective knowledge), affective (emotional responses), and behavioral factors. Further, the authors were interested if this relationship is affected by positive or negative attitudes of individuals towards restoration and by the importance of restoration to individuals. They also wanted to determine how individuals with positive attitudes differ from those with negative attitudes towards restoration concerning perceptions about outcomes, objective knowledge, value orientations, emotions, and behavior related to the environment. The data were gathered from 881 mail surveys of residents of the Chicago Metropolitan Region. Overall respondents had low knowledge levels about the environment with the group which had positive attitudes toward restoration scoring slightly higher than the group with negative attitudes. Perceived outcomes were strong predictors of attitudes toward restoration and influenced both negative and positive attitudes. Perceived outcomes were positive or negative, depending on positive or negative attitudes. Value orientations, emotions, and behaviors were strong predictors for the group which placed high importance on restoration but not for the low-importance group. Positive attitudes were affected more by value orientation than negative attitudes and negative attitudes were influenced more by emotions. Those with positive attitudes were more concerned about conserving species and preventing their loss, and valued all species, while the negative group supported human primacy over other species. More individuals in the positive group recycled than those in the negative group. The authors concluded that, despite the differences, there were many agreements between the positive and negative groups which managers could use as a common ground. Basic values were also similar but differed in strength from the positive attitude group to the negative attitude group. Knowledge had little effect on attitudes toward restoration which indicates that providing more information may not change people’s attitudes.
The purpose of this study was to test a model which proposes that beliefs and knowledge about wolves, emotions concerning wolves, and attitudes toward wolves affect attitudes toward reintroducing wolves, which in turn directly influences behavioral intentions to support reintroduction. The data were gathered from 1452 mail surveys from Colorado residents. The majority of residents supported wolf reintroduction and would vote for it if it was on the ballot. Attitude toward reintroducing wolves was a strong predictor of voting intention. The strongest predictors of attitudes toward reintroducing wolves were the symbolic existence beliefs, then positive emotional responses, negative emotional responses, and attitudes toward wolves. Perceptions of outcomes and knowledge of wolves were much less significant predictors. Personal importance of wolf reintroduction modified the effect of attitude toward wolf reintroduction in predicting voting intention. The authors concluded that cognitive or factually based education efforts would most likely have little effect on people's voting intentions since beliefs and emotions formed the basis for attitudes toward wolf reintroduction and would not be changed with more information.
The objective of this study was to determine the effect of listing Preble's meadow jumping mouse as an endangered species on landowners' management decisions and to identify predictors of landowners' responses to the listing. The data were gathered from 379 mail surveys of landowners in Colorado and Wyoming whose land contained habitat for Preble's which was listed as an endangered species in 1998. Over 80% had heard of Preble's; however, less than half were certain their property was in a protected area and 12% thought their property was outside a protected area. Of landowners who had been asked for permission to survey for Preble's, over 60% had agreed and of those who had not been asked, 40% would allow a survey. The more landowners valued local control over resource management, participated in consumptive recreation, and distrusted the government, the less likely they were to allow surveying for Preble's on their land. Almost 30% made management changes in response to Preble's listing, with 22% managing to improve habitat, 14% to minimize chance of Preble's living on it, and 7% doing both. In hectares, 25% of the land was managed to improve habitat and 26% managed to minimize the chance of Preble's living on it. Landowners who knew they were in a protected area were more likely to have improved or harmed Preble's habitat. Those who received information from conservation organizations and social sources (family, friends, and neighbors) and who valued nature more were more likely to improve Preble's habitat. Landowners who received information from social sources, were economically dependent on agriculture, and denied landowners should be responsible for species conservation were more likely to damage Preble's habitat. The authors concluded that the ESA listing caused a negative reaction of managing to minimize Preble's habitat which cancelled out the positive reaction of protecting Preble's habitat. Managers must be aware of this sort of backlash and attempt to counter it. Information needs to be disseminated through social networks rather than mass media or direct mailings. The economic concerns of landowners must be addressed by providing information on how landowners may benefit financially from conservation or by providing compensation for conservation costs. Decision-making must be a collaborative process to build trust between landowners and the government and to give landowners a sense of control.

This study measured visitor attitudes about and knowledge of bobcats among 4 groups: day visitors (DO), designated site campers (DS), backcountry campers (BC), and deer hunters (DH). The data were gathered from 914 self-administered surveys. All groups except DH were positive toward bobcats and DH were essentially neutral, not negative. The mean knowledge score was 3.8 out of 10 for all respondents but DH scored significantly higher than other groups. Males and return visitors also had higher scores. For DH the importance of the existence of the bobcat was positively correlated with attitude and for DS and BC the importance of existence was correlated positively with knowledge. The authors concluded that more educational programs need to be available but should be tailored to the level of knowledge of groups - day visitors will not have the same basic knowledge as deer hunters, for example.
The purpose of this study was to explore the effect of location on the public's acceptance of fuel reduction policies in the Western United States. Data were gathered from over 700 mail surveys of residents of four areas: central Arizona highlands, Colorado Front Range, central Oregon, and Utah Great Basin. These location were chosen based on four criteria: 1) wildfire was a crucial part of the functioning of the surrounding ecosystem; 2) fuel reduction through prescribed burning, mechanical thinning and brush removal, and/or livestock grazing had been proposed by the land management agencies; 3) agencies had tried to increase awareness of wildfire and fuel reduction issues through outreach or education programs; and 4) population was growing more rapidly than the national average and is expanding into wildland-urban interfaces. Over all four areas, respondents were accepting of the use of all three fuel reduction options, though prescribed burning was slightly less acceptable than mechanical thinning or grazing. There were significant difference between state for acceptance of prescribed burning and mechanical thinning, with Oregonians being the most accepting and Utah respondents being the least. There were few differences between states with responses to trade-off questions. When asked to choose between prescribed fire or mechanical thinning as a preferred fuel reduction option, respondents were equally likely to choose either. In all states except Colorado, respondents were less likely to support the use of fire in populated areas. Around half the respondents in each state were willing to decrease the scenic value of an area in order to reduce fuels and a majority of respondents felt that grazing should be used wherever it proves helpful. There were some differences in knowledge among the four groups of respondents. Coloradoans were more likely to know that wildfires do not kill most of the wildlife in an area as well as knowing that humans are not the cause of most fires. Utah respondents were more likely to know how fire affects large trees in their area. There were several differences in responses to belief questions about prescribed fire and mechanical thinning. Oregonians were more likely to strongly disagree with the statement that prescribed fire does not affect the intensity or frequency of fires. Utah residents were more likely to respond "don't know" to both that statement and one which stated that prescribed fire reduces fuels in most natural areas. Oregonians were also more likely to strongly agree that mechanical thinning reduces the intensity or frequency of fires. A third to almost a half of all respondents in each state were unsure whether mechanical thinning may leave behind too much fuel in natural areas, but Oregon residents were more likely to disagree with this statement. Respondents were then asked to rate how much of a concern three aspects of prescribed burning were to them. Oregonians were more likely to rate fears about human safety as not a concern and Coloradoans were less likely to rate both increased levels of smoke and reduced scenic quality as great concerns. Respondents were also asked to rate themselves on a 7-point scale as to whether environmental or economic concerns were more important in natural resource decision making. Coloradoans were more likely to place themselves at the environmental end of the scale while other respondents fell slightly past neutral on the environmental side. Almost half of all respondents agreed with a statement that natural processes in ecosystems were better than human intervention. The authors found relationships between the acceptability of prescribed fire and beliefs about the effectiveness of prescribed fire in reducing fire intensity and frequency and concerns with the effect of fire on scenic quality and increased smoke levels. There was also a relationship between the acceptability of mechanical thinning and beliefs about the effectiveness of thinning in reducing fire intensity and frequency. Respondents who accepted mechanical thinning were more likely to also accept prescribed burning and grazing as
fuel reduction techniques. The authors suggest several social and ecological factors which may help to explain the differences between the four groups. Utah respondents lived in a much more urban area which may explain why they were less likely to think about fire and more likely to respond “don’t know” to several questions. Residents of Arizona and Utah were more accustomed to grazing which may explain why they were most likely to say grazing was acceptable. Oregonians were more accustomed to logging which may help explain why they felt mechanical thinning was more acceptable than grazing. The authors conclude that, in this study, value orientations and attitudes did not affect acceptability of management actions in most cases. They believe this might be because reducing wildfire hazards is a widely accepted end goal; it is the means of fuel reduction on which the public differs. They also note that this study, unlike others, does not show a connection between knowledge and acceptability of fuel reduction techniques. They further feel that the specificity of each location and situation requires land managers to address concerns at the local level.
The purpose of this study was to determine public attitudes and beliefs regarding herbicide use in forest management and to develop a plan for public involvement on forestry issues. The authors conducted a literature review of what was already known about attitudes and beliefs toward herbicide use. This was followed by 12 focus groups of 114 people in Ontario, Canada: 6 groups consisted of the "organized" public (members of environmental organizations or other interest groups), 4 consisted of the "interested" public (i.e., teachers, woodlot owners), and 2 consisted of professional foresters and biologists. There is limited knowledge about forests and herbicides which contributes to a general opposition to the use of herbicides among the public and to the support of non-chemical alternatives. The public is mostly concerned with the cumulative effects of herbicides in the environment which may harm people and the ecosystem. Information from the forest industry on these matters is not trusted by the public. The authors concluded that educational approaches do not tend to be effective, instead managers need to find out more about the public and what they want rather than trying to change their beliefs with more information. To do this they must figure out what information the public is interested in and provide it as well as integrate ideas from the public as early as possible in the planning process and continue to work with the public throughout a project.

The objective of this study was to determine the trends in wildlife attitudes and values held by residents of New York State and how those attitudes are related to sociodemographic variables. The data were gathered from 17 studies conducted from 1984 to 1996 with a total of 9,847 respondents which used the Wildlife Attitude and Values Scale developed by Purdy and Decker. There were four WAVS dimensions which were identified through factor analysis of the studies: social benefits (existence and appreciation of wildlife), traditional conservation (sustainable use of wildlife), communication benefits (observations and talking about wildlife), and problem tolerance (safety risks from wildlife). Analysis showed a decline in problem tolerance over all respondents but the decline was more rapid among nonrural residents and those under 25 years of age. There was a slight increase in the amount of men agreeing with traditional conservation practices over time, while women did not change. The authors concluded that other studies showing that the public is becoming less utilitarian may not be entirely correct and that the reasons behind long-term change in attitudes need to be researched.

The objective of this study was to determine attitudes of ranchers toward predators, predator control, and the agencies responsible for predator control programs. The data were gathered from 384 mail surveys from ranchers in New Mexico. Around ¾ of ranchers believe that coyotes inflict moderate to major damage on their livestock. Poison, aerial gunning and trapping were the most advocated methods of controlling predators and more than half the ranchers felt they should be allowed to handle their own predator problems rather than depend on any agency. Perceived severity of coyote damage to livestock correlated positively with endorsement of poisoning and need for coyote control and negatively with perceived importance of coyotes' ecological value. The author concluded that ranchers seemed very resistant to government interference in controlling predators and felt that poison is an acceptable and effective control method, despite the fact that it is illegal.

The purpose of this study was to determine behavior concerning windbreaks and landowners' beliefs about windbreaks. The data were gathered from 3342 mail surveys of agricultural producers in Kansas. Around 1/3 of the respondents had windbreaks on their land and 4% reported having removed all or some of their windbreaks to increase tillable acreage, increase crop yields, remove obstacles from irrigating, and/or reducing conflicts with farm machinery. Windbreaks were managed primarily through fencing out livestock, controlling weeds, pruning branches, replanting, tilling or mowing, and irrigation. About 90% were happy with the performance of their windbreaks. The most common reason for having windbreaks was to improve wildlife habitat, followed by pre-existing windbreaks, increased livestock protection, reduction in soil erosion, beautification of the landscape, management of drifting snow, and reduction of wind damage to crops. Over 80% of all respondents agreed that windbreaks were a desirable conservation practice. Respondents would prefer to gain information about windbreaks through print media rather than live demonstrations, videos, or TV. Over 70% of respondents were unaware of at least 2 out of 5 programs which help establish and maintain windbreaks. The authors concluded that, despite widespread knowledge about the benefits of windbreaks, many farmers are not using them. This may be because they lack the financial means to establish and maintain them. More information about cost-share programs needs to be made available as well as continuing education about the benefits of windbreaks.

The objective of this study was to determine how Conservation Reserve Program (CRP) landowners value wildlife, how they plan to use CRP land when their contracts expire, and what factors influence their decisions. The data were gathered from 3000 mail surveys to CRP contract holders in Kansas. Almost 70% said wildlife was an important consideration when choosing farming practices but the top reasons for enrollment were to control soil erosion and to make the most profitable use of the land while providing wildlife habitat was fourth out of nine reasons. When rating what influences might affect their decisions on land use after contract expiration, cost sharing for establishing wildlife habitat was last and only 24% said they would change vegetation to benefit wildlife at a 50% cost share. Only 15% of respondents said they would definitely leave the CRP land in permanent cover after their contract expired but over 1/3 said they were not sure what they would do with the land. However, 85% said they would extend their contract for 10 more years and 1/3 said they would consider participating in a recreation access program if paid to do so. The authors concluded that CRP landowners are willing to extend their contracts if programs and prices remain the same but wildlife concerns do not factor into their land use decisions. More attractive wildlife-based options need to be developed to encourage landowners to protect and improve wildlife habitat.

The objective of this study was to assess the effects of conservation biology education on attitudes toward nature. The data were gathered from 51 students taking a class in conservation biology at the University of California at Davis. A survey based on Kellert's attitude scales was given to students at the start of the class and again at the end. However, the items did not follow Kellert's scales and the authors developed new scales. The first set of surveys had only one evident attitude scale, the biocorrect scale, which encompassed items which addressed the primacy of humans over the environment. The second set of surveys showed 5 new scales: exploitation (use of natural areas and species by humans), natural stewardship (management of natural resources), pest rights (killing of vermin for convenience), controlled breeding (use of captive animals or breeding animals for research), and animal rights (use of animals in medicine and science).

The purpose of this study was to determine how the attitudes of farmers and conservationists differ and why, despite farmers professing support for conservation activities, are these management tools not being put into practice. The first phase of data gathering was unstructured interviews with 24 farmers and 26 conservation group members in Bedfordshire, Britain. The second phase was 2 versions of a more quantitative survey with 49 farmers and 50 conservationists and the results were analyzed using the theory of reasoned action. There was overall support for conservation in general. However, farmers were much more likely to feel that unfarmed areas were unsightly and should be put into production while conservationists felt that too much wildlife habitat was being destroyed by farming. Farmers were also in favor of hedge removal and conservationists were against it. Only 4% of farmers had removed all their hedges, but almost 60% had removed a quarter or more. Only 6% said they were planning to remove more and 1/3 had planted more or renovated old hedges. More than half cut their hedges annually. Attitude toward hedge removal was correlated with actual or intended removal and concern with tidiness and maintenance was correlated with actual removal. The authors concluded that the farmers' behaviors were influenced by agricultural concerns such as productivity and efficiency, not by conservation concerns, so education programs should focus on the shelter/wildlife benefits of hedges as well as letting farmers know about any conservation grant programs.
The purpose of this study was to examine the effects of fire on communities directly affected by the Rodeo-Chediski fire in Arizona. The fire was originally two separate fires, both started by people; one, a firefighter, was arrested and charged with starting the Rodeo fire on the Fort Apache Indian Reservation, while the other, a lost hiker, was not charged with starting the Chediski fire. Data were gathered from personal interviews of residents in three community clusters in the White Mountains in the northeast area of the state. The clusters were referred to as Centerville, Forestville, and Pioneertown. Centerville was comprised of three incorporated towns and their subdivisions and was considered the economic hub of the White Mountain area. Though the area was evacuated early, the fire did not actually do much damage to the communities. Forestville was comprised of five unincorporated communities and had a strong Mormon presence. This area was also evacuated early and most of the damage from the Rodeo fire occurred there. Pioneertown was comprised of two unincorporated towns and a subdivision and had the highest percentage of seasonal residents. This area was evacuated early as well and most of the damage from the Chediski fire occurred there. In all the interviews, residents mentioned the way communities pulled together to help each other in this time of need. During the fires, some local businesses stayed open to serve the firefighters, a cell phone company gave out free phones to evacuees, and people transported livestock and pets to safe places when their owners could not do it. Afterwards, the galvanizing effect of the fires continued, with neighbors providing shelter for those who lost their homes and people assisting in the clean up process. However, the fires also acted as a fragmenting influence. There was some cultural tension between non-Indians and Indians. Some non-Indians felt that the Bureau of Indian Affairs (BIA) did not do enough to contain the Rodeo fire while it was still on Indian land. Conflict also occurred between local and federal entities. Local residents blamed the federal agencies of allowing the fires to get out of control and local firefighters felt their knowledge was not utilized by the federal agencies in fighting the fires. Most of this conflict occurred in Forestville and Pioneertown while residents of Centerville were generally happy with the effort put forth by the federal agencies. The authors note that this seems to be the case because residents outside of Centerville felt that it was protected at a cost to their communities. The Federal Emergency Management Agency (FEMA) became another point of conflict with some local residents who felt that the organization promised them help, only to reveal very stringent requirements which homeowners could not meet in order to qualify for aid. The Red Cross was also criticized for their disorganization and treatment of locals. Tension existed between residents of Centerville and of the other communities because of all the media attention, aid, and seemingly greater firefighting help Centerville received. Within communities, conflicts also occurred. Tension in one volunteer firefighting department resulted in the resignation of the chief and several firefighters. In Pioneertown, some residents were very angry at the woman who started the fire, while others were not. Though most residents agreed that the forest was not healthy and that this contributed to the severity of the fires, there were differences of opinion as to what caused the unhealthiness. Most thought that environmentalists were restricting the Forest Service's ability to harvest trees and thus increasing fuel loads. Environmentalist, on the other hand, blamed the Forest Service for mismanaging the resource as well as the exclusion of fire over a long period of time. The authors note that the strongest instances of fragmentation and cohesion were found in Forestville and Pioneertown, where the fire damage was greatest. The effects of the fires are more
long-term for residents of those communities, whereas residents of Centerville have been able to return to daily life much more easily. Interviewees believed that cohesion occurred because of the small size of their communities which leads to greater familiarity with neighbors and a dependence on community members to help out in times of need. The tendency to lay blame in disasters which are seen to be caused by humans was evident in these communities. Everyone from the people who started the fires to the federal firefighters to the federal land management agencies were blamed in some part for the damage which was caused. Forestville and Pioneertown had been going through a transition from an economy based on timber harvesting to one which was much more diverse and not as robust. The residents of these towns already blamed the Forest Service for some of these changes and it was logical to place blame for the fires on that agency as well. Federal decision making about fires is often impersonal while locals are very invested in the fate of their homes and communities. Conflicts between local firefighters and federal firefighters were common and often local firefighters felt ignored. The authors conclude that community preparedness for fire could have a large impact on cohesion and fragmentation in those communities when a fire actually occurs.

The objective of this study was to determine support for state-level protection of threatened and endangered (T&E) species and to examine differences in attitudes toward protection based on demographics, type of development, and whether the respondent had been required to go through the permitting system for a development project. The data were gathered from 550 phone surveys of the general public in Kansas and 33 mail surveys of people who had received permits from the state in 1990-1991. There was overwhelming support for protection of endangered species among general public. For instance, 96% supported having a state list of endangered wildlife. There was less support among permittees with 78% supporting having a list. Support diminished but remained when respondents were asked to make a trade-off between protection and water development projects. Permittees were more likely to respond negatively to any restriction of economic development. Males and older residents were less likely to support T&E protection. The authors concluded that overall there is widespread support for T&E species protection, even among those who may have been inconvenienced by the permitting process.
The purpose of this paper was to explore how public knowledge and perceptions of fire and fire policies have changed over time, urban-wildland interface homeowner preferences for fire prevention and mitigation policies, and what obligations citizens feel they have in dealing with urban-wildland fire interface issues. Data were gathered from existing literature and the authors' own studies. In the 1960s and early 1970s, most studies showed that the public were very intolerant of allowing fires to burn. This began to change in the mid to late 1970s, as more of the public recognized the potential benefits of fire for ecosystems. However, it was not until the 1980s that public opinion began to change noticeably. The authors attribute much of this shift to the change in official fire policies in public land management agencies in the mid 1970s. The policies moved away from strict fire suppression to more flexible options which allowed for some fires to burn. Studies in the mid 1980s which replicated earlier work done in wilderness areas to determine the attitudes and knowledge of users toward fire showed that both knowledge and tolerance for allowing fires to burn had increased. Studies done in the 1980s of homeowners who resided in the urban-wildland fire interface showed that homeowners who had experienced fire were less likely to be aware of the seriousness of the fire danger or think their homes were at risk than those who had not experienced fire. The authors believe that homeowners who had already experienced fire thought it was less likely to happen again, reflecting a lack of knowledge about the recurring nature of fire in some areas. The authors also examined studies which explored homeowners' policy preferences when it came to the prevention and mitigation of fire. Homeowners who had been impacted by fire were more likely to have done nothing to minimize fire losses. Generally, respondents were not supportive of fire policies which restricted them in any way and more likely to support programs for which they were not directly responsible. Fire education programs were very acceptable which the authors find encouraging since research has shown that there is a connection between knowledge and attitudes toward fire. In terms of who should pay for the damage caused by fire, homeowners believed that they were the ones who were assuming the risks and the costs of living in the urban-wildland fire interface. The authors argue that this is not the case because the community and government have to pay to protect homes from fire. Further, insurance companies have no incentives to reduce residential fire danger because of the structure of the industry. The authors conclude that knowing the public's knowledge of, attitudes toward, and preferences for fire policies is important, as are educational programs about fire, its management, and its hazards. However, they caution that policy must always be a balance between public and political acceptability and technical and economic considerations.
The purpose of this study was to determine the knowledge of and attitudes toward fire and its management as well on the effect of fire information on these attitudes. Data were gathered from 1200 phone surveys of Tucson residents. Fire as a management tool was generally supported by respondents. Two-thirds believed fire could have beneficial effects for forests and agreed that managers should burn underbrush and debris periodically in pine forests. The key benefit which respondents identified was the thinning or clearing of this underbrush and debris for fuel reduction and growth. Over half the respondents thought that fires which were burning only underbrush and debris should be monitored but allowed to burn. Most of the respondents indicated that they had heard the term "prescribed fire." Most of this group also approved of its use and would still approve its use despite the possibility of a fire burning out of control. The authors believe these attitudes are due to public information and education campaigns carried out by the management agencies in the area. Knowledge about fire and its effects was low but as knowledge increased so did tolerance for fires. Information about fires did result in making respondents more tolerant of fires. In response to a question about allowing a low intensity fire in a pine forest burn, 9 percent more respondents indicated it should be allowed to burn after receiving fire information. The authors suggest several areas where educational programs about fire might improve. First, people were very concerned about the danger of fire to wildlife and many believed that moderate to large amounts of wildlife were killed in fast moving fires. Educators should make an effort to teach the public about the actual mortality rate and habitat destruction which occurs. Second, women were more conservative in their views on fires than men and were less likely to believe in the beneficial effects of fires so education efforts may not be reaching women. Educators also must respond to the arguments used by those who oppose prescribed burning. Education is most likely to have an effect on those who believe that fire may get out of control or that fire is damaging to natural systems. It is less likely to affect those who believe that natural systems cannot be comprehended by people and should be left alone or that fires simply should not be allowed to burn for any reason.
This study measured whether species preservation value, knowledge of species endangerment, and attitudes towards species conservation policies and laws, such as the Endangered Species Act, were correlated with gender. The data were gathered from 643 mail surveys from all states. Both genders chose habitat loss as the greatest threat to species, followed by pesticides and other toxic chemicals, then harvesting of species, and finally exotic species. Women valued species preservation slightly more than men but both valued plants, mammals, and birds more than other taxa. Ecological importance was the most important factor in preserving a species for both genders. Women were more supportive of species protection even if it meant reduced property rights and women supported strengthening of the ESA more than men (62% vs. 45%). Both supported policies to help conserve species such as getting rid of subsidies which degrade habitat, lowering the rate of human population growth, and reducing per-capita consumption. The authors concluded that both men and women are becoming less concerned with issues such as property rights when it comes to species protection. Both recognize that the byproducts of economic growth are causing habitat loss and seem willing to accept slower economic growth to conserve species. Plants, mammals, and birds may be easier to garner support for than reptiles, amphibians, invertebrates, and microorganisms.

The purpose of this study was to determine if respondents valued species conservation more or less than property rights, democracy, economic growth, ecosystem health, and resource availability in the future and if they believed private landowners should be compensated for any loss from endangered species laws. It also measured respondents' knowledge about species endangerment, opinions on the ESA and other species conservation laws, and opinions on prioritizing species for conservation. The data were gathered from 644 mail surveys from all states. Over 50% of the respondents thought habitat loss due to economic development was the greatest threat to species, followed by 36% for pesticides and other toxic chemicals, 7% for harvest, and 2% for competition with nonnative pests. Species conservation was valued the same as property rights and economic growth, less than ecosystem health and democracy, and much less than resource availability in the future. The most important factor for species preservation was ecological importance. Respondents agreed with all statements which placed endangered species protection above property rights but over half agreed that landowners should be compensated for any losses caused by endangered species regulations. Over 80% wanted the ESA to remain unchanged or be strengthened. Agreement on compensation was positively correlated with age. The authors noted that support of compensation of landowners is not in line with the ESA or the Fifth Amendment (concerning property rights), neither of which include compensation as an option. They concluded that knowledge of habitat loss as the most important cause of species endangerment is encouraging, but the public does not recognize the threat of invasive nonnative species. Links should be made between economic growth, natural resources extraction, habitat loss, and species endangerment to gain public support for species conservation.

The purpose of this study was to investigate the relationship between knowledge about wildlife and memberships in environmental and wildlife organizations, reading of related literature, involvement in political decision making, and sociodemographics. The data were gathered from 1060 mail surveys from Iowa residents. Males, older respondents, hunters, farmers, those with a rural upbringing, and those with less education scored highest on knowledge items. Those who supported hunting and trapping had more knowledge than those who supported land-use regulations and gun control. Males, hunters, blue collar workers, those with a rural upbringing, and those with less education were more likely to support hunting. Those with more wildlife knowledge were also more likely to support hunting. Males, hunters, those with more education, and those with a higher income read more wildlife related literature. Those who supported hunting and trapping were more politically involved than those against hunting and trapping. Those who were against land use regulations and gun control were more politically involved than those who supported those issues. The authors concluded that familiarity with wildlife literature and more knowledge of wildlife led to more support for hunting and trapping.
The objective of this study was to determine attitudes of landowners concerning land use, outdoor recreation, access issues, wildlife/human conflict, Texas Parks and Wildlife Department (TPW), and land conservation. The data were gathered from 563 phone surveys of Texas residents. Respondents rated ranching as the most important land use followed by hunting and providing habitat for fish and wildlife. Almost 80% said they enjoyed seeing and having wildlife around as opposed to viewing them as a nuisance. However, over 40% said they had a problem with nuisance wildlife in the past two years. Over 70% were satisfied with the TPW as an agency. The most important programs the TPW provides were in assisting landowners in protecting water quality and quantity, teaching landowners to manage wildlife, addressing issues of liability arising from recreation on private property, and running the Private Lands Advisory Board (composed of private landowners who discuss regulations and other private land issues). Over half were interested in doing more for wildlife conservation on their land and 33% were interested in opening up their land to more recreation. Of all the respondents, 78% allowed hunting on their land, 37% allowed fishing, 30% allowed camping, 29% allowed hiking, wildlife viewing, and nature study. Over 60% were concerned about liability issues due to recreation on their land but only 20% knew that the state of Texas provided liability protection. More than a third agreed that they would be very likely to open up their land for recreation if offered incentives, almost half agreed they would open up their land for more wildlife and habitat conservation, and more than a third agreed they would open up their land if they did not have to worry about liability issues. The authors concluded there is substantial interest in opening up more private lands for recreation, especially if incentives are offered and liability issues are resolved. Respondents were generally happy with and seemed willing to cooperate with TPW concerning wildlife management and conservation projects.
The purpose of this study was to investigate Americans' attitudes toward human use of fish and wildlife (hunting, trapping, and fishing), animal rights, and animal welfare and use of animals by Americans. The data were gathered through a review of the relevant literature. Most Americans support legal hunting for food, to manage game populations, and for control of animal population but do not support hunting for recreation or trophies as much. Rural residents, the poorly educated, whites, those with incomes over $10,000, men, and anglers were more likely to support hunting. A majority believed that lots of hunters violate hunting laws or practice unsafe behavior. Hunting for ungulates, waterfowl, and small game was more acceptable than for larger carnivores or omnivores. Almost all Americans approve legal fishing and 2/3 approve of trapping for animal damage control, animal population control, and for a biological study but a majority disapproves of trapping to make money, to be close to nature, and for recreation. Rural residents, whites, married people, those aged 45-54, males, hunters, and anglers were more likely to approve of trapping. Most Americans support animal welfare (using animals but treating them humanely) but not animal rights (no use of animals at all). A majority support using animals for food and medical research and oppose using them for product testing and suede clothing. The authors conclude that the public has varied reasons for supporting and opposing hunting and trapping and do not necessarily interpret these words the same way managers do. The issue may not be use of animals but the perception of the status of certain animals (e.g. endangered). Though animal rights activists may seem very prevalent, they do not represent public opinion as a whole and their opinions must be put into perspective.
The purpose of this study was to present a comprehensive review of the evidence available on trends in public opinion toward environmental issues. The author reviewed national surveys which included items concerning the environment for the time period 1965-1990. In the mid 1960s-1970, the percentage of respondents who viewed pollution as a serious problem more than doubled. Those who believed that reducing pollution should be one the government's top three priorities tripled and those willing to pay more in taxes to help control air pollution went up 10%. In the early 1970s, those wanting to spend more money on pollution control declined significantly. In the mid to late 1970s, there was modest but continued decline in support for environmental protection, especially when environmental protection was pitted against energy production, but still substantial support for protection. In the 1980s, there was increasing support for environmental protection, possibly in response to the Reagan administration's efforts to deregulate industry and weaken environmental laws. The author concluded that there is considerable public support for environmental protection, even when it comes at a cost to the economy. However, there have not been great gains in attaining the goals of the environmental movement in terms of on the ground success in improving environmental conditions.

The objective of this study was to determine the differences in outdoor activities of hunters versus the general public. The data were gathered from 758 mail surveys from general public and 467 from hunters in Sweden. Hunters were more likely to participate in both consumptive and non-consumptive activities. Hunters were more utilitarian and less moralistic than the general public but just as humanistic. The authors concluded that both hunters and the general public have similar attitudes toward animals and nature but these come from experience for the hunters and from feelings for the public. Education programs should focus on hands-on experiences in order to gain more support for ecosystem management through a more practical understanding of nature.

The purpose of this study was to determine the attitudes of private landowners toward conservation and private stewardship initiatives in central Alberta. The data were gathered from 91 surveys as well as focus group interviews. Over half of the respondents were involved in conservation projects. The majority did not think that clearing land for agriculture was affecting wildlife populations and less than half were interested in learning more about habitat improvement. However, almost all felt that preserving wildlife and habitat was important. The most influential sources of information were neighbors and local opinion leaders. The most important factors in adopting conservation practices were profit loss, risk, and relative advantages of habitat conservation. The authors concluded that disseminating habitat conservation information through community leaders would be most effective as would providing monetary compensation for conserving and/or improving wildlife habitat.

The object of this study was to examine the acceptance of fire risks and preferences for fire management options of forest users as well as explore the factors which might explain the differences in opinions among forest users. Data were gathered from mail surveys and personal interviews of 1646 members of conservation-oriented (Sierra Club, Audubon Society, Photographic Society of America), resource management (Society of American Foresters, Soil Conservation Society of America, National Forest Products Association) and sport-recreation-oriented (Federation of Fly Fishermen, various hunter organizations, Mountaineers, California Association of 4-Wheel Drive Clubs) forest user groups. The average score for the set of knowledge questions was a 4.5 out of 8, with professional foresters having the highest average score at 5.7 and off-road vehicle user having the lowest at 3.7. Those with more education, males, and professional foresters had significantly more knowledge than their counterparts. Professional foresters were more likely to believe that fire was beneficial than were hunters or off-road vehicle users. Knowledge explained almost all of the variation in beliefs about the benefits of fire. Over 60% of all respondents supported prescribed burning to clear underbrush and debris from forests. Almost all resource managers agreed with this policy and sport recreationists also supported this practice. Members of conservation groups were supportive but had a higher proportion of "do not know" responses to this item. Men were also more likely to support prescribed burning than women. Of those who supported prescribed fires, almost all would still support them even if there was a risk of a fire burning out of control. However, when that risk was quantified as 1 in 10 fires escaping, less than half were still willing to support prescribed burning. A risk scale from 1-11 was developed with 1 being risk averse and 11 being risk taking. The average of all respondents was 6.6 but resource managers scored much higher while members of conservation groups and fly fishermen were more risk averse. Men were also more willing to take risks than women. Three types of fire policies were created using factor analysis of fire management items: 1) flexible policies which allowed forest managers the greatest amount of flexibility in containing fires, 2) high value policies which focused on maintaining large fire crews and immediately suppressing any fires threatening timber and personal property, and 3) suppression policies which drew from the more traditional policies of immediate and aggressive fire suppression in all cases. Sierra Club members, those who were more knowledgeable about fire, those who believed more strongly in the positive benefits of fire, and those with more risk taking tendencies were more likely to support flexible policies. However, professional foresters and resource managers were less supportive of flexible policies despite their generally higher knowledge, belief, and risk scores. The authors see two possible reasons for this: 1) resource managers may not feel that these policies are viable and 2) there was a lack of information in the survey concerning the intensity and size of the fire in question. Most groups agreed with high values policies. Hunters, off-road vehicle users, and older respondents tended to agree more with high value policies while those with more education and more knowledge tended to disagree. Suppression policies were not supported strongly by any groups, but more so by hunters, off-road vehicle users, and older respondents. Those with high knowledge, belief, and risk scores and with more education were more likely to disagree with suppression policies. In general, more knowledge and education were linked to risk tolerance, support for flexible policies, and disagreement with suppression policies. The authors feel that educational programs should target those groups with low knowledge scores, such as hunters, off-road vehicle users, older respondents, and women. The authors concluded that public opposition to flexible fire policies may not be as
strong as managers may believe. Advances in technology and more educational programs would further the acceptance of fire as a management tool by the public.

This paper examines the management of Yellowstone cutthroat trout in the park and explores the various human values which have been associated with this management. Historically, the trout were harvested by both commercial and private anglers, until it became clear that the population was declining precipitously. Now catch-and-release is the preferred management practice in order to maintain viable populations. Anglers in general consider many aspects of the fishing experience as important, including being able to harvest fish, fish size, angler success, and environmental setting. In Yellowstone, most anglers were satisfied with their fishing experience even when they were not allowed to keep their catch due to the high catchability and large size of the trout, as well as the natural surroundings. Nonconsumptive uses of trout have increased dramatically in the park, especially in places where angling is not allowed, with over a third of visitors to the park spending some time observing fish and other wildlife. In terms of the economic valuation of the trout, one study concluded that attempting to replace fish that were harvested would be cost prohibitive, and that catch-and-release was the most economically viable management option. The authors note that only consumptive activities are typically included in these economic assessments and feel that the inclusion of nonconsumptive activities would demonstrate the importance of managing for all types of recreation. They conclude that the management of the Yellowstone cutthroat trout has been successful in meeting the needs and wants of all recreators and believe that it provides a good example of compromise for other managers.

The object of this paper was to explore public attitudes toward fire using available literature and the author's own observations. The author feels that general public sentiment toward fire is that it is bad and destructive, though rural residents such as farmers may have a more positive view of it as an agricultural management tool. Forest managers and members of preservation groups also may feel that fire is a natural process and is necessary for the health of ecosystems. The author believes that the lack of care which people show in preventing forest fires and the expansion of subdivisions which are susceptible to fire indicates that many unconcerned about forest fires. The author also feels that the attitudes and knowledge of fire fighters should be examined as well as that of the general public when making fire management decisions.

The purpose of this study was to document the recreational activities within mountain sheep habitat and attitudes of wilderness users toward management of mountain sheep. The data were gathered from 400 personal interviews with hikers in the Pusch Ridge Wilderness in the Santa Catalina Mountains outside of Tucson, Arizona. Over 60% favored not allowing any dogs in the wilderness area at all while 21% opposed any further restrictions. Almost half favored controlled burning to improve habitat while 23% opposed it. More than half supported closing all or part of the area to protect the long-term viability of the sheep population, over 3/4 supported closures if human activities were interfering with access to water for the sheep, over half supported closures if sheep seemed to be abandoning areas because of human presence, and almost 2/3 supported closures to reduce stress on sheep during lambing and nursing seasons. The authors concluded that support for various management activities, such as banning dogs from the area, burning to improve habitat, and closing the area, is relatively high. The majority of visitors are willing to change their recreational activities to protect the mountain sheep.

The purpose of this study was to measure wildlife preferences, attitudes, and activities among early adopters (those who are among the first to try new ideas, more educated, community leaders, respected as good land managers, own a moderate amount of forestland, get most info about new practices from extension agencies or print media, and are progressive thinkers). The data were gathered from 63 personal interviews of owners of private forestland in eight counties in South Carolina. Respondents desired more game species and aesthetically pleasing animals on their land and fewer biting, stinging, or otherwise objectionable animals. Around 3/4 believed that the lifestyle enhancing values of wildlife (i.e., observing and appreciating animals, hunting, providing a better environment for future generations) were very important. Over 80% reported participating in at least 9 wildlife related activities. Of the respondents, 70% had done some management to improve wildlife habitat. The authors concluded that disseminating information to these early adopters first may make implementation of programs more efficient and may increase the use of certain management techniques.

The purpose of this study was to determine the recreation and economic values respondents placed on different types of forests. The data was gathered from 1245 Swedes through a mail survey. The results indicated that the most valuable forest type was a shelterwood with natural regeneration occurring beneath old trees. The authors conclude that an economic valuation of forest recreation values is important because it can be compared more easily to the economics of extractive activities such as logging.

The objective of this study was to identify and compare the priorities (using 6 categories of ecosystem benefits: ecological dependence, nature appreciation, consumptive recreation, existence value, play space, and exploitive goods and growth) of wildlife stakeholders in areas where ecosystem management was being implemented on state and federal lands in Michigan and to determine support for ecosystem management approaches. The data were gathered from mail surveys from deer and waterfowl hunters, members of the National Audubon Society and the Sierra Club, and the general public in the study counties. Hunters rated consumptive recreation as the highest priority while Audubon and Sierra Club members rated ecological dependence, existence value, and nature appreciation as their highest priorities. The majority of Sierra and Audubon members felt that there was too little wildlife diversity in southern Michigan while the hunters felt there was the right amount. On ecosystem management trade-off questions, only one showed a significant difference between groups (Sierra members were more likely to support diverting efforts from game species to nongame species) but there were many undecided answers to the trade-off questions. Overall Sierra members were more likely to support ecosystem management than other groups. The authors concluded that agencies need to have a clear definition of ecosystem management and have identified the best management strategies prior to public involvement in order to provide the public with a more concrete plan in which to provide input. The need for ecosystem management needs to be communicated to the public in such a way as to emphasize the potential benefits and more education about ecosystem management in general is also required. Agencies need to build relationships with stakeholders based on common values and avoid polarizing these groups on the issues.

The purpose of this study was to assess the extent of anti-wolf attitudes and discover their underlying causes. The data were gathered from 1,290 mail surveys of Michigan residents. Respondents scored high on an anti-predator scale, indicating disagreement with the statements that predators were bad. Over half agreed that wolves should be restored to the Upper Peninsula and a third were uncertain. More than half would be favorably inclined toward or actively support reintroduction while only 15% would oppose it. The most important factor in anti-predator attitudes was fear of the wolf which accounted for 35% of the variability in attitudes. Most information about predators was gathered from television, discussion with other people, and magazines. Anti-predator feelings decreased with increasing education, participation in hunting, hunting as a family tradition, participation in nonconsumptive recreation, and with members of wildlife oriented organizations while they increased with a rural background, the ability to identify predators, with those who thought farmers lose a lot of livestock to predators, and with those who feared wolves. The authors concluded that the public is not against wolves and wolf reintroduction but a small minority who hunt and are driven by fear of the wolf can make a big difference in whether reintroduction is successful. Educational material about the wolf should be realistic with an emphasis on the wolves' role in the ecosystem and should emphasize that wolves rarely attack humans. Television appears to be the most prevalent source of information for most people but free printed literature placed in public areas might help to disseminate information throughout communities.

The purpose of this study was to understand the range of meanings in public understandings of nature and naturalness. The data were gathered from interviews (semi-structured interview guide) with citizen-stakeholders living in the region of the Jefferson National Forest in southwestern Virginia. The surveys asked respondents about health, wildness, naturalness, authenticity, and other qualities related to forest conditions. These were based on literature review of public perceptions of nature. The surveys obtained information about why people value a particular condition, what physical indicators identify that condition, and perceived implications for management (researcher identified).

- Forest health was valued because it ensures the continued provisions of resources such as timber, recreation, clean water, tourism, etc. and protects communities from flooding. It ensures the forest's ability to renew itself and stay a forest for future generations. It is linked with human health through a "food chain" or "ecological chain." Respondents felt that whatever degrades forest health will eventually affect human health and that the forest has a right to be healthy. They believed a forest in good health connotes positive images about local communities while poor health threatens local autonomy. The key indicators for forest health were trees (assumption by respondents that dead trees indicate poor forest health; also concern for poorly formed trees, small trees, and overabundance of scrub brush), soil stability (evidence of erosion signifies poor forest health) and species diversity (the more species the healthier the forest).

- Naturalness was valued for aesthetic and recreational benefits. A natural forest was also viewed as a healthy forest. The key indicators of naturalness were difficult to identify ("you just know it when you see it"). Respondents cited the appearance of being artificial, built, or urban. Other indicators were symbolic distance from contemporary society and the possibility of unpredictable experiences. Authenticity was valued for tourism and key indicators were a pre-European condition and big trees.

- Wildness was valued because it symbolized simpler or saner lifestyle (primitivism), getting back to our roots, special recreation experiences, educational and scientific benefits, and as an attraction to visitors which benefits local economy. Key indicators were federal designation as wilderness, large size, symbolic distance from civilization, absence of people, and unmanaged processes.

- Cultured naturalness was valued because it promotes and communicates local identity, creates rich and intense recreation experiences, and reminds locals that people are making a living off the land (agriculture, grazing, traditional uses). Key indicators were some level of unobtrusive modification, access to landscapes by roads and trails (but access must not impose on naturalness), types and conditions of roads (see access above), and small scale agriculture and primitive technology.

The authors came to several conclusions. In terms of forest health, management actions such as clear cutting are perceived to degrade forest health but respondents were not clear on why. They think the removal of trees and exposed soil must imply poor health which indicates that most people really do not know how to evaluate forest health. The combination of not knowing how to
evaluate forest health and a general trust that nature knows best results in preferences for inaction rather than proactive or aggressive management action. In terms of naturalness, public acceptance of forest practices can be enhanced if they are perceived to be natural or mimic natural processes. In terms of authenticity, conditions that existed at the time of pre-European settlement often serve as a goal for ecological restoration efforts but this condition is not well understood. In terms of cultured naturalness, there is a perception by locals that outsiders value wild qualities of nature more than cultured naturalness. The locals resented outsiders imposing their values on local planning issues. In general, cross communication among stakeholders about different intentions and values associated with nature is very important. There are many interpretations of the terms associated with naturalness but overall people care deeply about environmental quality. Some people believe nature is balanced and knows best while others believe that human intervention can improve environmental quality. However, most do not know how to assess environmental quality. Further research might focus on a better understanding of the social construction of nature, environmental quality, and desired future conditions.

The purpose of this study was to determine understanding of the term biodiversity, knowledge of the causes of species decline, and concern about biodiversity loss. The data were gathered through 20 personal interviews with residents of a small (<1000 residents) Utah town located in a biodiversity "hotspot." Many people were uncertain about defining biodiversity but managed to create workable definitions by dissecting the term. Species loss was viewed as happening elsewhere like in Asia and Africa. Some named development as the reason for species decline locally. Vague moral concern was present (all species are here for a reason, need to preserve species for future generations) but more specific concern was present with regard to local species (not seeing as many game animals as in years past). The authors concluded that the public is not necessarily familiar with the ecological concepts with which managers work and it is important to be aware of local knowledge and concern in order to incorporate these issues into discussions about land management.

The purpose of this study was to determine respondents' value orientations toward wildlife, how those value orientations are influenced by interaction with nature, and whether rural residents believe their value orientations differ from those of other groups. The data was gathered from 20 personal interviews of residents in Utah. The location for the research was chosen by identifying "biodiversity hotspots" which are characterized by a high density of human population and a high level of biological diversity. This particular town was chosen because of its small size, relative isolation, and proximity to forestland. The respondents were asked to identify the most important reasons wildlife and biodiversity were important. Usefulness, knowledge, and moral reasons were the most often mentioned. Those who emphasized the usefulness of wildlife were concerned with whether a species benefitted them directly and with how the disappearance of a species might affect an entire ecosystem and thus themselves. Those who were concerned with knowledge stressed that it is important to view humans as part of nature. Those who chose moralistic reasons were most concerned with preserving species because they all have a function in a working ecosystem and thus have some purpose even if it is not clear to humans. Respondents often mentioned their own experiences with wildlife in a positive manner and expressed appreciation for living in an area where wildlife were abundant. They believed that their views toward wildlife were different than those of urban dwellers who were not exposed to wildlife on a regular basis. Many also thought that their beliefs differed from those of "extreme" environmentalists in that the respondents wanted a more balanced approach to land management. The authors concluded that there was widespread concern for the environment in this community, contrary to the general view that people in the West are anti-environment. The respondents' value orientations were greatly affected by experiences in the local environment. The authors also noted that the frequently mentioned utilitarian values might have been a product of the older ages of the respondents. A group of younger respondents might have expressed a different set of value orientations.

The objective of this study was to use the NEP scale and questions measuring knowledge/concern for endangered native species to test 3 hypotheses: 1) Respondents with more ecocentric perspectives will have greater knowledge of local species compared to those with anthropocentric perspectives, 2) Respondents with more ecocentric perspectives will support species preservation more than those with anthropocentric perspectives, and 3) Respondents with both an ecocentric perspective and greater species knowledge will tend to support species preservation more than those with an anthropocentric perspective and less species knowledge. The data were gathered from 398 mail surveys from residents of Boulder, Colorado. The results showed that an ecocentric NEP score is not related to species knowledge but is related strongly to support of species preservation. An ecocentric NEP score and greater species knowledge is not significantly related to greater support for species preservation. The authors concluded that education regarding specific species may not be as effective in garnering support for species preservation as may be education about more general environmental issues.
The purpose of this study was to identify recreational users and local citizens of Eglin Air Force Base and determine their knowledge and attitudes toward ecosystem management. The data were gathered from 755 mail surveys. Hunters were less supportive of increased investment in endangered species management than anglers and general recreators. Hunters were more supportive of management by fire and citizens were less supportive. Recreators and anglers, those with more education, the more affluent and those in urban areas were more supportive of ecosystem management in both the user and citizen groups. Users were more positive about the role of fire and forest resources and more negative about native and endangered species and ecosystem management issues than citizens. Users were more knowledgeable about native and endangered species than citizens. Among users, hunters scored higher than anglers and general recreators on species knowledge and rural residents scored higher than urbanites. Among citizens, hunters and anglers scored higher than general recreators, males scored higher than females, and those with lower incomes were less knowledgeable than those with higher incomes. Users were more knowledgeable about fire ecology than citizens. Among users, hunters were more knowledgeable. Among citizens, males and those with higher incomes were more knowledgeable. Knowledge of forest resource and ecosystem management was low overall but users scored higher. Among users, hunters and rural residents were more knowledgeable about all issues. Among citizens, hunters, anglers, males and those with higher incomes were more knowledgeable. The authors concluded that users tended to be more positive toward issues with which they had direct experience such as forests and fire as a management tool but less positive toward ecosystem management and protecting native and endangered species which might be viewed as threats to continued recreation on the base. Educational programs should make ecosystem concepts more accessible to this group while reassuring them of their continued access to the base. Knowledge overall was very low concerning forest resources and fire ecology so these areas should be addressed in educational programs.
The purpose of this study was to determine knowledge, attitudes, and behavioral intentions toward fire and prescribed burning and how experience with fire and mass media coverage influences these things. The data were gathered through content analysis of 5 newspapers which covered the Florida wildfires of 1998 and a phone survey of 663 residents of north and central Florida. Around 2/3 to 3/4 of the knowledge questions were answered correctly on the survey. There were mixed views toward fires with 60% believing fire is beneficial to native plants but 76% saying stricter regulations should be placed on burning. The most serious risks associated with prescribed burning were harm to wildlife and spread of fires to neighboring property and the greatest benefits were wildfire prevention and improvement of land for forestry and grazing. These benefits closely mirrored what the mass media reported about prescribed fires but the risks reported in the media were very different from those perceived by the public. One third to ½ of respondents said they would be likely to take action to protect their homes from wildfire. There were no significant differences in knowledge, attitudes, or intentions between respondents who lived in counties where more than 10,000 acres burned and those who lived elsewhere. Respondents with some experience with fire were more likely to have more knowledge and have pro-fire attitudes, and less likely to not take steps to protect their homes against fire than those with no experience. The authors concluded that experience with prescribed fire should be part of any fire education program since this may lead to more positive views of burning and programs should also attempt to counter incorrect beliefs about the risks of fire to wildlife.

The objective of this study was to determine the perceived costs and benefits of bird conservation through questions about farmers' opinions on current pest-management techniques, opinions about birds on farms, compromises farmers are willing to make to increase bird populations, knowledge of birds, and sociodemographics of the farmers. The data were gathered through 76 telephone surveys of 26 organic and 50 conventional farmers in northern Florida. Almost all farmers reported recognizing most of the bird species on their farms. Most thought that birds could help decrease insect populations and that some birds ate only insects. Most also thought their farms provided good habitat for birds already though younger farmers were less likely to think this way. Almost all did not mind having birds on their farms as long as they did not cause crop damage and most would like to attract more birds to the farms if the birds ate insect pests. Slightly more than a third of the respondents had taken action to attract more birds to their farms. Among those who would like to attract more birds to their farms, there was no difference between those who reported crop damage from birds and those who did not or between those who reported high costs for pest management and those who did not. Most conventional farmers obtained information about pests and birds from Cooperative Extension Service agents, agricultural publications, and chemical company employees while organic farmers obtained their information from the Florida Organic Growers Association, the internet, and agricultural publications. The authors concluded that farmers already view their lands as good habitat for birds even though this may not be true and thus may feel no need to change their practices without a good economic or ecological reason. High costs of pest management and damage from insects do not necessarily correlate with a willingness to developing bird habitat indicating a need to connect those two scenarios. Specific information about birds and pest management must be made available through the extension agency and the organic growers association to reach both conventional and organic farmers.
The purpose of this study was to understand traditional beliefs and values of Native Americans regarding a land ethic and land management practices. The data were gathered through personal and taped interviews with tribal elders, tribal land managers, and tribal content experts. The authors identified four basic categories of beliefs: All is Sacred (there is no separation between the sacred and the secular), All is Interrelated (everything is interconnected in an egalitarian system), Mother Earth (the earth is the physical and spiritual mother of creation), and Right Action (individual choice of action is based on the belief system; humans are a member or species of a very complex and interrelated whole). There is evidence of a land ethic representing the above categories in Native American land management programs. The authors concluded that Native Americans tend to share a land ethic very different from Euro-Americans, as well as recent immigrants from Latin America and Asia. The land ethic of the Native American is more compatible with the notion of ecosystem management than worldviews held by other groups. There is a strong belief in interdisciplinary goal generation and adherence to principles that preserve the cultural health of the tribal community and the natural health of the land base. Native Americans feel an inherent responsibility to take care of the Earth and to keep its systems in balance.

The objective of this study was to determine the attitudes of sheep farmers, wildlife managers, and research biologists toward large carnivores using Kellert's scales and the extent that sociodemographic variables influence those attitudes. The data were gathered through 1186 mail surveys to sheep farmers in Hedmark and Rogaland counties, wildlife managers working at the municipality and county level, and research biologists at universities, colleges, and research institutions in Norway. Sheep farmers scored higher on the dominionistic, negativistic, and utilitarian scales while managers and researchers scored higher on the ecologistic, moralistic, and naturalistic scales. Age was positively correlated with more negative attitudes and those with more education had more positive attitudes. Growing up in a larger community was correlated with more positive attitudes and with a lower utilitarian scale. The authors concluded that managers need to try to educate children about carnivores so they develop less negative attitudes toward carnivores later in life and treat carnivore concerns as part of a broader management plan which includes the rest of the natural resources and rural development.

The purpose of this study was to determine the attitudes of various sociodemographic segments of the public and of respondents involved in animal-related activities towards animals. The data were gathered from 553 personal surveys of Americans. Attitudes were dependent on participation in animal-related activities and sociodemographic factors:

Animal-related activities:

- Hunters - more naturalistic, less negativistic, more scientistic; can be divided into three categories
- nature, meat, and sport hunters, who are more naturalistic, utilitarian, and dominionistic, respectively; pro-hunting nonhunters - less naturalistic and humanistic, more negativistic and dominionistic
- Anti-hunters - more moralistic, humanistic, and ecologic; less dominionistic and utilitarian

- Other animal-related activity groups:
  - Backpackers and campers - high naturalistic, ecologic, moralistic and low utilitarian, negativistic, dominionistic
  - Birdwatchers - high naturalistic, ecologic, humanistic
  - Zoo enthusiasts - high humanistic, ecologic, moralistic
  - Trappers - high utilitarian, dominionistic, negativistic and low humanistic, moralistic, ecologic
  - Financial donators to animal welfare causes - high naturalistic, ecologic, humanistic, moralistic and low utilitarian
  - Animal raisers - high utilitarian, naturalistic, dominionistic and low negativistic
  - Pet owners - companion - high humanistic, moralistic and low negativistic, ecologic, naturalistic; working - high negativistic, utilitarian, dominionistic and low naturalistic
  - Rodeo enthusiasts - high dominionistic, utilitarian, naturalistic, humanistic, ecologic

Sociodemographic groups:

- Age - 65 and older were more likely to be more utilitarian and negativistic and less naturalistic and ecologic than 18-29
- Sex - females were more likely to be more humanistic and moralistic than males; blacks were more likely to more negativistic and less naturalistic, ecologic, and moralistic
- Education - the less educated were more negativistic, dominionistic, and utilitarian and less naturalistic and ecologistic than the highly educated

- Occupation - farmers were more likely to be more utilitarian and negativistic and less naturalistic than students and professionals who were more likely to be more moralistic and ecologistic

- Childhood residence - people raised in rural areas were more likely to be more utilitarian and dominionistic than those raised in urban areas who were more likely to be more moralistic

- Section of country - residents of the West Central, Rocky Mountain, and South Central regions were more likely to be more utilitarian and dominionistic, while residents of the Rocky Mtn, Pacific, and New England regions were more likely to be more naturalistic

- Marital status - singles were more likely to be less utilitarian than married persons

- Place of birth - those with foreign-born parents were more likely to have low naturalistic scores than those with American-born parents

- Religion - the more religious were more likely to have high negativistic and low naturalistic scores than the less religious

Hunters were more likely to have high knowledge than anti-hunters while blacks and those with less than an 8th grade education had the least knowledge. Hunters were more likely to grow up and/or live in rural areas, have fathers who were employed in farming, have native-born parents, live in Rocky Mountain, Southeast, and West-Central states, to be older than 30, and to be male. Anti-hunters were more likely to live in a city of over 1 million residents, have less experience with raising animals, less likely to have fathers engaged in farming, and more likely to live in the Mid-Atlantic and Pacific Coast regions. The authors concluded that hunters and anti-hunters both use ecologistic principles in supporting their viewpoints so education which is based on these principles may be helpful in getting the two groups to understand one another. Attitudes toward animals vary greatly among sociodemographic and activity groups which, if these groups are known, can be used when developing management plans.

The object of this study was to determine attitudes toward and knowledge of endangered species, animal damage control, habitat protection, consumptive use of wildlife, wildlife management, and backcountry and park use. The data were gathered from 3107 personal interviews with Americans. The results varied according to the topic and sociodemographic variables.

Endangered species

Respondents were more likely to support protection of mammals and game species than invertebrates and reptiles when forced to make a choice between the species and an energy project, though those with more education were more likely to support the preservation of all species. Respondents were more in favor of water projects which satisfied human needs like drinking water, crop irrigation, and hydroelectric power but endangered a fish species, than those that deemed less essential, such as dams to make lakes for recreational use. They were in favor of protecting both grizzly bears and rare birds at the expense of jobs. People who were highly educated, younger, resided in cities of more than 1 million people, more affluent, professionals, residents of the Pacific Coast and Alaska, and those who participated in some animal-related activity were more likely to support protecting endangered species. There was very low knowledge among all groups of endangered wildlife. The most cited reason for endangerment of species was chemical and industrial pollution, followed by human overpopulation, and loss of habitat to natural resource industries.

Animal damage control

The majority of general public disapproved of shooting or trapping as many coyotes as possible and poisoning coyotes and approved relocating coyotes and killing only individual coyotes known to prey on livestock to control livestock predation while a majority livestock producers approved of the first two methods and disapproved of the third and fourth. In general, the public disapproved of using poison to control any animal with the exception of rats and bats. All groups disapproved of paying ranchers for their losses from general tax revenues rather than killing coyotes. The general public disagreed with ranchers shooting golden eagles which preyed on sheep while ranchers overwhelmingly agreed with this practice. People who were from Alaska, highly educated, under 25, residents of the Pacific Coast, and male were more likely to have more positive attitudes toward predators.

Habitat preservation

The majority of the public was willing to protect habitat at the expense of human benefits. Urban residents and those with a graduate level education were more willing to protect habitat than rural residents and the poorly educated. Livestock producers were much more likely to support grazing on public lands which may damage wildlife habitat and support pesticide use on crops even if they may be harmful to wildlife than the general public. Alaskans are more likely to support preservation of wildlife habitat than all other groups.
Consumptive wildlife use

The majority of the public approved of hunting as long as the meat was consumed, disapproved of hunting for recreation only, and strongly disapproved of trophy hunting. Those living in urban areas were less likely to approve of hunting for recreation and meat than those in rural areas.

Wildlife management

The majority of the public approved taxing fur clothing, off-road vehicles, backpacking and camping equipment, birdwatching equipment, and wildlife books, art, and magazines as well as using general tax dollars and charging entrance fees to wildlife refuges in order to pay for wildlife conservation. The majority did not agree that wildlife would be better off if not managed. There was overwhelming support for strict fines and jail time for those who kill wildlife illegally. The majority disagreed that the government should spend little time or money on wildlife education of the public.

Backcountry use and parks

To reduce bear-human conflict respondents were most in favor of limiting visitors to areas of parks where bears were not likely to be and of relocating bears despite the cost. The majority were not in favor of developing oil resources in Yellowstone or of allowing cars access to areas where wildlife may be affected by traffic.

Miscellaneous issues

A slight majority opposed Native Americans having a greater right to wildlife than other Americans and opposed Eskimos hunting the endangered bowhead whale. The majority believed the polluter should pay for reducing the pollution. A substantial majority were willing to pay more to visit a zoo if the money is used to increase the amount of simulated natural habitat. A majority did not believe birdwatching is a waste of time. A majority disagreed that environmental goals were a threat to economic well-being.

The authors concluded that general support for protecting wildlife and their habitat is evident in the American public, even when economic trade-offs are introduced.
The purpose of this study was to measure species knowledge and preferences as well as perceptions of wildlife issues such as endangered species, predator control, hunting, trapping, marine mammals, and wildlife habitat protection. The data were gathered from 3107 personal interviews with respondents from all states except Hawaii. The most common attitudes were humanistic, moralistic, utilitarian, and negativistic.

- **Naturalistic** - among activity groups, hunters, birders, and members of environmental organizations had the highest scores while anti-hunters, livestock raisers, and anglers were the lowest. Among demographic groups Alaskans, the college-educated, people under 35, Pacific Coast residents, and those who rarely or never attended religious services had the highest scores while the poorly educated, blacks, and people over 56 scored the lowest.

- **Humanistic** - among activity groups, environmental organization members, zoo visitors, anti-hunters, and scientific study hobbyists scored highest while livestock raisers, nature hunters and birdwatchers scored the lowest. Among demographic groups people under 25, those earning between $20-35,000, those who rarely or never attended religious services, and Pacific Coast residents scored highest while people over 76, rural residents, and males had the lowest scores.

- **Moralistic** - among activity groups, environmental organization members and anti-hunters scored highest while hunters, sportsmen organization members, trappers, anglers, and livestock producers scored lowest. Among demographic groups Pacific Coast residents, the highly educated, those in clerical occupations, those who rarely or never attended religious services, and people under 35 scored highest while rural residents, farmers, those from Alaska and the South, and males scored lowest.

- **Utilitarian** - among activity groups, livestock producers, hunters, and anglers scored highest while environmental organization members scored lowest. Among demographic groups farmers, the elderly, blacks, and those from the South scored highest while people under 35, the highly educated, Alaskans, single people, and residents of large (>1mil.) cities scored lowest.

- **Dominionistic** - among activity groups, trappers and hunters scored highest while humane organization members and anti-hunters scored lowest. Among demographic groups farmers, males, Alaskans, Rocky Mountain residents, blacks and those with higher incomes scored highest while women, Pacific Coast residents, the highly educated, clerical workers, and those rarely or never attending church services scored lowest.

- **Negativistic** - among activity groups, only livestock producers scored slightly above the population mean but anti-hunters had comparatively high scores while environmental organization members, scientific study hobbyists, and birdwatchers had comparatively low scores. Among demographic groups the elderly, the poorly educated, and females had the highest scores while the highly educated, Alaskans, those under 25, and those in areas under 500 in population.

- **Other findings** - education plays a large role in people's attitudes towards animals. The less
educated people have much higher dominionistic, utilitarian, and negativistic scores. Region also makes a difference - Alaskans and those in the West have greater appreciation and knowledge of animals while Southerners have the highest utilitarian scores and the least interest in and knowledge about animals. Oldest and youngest respondents were different on every attitude dimension, especially the naturalistic, humanistic, and utilitarian scales. Nonwhites have a comparative lack of interest in, concern for, and affection for animals.

- **Species preference** - the important factors were size, aesthetics, intelligence, danger to humans, likelihood of property damage, predatory tendencies, relatedness to humans, cultural and historical relationship, relationship to human society, texture, mode of locomotion, and economic value.

- **Species protection** - the important factors were aesthetics, relatedness to humans, reason for endangerment, economic value of species, numbers and types of people affected by protection, cultural and historical significance, public's knowledge and familiarity with species, and perceived humaneness of activity which threatens the species. Among demographic groups the highly educated, younger and single people, people in large cities, and Alaskans were more willing to protect species than the elderly, the poorly educated, farmers, rural residents, and Southerners.

- **Predator control** - there was strong opposition to poisoning and support for killing only individual offender coyotes among the general public, but livestock producers strongly supported killing or trapping any coyotes and using poison.

- **Hunting** was acceptable if it was for meat as opposed to sport or trophy hunting.

- **Trapping** - over 70% did not support it.

- **Marine mammals** - 77% supported whaling if the species was not endangered but nearly 70% would pay more for tuna if it meant fewer dolphins were caught in the nets.

- **Habitat protection** - there was moderate but significant support for protection even at the expense of benefits for humans.

All activity groups scored higher on knowledge items than the general public. Among demographic groups the highly educated, Alaskans and Rocky Mountain residents, males, and those who rarely or never attended religious services were more knowledgable while blacks, the poorly educated, people over 75 and under 25, and residents of large (>1 mil) cities were less knowledgable. As a whole the American public has a very limited knowledge of animals. The public was more aware of wildlife issues involving specific, attractive, and "higher" animals rather than those that were more abstract, involving habitat loss and "lower" animals. The authors concluded that there is general interest in and concern for animals but much more awareness will need to be generated regarding the importance of all animals will be required to effectively protect them.
The purpose of this study was to measure attitudes of Americans toward wildlife using Kellert's 10 attitude typologies and to determine if participation in animal-related activities and sociodemographic factors are related to these attitudes. The data were gathered from a survey of the American public. The most common attitudes were humanistic, moralistic, utilitarian, and negativistic. There were conflicts between moralistic and utilitarian attitudes, especially with regard to human exploitation of animals, and between the negativistic and humanistic attitudes. Scientistic and dominionistic attitudes were least common.

- Naturalistic - nature hunters, members of environmental organizations, Alaskans, the college educated, those under 35, residents of the Pacific Coast, and the less religious were more likely to be naturalistic than blacks, those with less than a high school education, and those over 56

- Ecologistic - nature hunters, members of environmental and sportsmen organizations, scientific study hobbyists, the highly educated, Alaskans, professionals, the less religious, and residents of small towns were more ecologistic than blacks, the less educated, blue collar workers, and those over 56

- Humanistic - members of environmental and humane organizations, zoo visitors, anti-hunters, scientific study hobbyists, those under 25, those with low to middle incomes, women, the less religious, and Pacific Coast residents were more humanistic than livestock producers, nature hunters, birdwatchers, farmers, those over 76, rural residents, and men

- Moralistic - members of environmental and humane organizations, anti-hunters, Pacific Coast residents, the highly educated, clergy, women, the less religious, and those under 35 were more moralistic than hunters, members of sportsmen orgs, trappers, fishermen, livestock producers, rural residents, farmers, Alaskans, Southern residents, and men

- Scientistic - scientific study hobbyists, members of wildlife protection organizations, birdwatchers, the highly educated, the young, and Alaskans were more scientistic than livestock producers, fishermen, anti-hunters, meat hunters, the elderly, and the less educated

- Utilitarian - livestock producers, meat hunter, trappers, farmers, the elderly, black, and Southerners were more utilitarian than members of environmental, wildlife protection, and humane organizations, those under 35, the highly educated, Alaskans, single people, and residents of large cities (> 1 mil)

- Dominionistic - trappers, hunters, farmers, men, Alaskans, Rocky Mountain residents, blacks, and the affluent were more dominionistic than members of humane organizations, anti-hunters, women, Pacific Coast residents, the highly educated, clerical workers, and the less religious

- Negativistic - livestock producers, the elderly, the less educated, and women were more negativistic than members of environmental and wildlife protection organizations, scientific study hobbyists, birdwatchers, the highly educated, those under 25, and those in small towns
All animal activity groups were more knowledgeable than the general public. However, birdwatchers, nature hunters, scientific study hobbyists, and members of all conservation organizations were more knowledgeable than livestock producers, anti-hunters, zoo visitors, sport and rec hunters, and fishermen. The highly educated, Alaskans, Rocky Mountain residents, men, and the less religious were more knowledgeable than blacks, the less educated, those over 75 and under 25, and residents of large cities (> 1 mil). The authors concluded that there is a generally positive attitude towards animals in America but a lot of it is based on emotions rather than knowledge which could lead to an overemphasis on protecting charismatic mega-fauna rather than ecosystem management.

The purpose of this study was to determine the degree of change of wildlife use and perception during the 20th century. The data were gathered through a review of 4873 newspaper articles from 2 urban and 2 rural newspapers covering animal related activities and uses from 1890 to 1976. The author measured attitudes present using Kellert's scale of 10 attitudes toward animals and the intensity of those attitudes. There was no increase in animal-related articles during the time period studied, but if only wildlife articles are included, then there is an increase in the number of relevant articles. There were peaks in the 1920s, 30s, and 60s, with the latter two periods coinciding with FDR's and JFK's presidencies. The most common attitude was utilitarian, found in almost half of the articles, followed by the humanistic attitude in 16%, the neutralistic in 14%, and the negativistic in 11%. Utilitarian attitudes occurred at moderate to high levels of intensity, humanistic and neutralistic at moderate levels, and all other attitudes at low levels. The utilitarian attitude decreased from 52.2% to 38.9% in all articles over the period studied. The rural newspapers had a much higher percentage of utilitarian articles than the urban papers. The humanitarian attitude increased in the urban papers while decreasing in the rural papers. The negativistic attitude declined in the rural papers while increasing slightly in the urban papers. There was an increase in numbers of articles about hunting and fishing and in pictorial articles. The majority of articles focused on mammals and birds and on local animals and issues. The percentage of animals in the articles which were endangered, extinct, or declining did not change over time and was very small, from 1-3%. The author concluded that, overall, the utilitarian attitude still dominated in America, there wasn't very much concern about endangered species, and local animals and issues were the most important.

The purpose of this study was to measure attitudes towards predators and control of predators. The data were gathered from 3107 personal interviews of Americans as well as 388 mail surveys of cattlemen, sheep producers, and trappers. The wolf and coyote were among the least liked animals, along with invertebrates. Sheep and cattle producers were negative towards predators in general. People involved in animal activity groups, such as members of wildlife organizations, were the most positive about predators. Those who disliked predators were more fearful of and/or disinterested in predators. Those who liked predators scored higher on the naturalistic scale and supported habitat and wildlife protection. The general public disapproved of shooting or poisoning coyotes while livestock producers supported those methods. The general public supported removing specific problem animals while livestock producers favored killing as many coyotes as possible. Birdwatchers, environmental organization members, and nature hunters had most knowledge while anti-hunters and zoo goers had the least. The author concluded that, while the general public may not like predators, they do not approve of indiscriminate control methods.

The objective of this study was to review social and perceptual factors which contribute to species endangerment which the author asserts is caused by socioeconomic factors. Most research done on the value of endangered species ignores everything except the economic impact of protecting the species which means the risks of endangerment or extinction are often underestimated. Americans are willing to give up some social benefits to protect some endangered species (mammals, aesthetically pleasing animals) but not others (reptiles, invertebrates). The most extensive habitat destruction occurring in the tropics in developing countries and most endangered species are invertebrates. The author notes that consumers in the developed world drive much of the harvest of endangered species in the developing world. The author concludes that values derived from endangered species need to be researched and defined. A rationale needs to be found to garner support for the protection of invertebrates and protection of endangered species in developing nations needs to take into consideration the socioeconomic issues in those countries. Ultimately, consumption in the developed world will have to change in order to protect species in the rest of the world.
The objective of this study was to determine perceptions of, knowledge of, and attitudes toward protection of invertebrates among the general public. The data were gathered from 214 personal surveys of Connecticut residents, farmers, conservation organization members, and scientists. The general public and farmers generally expressed fear, aversion, or dislike of most invertebrates, especially insects and spiders. Scientists were much more positive and conservation organization members were in between. A more positive view was evident with aesthetically pleasing or useful species. A majority thought that invertebrates could feel pain but most did not think they had the capacity for affection, conscious decision making, or future thinking. A majority of general public and farmers did not support major expenditures to protect endangered invertebrates while scientists and conservation organization members were much more likely to support conservation efforts. Scientists had highest knowledge scores, followed by conservation organization members, farmers, and the general public. The author concluded that due to the general aversion people seem to have to invertebrates, it's unlikely that they will ever feel affection for them but it may be possible to educate people about the key roles of insects in the ecosystem. One of the reasons for their dislike of insects may have to do with sheer numbers - they not only outnumber us enormously but they also are alien and cold in appearance and they tend to live together in huge colonies.

The purpose of this study was to examine differences, if any, between males and females in attitudes, behavior, and knowledge toward wildlife. The data were gathered from 3107 mail surveys in all states except Hawaii. Men had significantly more species knowledge than women. Differences were greatest on questions concerning endangered species and invertebrates and least on questions concerning domestic animals. Men had greater knowledge about wildlife issues as well. Women scored higher on the humanistic, moralistic, and negativistic scales and men scored higher on the utilitarian, dominionistic, naturalistic, and ecologic scales. Women preferred domestic and aesthetically pleasing animals and men gave higher ratings than women to invertebrates, predators, and game animals. Men participated in consumptive activities such as hunting, trapping, and fishing more than women. Women were more likely to participate in casual birdwatching, feeding birds, visiting zoos, and photographing animals while men were more likely to participate in committed birdwatching, visiting natural history museums, and amateur scientific study of animals. Men were more likely to be members of sportsmen and environmental protection organizations while women were more likely to be members of human and animal welfare organizations. The authors concluded that male managers need to be aware of how females relate to and feel about wildlife and how this contributes to controversies about wildlife. Managers should attempt to increase knowledge of animals and ecological understanding among women while stressing a more empathetic and more emotionally involved approach to animals with men.
The objective of this study was to examine the attitudes of North Americans toward large carnivores, specifically the wolf, grizzly bear, and mountain lion. The data were gathered through original research, a literature review of current research, and historical sources. Historically, wolves were considered an undesirable species and almost exterminated in the United States. However, during the 1970s, the perilous situation of wolf populations became evident and attitudes toward the wolf became more positive as people realized the ecological importance of the species. Currently, attitudes still range from very positive among young people, the college-educated, the affluent, and urban dwellers to very negative among farmers, livestock producers, the elderly, rural dwellers, and the least educated. Hunters and trappers, while believing that the killing of wolves should be allowed when sufficient populations exist or when wolves interfere with human activities, are often very protection oriented and recognize the ecological importance of the wolf. Mountain lions, in contrast to wolves, have never been the focus of such extreme eradication programs or of much publicity at all. The authors attribute this difference to the lower profile of lions. They are mostly nocturnal, leave little sign, and do not communicate in such auditorily obvious ways as wolves do. Mountain lions are actually more likely to attack humans and livestock but these incidences seem to generate little concern compared to similar situations with wolves. The fact that lions live only in this hemisphere and thus did not have a history with Europeans may also contribute to the lack of strong attitudes toward them. Bears have long been viewed both as a symbol of wilderness and as dangerous animals which threaten humans and livestock. Grizzly bears are not present in all of North America and the strongest attitudes toward them are found in the areas which border their habitat. Livestock producers often hold negative views of grizzlies as do the elderly and those with lower income, while white, educated, urban dwellers are more likely to support protecting grizzlies. The general public supports protecting grizzly bears in general but the authors feel this support may decline when grizzly-human conflicts increase as humans encroach on bear habitat. The authors suggest seven policy recommendations: 1) education programs should focus on practical cognitive content rather than attitudes or values, 2) hunters and trappers with positive attitudes toward predators could be enlisted to influence the small but vocal minority who are very negative toward predators, 3) attempting to use ecotourism as a replacement for traditional ways of making a living may not always meet expectations and should be approached with caution, 4) the antagonism livestock producers have toward predators is not necessarily based on reality but on the perception of depredation by large carnivores and management plans should attempt to educate producers as to the actual threat posed by predators as well as provide some means of compensating producers for their losses and a plan to move or kill problem predators, 5) in grizzly bear regions, the loudest voices are of the conservation organizations, but there are many people who do not agree with conservationists which managers must be aware of; a management plan will only work well when all regional parties can agree with most of it, 6) both the needs of large predators and of humans must be addressed in management plans, and 7) the importance of a species should not be limited to its ecological or economic impact but should include the emotional, intellectual, and spiritual benefits which improve quality of life.
The objective of this study was to determine the attitudes of farmers toward wildlife and the importance wildlife plays in their management plans, as well as what incentives a farmer would accept, if any, for improving wildlife habitat. The data were gathered from 5,264 mail surveys of farmers in Missouri. A fifth said managing for wildlife/recreation interests was extremely important and over 80% said it was at least slightly important. Over 40% thought their land was excellent or good wildlife habitat but the same amount would accept help improving wildlife habitat. Those who would not accept help stated not wanting to attract hunters, not having enough land, and already doing enough for wildlife as their top reasons. The most desired assistance was seed for food plots and technical advice and the most desired monetary assistance was tax considerations and cash payments, but only 30% would devote more land to wildlife habitat if given incentives. When asked how many acres on which they would be willing to implement certain habitat improvements and how many dollars per acre they would want to implement such improvements, many farmers did not respond at all. Of those who did, the most popular improvement was retaining existing woodlots. The practices which the farmers would do at the lowest costs were those which they did not have to actively pursue - i.e. retaining woodlots, restricting grazing in woodlots, and allowing land to revert to wildlife habitat. Over 60% hunted and fished on their land and over half said they had provided grain to wildlife during particularly harsh winters. The authors concluded that cash payments were not the most acceptable form of assistance to farmers willing to improve wildlife habitat, possibly because wildlife is not viewed as a commodity. Farmers may also feel there are strings attached to cash incentives, such as allowing access to hunters or dealing with the added burden of maintaining wildlife habitat. Simple assistance in the form of seeds, plants, and technical assistance will probably be more effective. The majority did not want assistance in improving wildlife habitat, mainly because of concerns about hunters, but also because they view their land as already good habitat. This indicates that more education about the actual condition of habitat needs to be disseminated.
The object of this study was to examine the effects of specific situational factors (fire origin, air quality, private property, forest recovery, and recreation opportunities) on the acceptability of fire management actions. Data were gathered from 1288 mail surveys of visitors to national forests in Colorado, California, and Washington state. Using conjoint analysis, eight scenarios consisting of different combinations of the five situational factors were created. Respondents then chose one of three management actions for each scenario: put the fire out immediately, contain the fire while letting it burn, or let the fire burn without trying to contain it. Conjoint analysis then allowed the authors to analyze the effect of each factor on each management action. For each of the three management actions, utility scores were calculated for the two levels each factor (for example, the levels for fire origin were lightning and humans). Putting the fire out was acceptable in all situations but was more acceptable if the origin was human, air quality diminished, the risk of damage to private property was high, recovery of the forest would take years, and recreation areas would be closed. Containment of the fire was also acceptable in all cases but was more accepted if the origin was lightning, air quality was not impacted, the risk of damage to private property was low, and recovery of the forest would be quick. Allowing the fire to burn was considered unacceptable in all cases but was less unacceptable if the origin was lightning, air quality was not impacted, the risk of damage to private property was low, and recovery of the forest would be quick, and recreation areas would stay open. The authors also calculated the relative importance of each factor for each management action as a percentage (out of 100%). The most important factors affecting putting the fire out immediately were the risk of private property damage (24%) and fire origin (22%), followed closely by forest recovery (21%) and air quality (20%). For containing the fire, the most important factors were forest recovery (22%) and the risk of private property damage (21%), followed closely by air quality (20%) and fire origin (20%). The most important factors affecting allowing the fire to burn were the risk of private property damage (26%) and forest recovery (23%), followed by air quality (18%). The authors note that, though there were definite effects of the factors on the acceptance of the management actions, the relative importance of these factors was not greatly varied within each management action. For all three choices, only outdoor recreation consistently ranked lower in importance than the other four factors, possibly because respondents felt that recreation opportunities would be available in other areas. The authors feel that these results can help managers predict public reactions to fire management based on factors which are easy to determine. They also note that respondents felt that all the factors examined here were important so managers need to provide information to the public about all of them. The authors mention several opportunities for future research. This study surveyed only forest users and the authors believe that differences may be found among homeowners who reside near public lands and natural resource managers, as well as among the general public. The sample was also limited to national forests in the western U.S. which are different in many ways from those in the east. Further research should address more factors which might have an effect on the acceptability of management actions and should also consider more levels of each factor.
The purpose of this study was to determine how environmental attitudes influence contingent valuation (CV) responses and elicited values and whether there is a relationship between nonuse valuation of environmental resources and environmental attitudes. This was measured as willingness to pay (WTP) by asking respondents if they would vote for a referendum which would establish a species protection fund through a one time tax of differing amounts. Follow-up questions asked why yes or no. The NEP scale was used to measure environmental attitudes. The data were gathered from 635 mail surveys in Maine, half of which had questions about peregrine falcons and the other half had questions about shortnose sturgeons. Over 80% of "no" responses were because of opposition to new taxes, not to endangered species protection. The mean WTP was $26 for peregrine and $27 for the sturgeon. The most important motivation for voting "yes" was that all endangered species in Maine have a right to exist. Higher NEP scores resulted in a higher probability of answering "yes" and higher income was positively correlated with "yes" responses. Respondents with stronger pro-environmental attitudes were more likely to provide legitimate yes/no answers as opposed to mostly protest "no"s from those with weaker attitudes. The authors concluded that people may not be opposed to endangered species protection but may have other reasons, such as not wanting to be taxed more, that they don't support such issues.
The objective of this study was to determine landowners' motivations in enrolling in CRPs, the extent to which wildlife was considered in land use decisions, and attitudes towards the use of CRP land after the contract expires. The data were gathered from 1715 mail surveys of conservation reserve program (CRP) participants in Missouri. Concern about soil erosion and the most profitable use of the land were the most important reasons for enrolling in the CRP. Over 60% said wildlife was an important consideration in choosing farming practices but less than 10% of respondents were enrolled in the wildlife habitat CP. Over half of those not enrolled said they were not aware of the program. Only slightly more than 5% of contract land would be left untouched after the contract ended. Those indicating wildlife was an important consideration in choosing farming practices were more likely to enroll their land in the wildlife habitat CP. Younger and better educated landowners were more likely to enroll in the wildlife CP as were those who knew about the state-sponsored cost-share program (over 60% said they would not have chosen this program without the cost-share). The authors concluded that information about program options and cost-shares needs to be made more widely available and agencies need to disseminate this information to all landowners, not just those that express an interest in wildlife. Additional incentive programs sponsored by the state may be effective in increasing wildlife habitat in CRPs. In addition, most land will be returned to agricultural production after contracts expire so more needs to be done to encourage landowners to retain permanent vegetation.

The objective of this study was to discover the attitudes of residents toward elk in the urban environment of Flagstaff, Arizona as well as preferences for managing the elk herd. The data were gathered from 484 mail surveys of Flagstaff residents. The majority of respondents enjoyed seeing elk both in the forest and in town and were unconcerned by elk in their yard, even if the animals were eating their plants. The biggest concern was the possibility of being in a car accident involving an elk. The majority of respondents were concerned about hunting as a means of control, primarily because of the possible threat to human safety. Respondents expressed the need for more accessibility to law enforcement to report any hunting violations and for more information to be available to them about the hunting season. Hunters were less likely to be concerned about the dangers of hunting in town and to support any sort of restrictions on hunting. The authors conclude that it would be possible to use hunting in Flagstaff but that local enforcement needs to work closely with residents to ensure that they feel their concerns are being addressed.
The objective of this study was to compare the views of managers and users concerning why wildlife is important, what experiences made both consumptive and non-consumptive activities more enjoyable, and how opinions about wildlife management differed between groups. The data were gathered from 461 mail surveys from foresters, wildlife managers, environmentalists, birdwatchers, and hunters in Virginia. Almost all respondents said wildlife was personally important to them. The top three reasons were that wildlife were part of the ecological balance, future generations should be able to enjoy wildlife, and wildlife has a right to exist. Hunters' top reasons were ecological balance and enjoyment of hunting. Most also said tax dollars should be spent on wildlife management. The most enjoyable experiences involving wildlife were seeing many different species and seeing a species the respondent had never seen before, though hunters preferred seeing family groups. All respondents agreed with managing wildlife and their habitat, though the use of hunting and timber harvesting to manage wildlife was supported more strongly by managers and foresters and less by birdwatchers and environmentalists. The authors concluded that managers should attempt to increase species diversity for nonconsumptive users and to increase game species for hunters keeping in mind that seeing rare and endangered species is not as important to users. Managers tend to support activities such as timber harvest for managing habitat while users may not be as supportive of these tactics so managers need to be aware of these differences.

The object of this study was to determine the knowledge of and attitudes toward fire of Florida residents both before and after receiving educational information about fire. Data were gathered from phone surveys of 1267 residents initially and then again with 779 of that group after educational information had been sent to the respondents. The survey contained questions which had been asked on previous surveys so the results could be compared across time and region. Compared to Tucson residents, Floridians were less aware of prescribed burning. However, Florida residents were much more knowledgeable about fire than Tucson or Oregon residents. Floridians were more supportive of strict suppression policies than respondents in other surveys, but are just as tolerant of prescribed fires as other respondents. Respondents who completed the survey both before and after receiving educational materials increased both their knowledge and tolerance of prescribed fire. The authors conclude that although Florida residents were not as initially aware of prescribed fire as respondents in other studies, they were just as supportive of it. Their level of knowledge was higher than respondents in other studies, yet they were also more supportive of strict fire suppression policies. The authors speculate that this may be due to the high population density in most areas of Florida so many residents feel that wildfires are a threat which needs to be contained. They also note that despite relatively high knowledge scores among Floridians, the introduction of educational fire information increased those scores, showing that education is useful even in well-informed populations.

The purpose of this study was to replicate one done in 1970 which addressed wilderness visitors' characteristics, attitudes, and use patterns. Data were gathered from 785 mail surveys of visitors to the Bob Marshall, Great Bear, and Scapegoat Wilderness areas in Montana. Though the study covered many aspects of visitors' attitudes, the abstract here will focus on their attitudes toward fire in wilderness areas. Visitors were more supportive of allowing natural fires started by lightning to burn in 1982 (49% in favor) than in 1970 (26% in favor). The author attributes this to the lack of natural fire policies for the wilderness areas in 1970 and notes that by 1982, these policies were much more common and visitors knew more about them. There was little difference among user or sociodemographic groups on this issue.

The purpose of this study was to review the literature concerning knowledge of and attitudes toward prairie dogs. In general, ranchers and farmers overestimated their knowledge level. The level of knowledge of the general public was also low but increased with proximity to prairie dog colonies. Negative attitudes toward prairie dogs were correlated with increased knowledge. Ranchers and farmers disliked prairie dogs but were more concerned with controlling them than about the dogs themselves. Their negative attitudes were due to concerns about loss of control over land management and ranching restrictions. Urban residents were more likely to feel positively about prairie dogs but still feel they are abundant, destructive to vegetation, and should be controlled. Hunters (rural or urban) valued prairie dogs more than non-hunters. Environmentalists were much more positive about prairie dogs, viewing them as a keystone species. Native Americans typically viewed dogs as pests but that attitude is changing as the importance of all creatures is emphasized in Native American culture. The authors concluded protecting prairie dogs had little connection in people's minds with protecting the environment. There was a difference between urban and rural perceptions of prairie dogs - those who had more contact and experience with prairie dogs tended to have a more negative attitude towards them. The authors feel that collaborative decision making is necessary for more effective management.

The objective of this study was to determine knowledge of gypsy moth and jackpine budworm and attitudes toward different control methods of these insects. The data were gathered from 1083 hand-delivered surveys from 5 communities in Ontario, Canada. The majority of respondents said they were familiar with both insects. Some respondents said they had infestation of gypsy moths where none had ever been documented, indicating some confusion about which type of caterpillar they actually had. Most people felt that the insects represented a serious problem and felt that the spraying of insects was an important issue. All respondents who favored controls preferred the biological control Bt over the pesticide carbaryl but were opposed to the communities paying more to use Bt. Those living in communities affected by gypsy moths were more likely to have heard of the moth compared to those living in communities affected by jackpine budworm who were less likely to have heard of the budworm. Those living in budworm areas were more likely to feel that the budworm affected their income than those living in moth areas were to feel that the moth affected their income. People in moth communities were more likely to support letting the insect infestation run its course without any controls while people in budworm communities were more likely to support the use of chemical pesticides. The authors concluded that though the public may not feel very informed about pest management, they still view it as an important issue, indicating managers need to make more of an effort educating the public.
The purpose of this study was to examine forest values and attitudes toward forest management of campers and hunters in the Foothills Model Forest of Alberta within the context of a cognitive hierarchy model. The data were gathered from personal interviews of campers and hunters with a follow up survey. The study measured forest values (biocentric vs anthropocentric), attitudes toward forest management, knowledge of forest-related facts, and socioeconomic and social influence variables. Forest values were regressed on socioeconomics and social influences and forest attitudes were regressed on socioeconomics, social influences, forest values, and knowledge. Respondents who were younger, less affluent, and female had high biocentric and lower anthropocentric scores than their counterparts. Those living in urban centers were more biocentric while those living in forest-dependent communities were less biocentric. Education was not related to forest values but dependence on forest sector for economic livelihood was positively related to anthropocentrism. Respondents who were younger, had less education, and lived in forest-dependent community were more supportive of current management, economic development, and timber oriented management. There was no impact of income, gender, and living in an urban center. Having a household member dependent on forest for livelihood also related to support for current management, economic development, and timber oriented management. Membership in conservation organizations and participation in consumptive or mechanized forest recreation activities were not associated with attitudes. People with biocentric values were less supportive of current management, economic development, and timber oriented management than people with anthropocentric values. The authors concluded that a holistic approach to resource management that considers non-timber uses, manages for a variety of species (biodiversity), employs alternative harvest methods to clear-cutting, provides input from local communities into forest management decisions, and gives some protection for endangered species may be acceptable to hunters and campers. These findings cannot be extrapolated to the general public, however.

The object of this study was to determine attitudes toward prescribed fire of those affected by the 1988 Yellowstone fire compared to those who were not. The data were gathered from 391 telephone surveys of residents in Montana and Wyoming and 522 telephone surveys of residents of the rest of the United States. Over half of both the national group and the regional group had positive attitudes toward prescribed fire policies. Those in the negative group were more likely to believe in negative outcomes such as destruction of natural settings, affecting private property, fires getting out of control, animals losing their homes, and fire threatening human lives. Those in the positive group were more likely to believe in positive outcomes such as improving wildlife habitat, allowing natural events to occur, and removing dead vegetation. The regional negative and positive groups tended to agree more strongly than the national groups on the same items. The regional group was more knowledgeable than the national group about fires and the positive regional group was the most knowledgeable. The authors concluded that this is a highly polarized issue and this study provides no clear cut direction for managers to go. It suggests that as knowledge increases, support for prescribed fires may increase as well, indicating a need for more education of the public. This may not change people's opinions about prescribed burns, it will allow them to make more informed decisions.

The purpose of this study was to measure environmental values and environmental ethics, and determine how these measures influence attitudes toward national forest management. The data were gathered from a survey of Vermont residents. Measured items included 1) attitudes toward management of Green Mountain National Forest, 2) national forest values, 3) environmental ethics findings. While most specific NF values were important, aesthetic and ecological values were perceived as most important while economic values tended to be least important. Utilitarian conservation, stewardship, and radical environmentalism ethics tended to show highest agreement, while benign indifference and anti-environmental ethics showed lowest agreement. Most respondents did not support managing a forest for dominant or single uses and favored management for nonmaterial benefits, including ecological integrity. The authors concluded that forest values and environmental ethics could be isolated and measured. Recreation and aesthetic values tended to be rated most important and values such as ecological protection and expression of moral/ethical obligations to nature were also quite important. As for specific management, respondents favored nonmaterial benefits, including protection of ecological integrity over material benefits. Generally, respondents favored management for multiple benefits as opposed to a single dominant benefit. The values and ethics of individuals predicted a lot of variance in specific attitudes toward forest management.
The object of this study was to replicate a previous study done in 1971 to obtain longitudinal data on wilderness users knowledge of and attitudes. Data were gathered from 275 mail surveys from visitors to the Selway-Bitterroot Wilderness. In general, respondents in the current study were more knowledgeable than those in the 1971 study, with an 11% increase in the average correct score. However, this increase in knowledge was not consistent over all questions. Respondents were more knowledgeable about the effects of fires, such as nutrient cycling, controlling disease and insect outbreaks, creating open areas, and maintaining plant and animal communities. They still misjudged the typical size of pre-Columbian natural fires and the mortality rate of wildlife in fires. There was a substantial change in attitudes toward fire management policies from 1971 to the current study. In the current study, over 70% of respondents chose a fire management option which allowed at least some fires to burn in wilderness areas while in the 1971 study, only 44% supported those options. The biggest difference in attitudes, however, it that 31% of respondents in 1971 choose the most restrictive fire suppression policy while only 5% did so in the current study. The current study also contained questions about prescribed fire. Over 2/3 of the respondents had heard of the practice and almost half believed it would be beneficial to wilderness areas. However, 16% believed it would be detrimental and 1/3 were unsure. Of those who believed fire would be beneficial, the most common reasons cited were that it would improve wildlife habitat, reduce fire hazard, and create open areas. Of those who believed fire would be detrimental or who were unsure of its effects, the most common reasons cited were that wilderness should be natural and that natural fire is the best option. Both studies found a strong relationship between increased knowledge and increased tolerance of fire as a management tool. Education and previous experience in the wilderness area were found to correlate with knowledge levels. The authors concluded that knowledge levels have increased over time and this may be related to educational efforts by the management agency. Wilderness users also have a relatively positive attitude toward the use of prescribed fire but the authors warn that users may have expectations of fire effects which may not be the end goals of managers. The authors feel that more information needs to be available on the size of natural fires, mortality of wildlife, effects of fire suppression, and the creation of open areas by fires.


The objective of this study was to determine CRP participants' interest in improving wildlife habitat, the adequacy of available information on wildlife habitat options, current management of CRP land, and what financial incentives would be required to implement a wildlife plan. The data were gathered from 616 mail surveys from CRP participants in Virginia (survey was pretested in Iowa on 120 CRP participants). Over 60% said they had not been informed about habitat improvement. County extension workers were the most common source of information on wildlife habitat for farmers. Over 70% knew the acreage and what was planted on their CRP land. Over 70% said they wanted to improve wildlife habitat on their lands with the top reasons for improvement being seeing wildlife, hunting opportunities for the owner, and preserving wildlife for the future. Among those who did not want to improve habitat the main reasons were not wanting to attract unwanted hunters and not having the money to spend on habitat improvement. Even if all costs of wildlife habitat improvement were paid for by a conservation agency, only 22% of farmers would implement a plan without requiring an additional payment to them. Over 80% said they had purposely had done at least one thing to improve habitat on their land but only 5% had designated their land as wildlife habitat and almost half had mowed their entire acreage to control weeds. The authors concluded that there was high interest in improving wildlife habitat but few resources that the landowners could use to educate themselves. While publications are helpful, personal contact is necessary in order to understand the objectives of the landowners and encourage participation in habitat improvement plans. Landowners also need to be better informed about cost-sharing programs. The harmful effects of activities such as mowing need to be better communicated and alternatives need to be available. Irresponsible hunters are a main reason that landowners do not want to improve wildlife habitat so hunter education and enforcement of hunting laws needs to be a top priority for managers.
The purpose of this study was to determine what hypothetical species people were willing to protect. Each species was related to a benefit: utilitarian (commodity and recreation), ecological (certain and uncertain), aesthetic, symbolic, and humanistic. The data were gathered from 417 mail surveys of Americans. Respondents ranked all the different types of species, but also were forced to choose between groups of three species. Only the benefits of the species were outlined and none of the possible costs. The results showed that ecological benefits were far more important to the respondents than other benefits. Commodity-based and humanistic benefits were moderately important and recreation, aesthetic, and symbolic benefits were ranked lowest. The authors point out that in other studies with named species, aesthetic, humanistic, or symbolic appeal was often most important in people's choices. They believe this difference between the two studies may stem from a lack of knowledge about a species' role in an ecosystem, so respondents choose which animal to protect based on apparent benefits, such as appearance. The authors conclude that education about species conservation which focuses on ecological benefits that are important to people may be effective in gaining support for biodiversity policies. They also caution that the role of scientists and managers in forming conservation policy is difficult because of the lack of knowledge on the public's part combined with a definite idea on what should be done, even if it is not ecologically sound.
The purpose of this study was to examine relationship between 3 age groups (18-34, 34-48, and over 49) of conservation professionals and their wildlife attitudes, values, and sociodemographics. The data were gathered from 3127 mail surveys from members of The Wildlife Society, American Fisheries Society, Society for Conservation Biology, and the North American Wildlife Enforcement Officers Association. The survey asked about wildlife management, ethical considerations, and harvesting of wildlife. The older age group agreed less with statements that species have inherent value and that management should focus on ecosystem management and biodiversity rather than individual species. They agreed more that managing for harvestable species should take priority over biodiversity and that wildlife are resources which are meant to be sustainably harvested. All three age groups differed from each other on most of the ethical considerations with the older age group the least concerned about animal rights, harvesting of animals, and pain caused to animals and the youngest group the most concerned. The youngest age group was most in favor of outlawing the use of dogs in bear and game bird hunting as well as banning leghold traps while the oldest was least in favor of outlawing these activities. The authors concluded that younger employees may have very different ideas about management which could cause conflicts within agencies and could cause younger employees to quit due to frustration. This could result in a loss of qualified employees but could also lead to changes in agency policies resulting in management techniques which are more in tune with the general public.

The purpose of this study was to assess Americans' attitudes and behaviors toward and knowledge of the environment. The data were gathered from 1501 phone surveys. Almost 70% thought they know a lot or a fair amount about environmental issues but the average on the knowledge section was 3 correct answers out of 10 questions. Respondents knew little about important future environmental issues with only 1 in 9 getting more than 60% of the knowledge questions correct. Over 60% thought that environmental protection and the economy can go hand in hand and 70% would choose environmental protection over economic development if a compromise could not be found. Health related issues such as air and water pollution were the most important to the public. Three quarters believed that environmental laws are well-balanced or do not go far enough and when given specific issues such as air and water pollution, habitat protection and endangered species protection, an overwhelming majority believed that laws are well-balanced or do not go far enough. Over half believed there will be an environmental catastrophe in the next century. Respondents believed that environmental organizations, citizens groups, and individuals can be relied on more than government agencies and private businesses to solve environmental problems. The majority viewed polluted air and water, freshwater shortages, cutting of large forests, population increases, and climate change as somewhat to very serious problems in the next 15-25 years. Only a third felt that environmental factors were a very important cause of conflict in the world. The majority frequently engaged in activities such as saving electricity and water, using alternative transportation, and cutting down on the amount of garbage they generate. Some bought environmentally friendly products and tried to avoid using chemicals in their home or garden. Few recycled or participated in clean-ups of public land. Women and younger people were more likely than men and older people to support environmental protection on any number of issues. More actual knowledge was strongly related to more support for environmental protection and more reported knowledge was related to more actions to preserve the environment. The study made several conclusions about education and policy: 1) Highlight the connection between the problems, their human causes, and their effects on humans, 2) Do more research on how people learn about environmental issues and what their motivations are to change their own behavior, 3) Educate the media on environmental issues so the public receives accurate and more detailed information, and 4) Educate health care professionals so they can be aware of the connections that exist between environmental issues and health.

The object of this study was to investigate the actual behaviors of homeowners concerning wildfire preparedness. Data were gathered from 80 personal interviews along with surveys of residents in fire-prone areas of northern Minnesota and central Florida. There were differences in the natural settings of the locations: the Minnesota homes were in dense forest in remote areas while the Florida homes were in varied locations and were generally closer to populated areas. Interviewers also assessed the landscape of each home with the concept of defensible space in mind. Five types of landscapes were created for interviewers to categorize the properties: open space, clear all sides, clear some sides, neatened woods (MN only), and deep woods. The reasons for maintaining these landscapes varied between state; for instance, clearing all sides was most often a defensible space issue in Minnesota but not in Florida where it was more about the view or sun exposure. The majority of all homeowners who had the first three types of landscapes had removed vegetation around their house. Further, the majority of Minnesotans who owned the first two types had removed vegetation far way from their homes and installed a water source. Additionally, 40% of this group had used fire retardant building materials, bought a sprinkler system, and widened the driveways to their houses. These behaviors were much more sporadic among Florida residents with these types of landscapes. Before discussing fire and defensible space, interviewers showed respondents photos of homes of various landscape types and asked homeowners what they did and did not like about the landscapes. From these discussion, several landscape value preferences were noted. Respondents often stressed that they wanted a "natural" landscape, especially those who had neatened woods or deep woods around their homes. The acceptance of lawns varied according to landscape type, with those who owned open space properties supporting lawns and those who owned deep woods or neatened woods feeling that lawns were unnatural. Aesthetics was another important preference among respondents, though ideas about what was aesthetic varied greatly. In Minnesota, wildlife was very important but was mentioned less often by Florida residents. In both states, recreation was highly valued (except by Florida deep woods residents) and homes were seen as jumping off points for recreational activities. Lastly, privacy was strongly preferred by all respondents. The authors conclude that there are many reasons that people do or do not create defensible space around their homes. They note that homeowners who have already created defensible space are also more likely to engage in other fireproofing activities. The preferences of the respondents need to be considered when attempting to educate homeowners about wildfire preparedness because the values that homeowners hold are not likely to change simply due to greater amounts of information. However, managers need to continue efforts to educate both existing homeowners and new residents because the landscapes will change over time.
The object of this study was to determine if attitudes toward certain management techniques were related to community location, ethnicity (Karai or Guarani), religion (Catholic or Protestant), economic activity (migration to work in sugar cane fields or not), and size. The data were gathered from meetings held in 23 communities located in the Izozog area of the Bolivian Chaco to discuss different wildlife management recommendations. The most accepted wildlife management techniques were prohibiting outsiders from hunting, hunting only according to a family's needs, conserving plants important to wildlife, and establishing hunting zones or a hunting rotation. Karai communities were more likely to support active management such as establishing hunting zones, not hunting rare species, and only hunting adult animals while Guarani did not support these measures. Communities located in areas where they are subjected to more external pressures were also more in favor of active management. The authors concluded that widespread agreement about prohibiting outsiders from hunting could be a starting point in further discussions about wildlife management for the entire region, but distinct cultural differences concerning hunting between Karai and Guarani may make compromises difficult in the future.
The purpose of this study was to determine attitudes toward wolf reintroduction and beliefs associated with these attitudes and evaluate any difference in attitudes between western slope and eastern slope residents. The data were gathered from 1452 mail surveys from Colorado residents. Over 70% were in favor of reintroduction. This positive group believed reintroduction would keep ungulate populations in balance, preserve wolves, return the natural environment to its previous state, help people understand the importance of wilderness, and help control rodent populations. The negative group believed reintroduction would result in livestock losses, ranchers losing money, wolves in residential areas, and reduced ungulate populations. East slope residents were slightly more supportive of reintroduction than west slope residents (73.8% vs. 65.1%). Region had less effect on the beliefs of those with positive attitudes toward reintroduction than on those with negative attitudes. The authors concluded that widespread support was been found for wolf reintroduction though there are concerns that need to be addressed, such as livestock losses.

The objective of this study was to determine differences in wildlife managers' personal characteristics, management options, and net economic values concerning endangered species management. The data were gathered from 35 mail surveys of managers (implementers, resource assessors, and administrators) working for the Maine Department of Inland Fisheries and Wildlife (MDIFW). No administrators felt that protecting species endangered only in Maine was very important while at least some of the implementers and assessors felt it was. The majority of implementers felt that there were no species listed inappropriately on the endangered species list while all the administrators felt there was at least one and assessors were evenly divided. The implementers felt that management should focus on those species in greatest danger of extinction while administrators and assessors wanted to focus on species with the greatest chance of survival. The authors concluded that, internally, the managers in the MDIFW do not hold the same views toward endangered species management. This could cause divisiveness within the agency and lead to mixed messages being disseminated to the public, other agencies, and legislators.
The purpose of this study was to examine the public's knowledge of fire and the effect of fire information on that knowledge, as well as public attitudes toward fire and managers' perceptions of those attitudes. Data were gathered from visitors to Olympic National Park and permanent residents living in communities near the park. An initial survey was distributed to the two groups with 725 surveys returned. In addition, 18 land managers were informally interviewed. From these surveys and interviews, a slide show was developed along with a true-false 8-statement knowledge quiz. The quiz was given to attendees of the slide show both before and after viewing. Fire experience varied between visitors and residents. Residents were more likely to have been in or near a forest fire, to report personal losses due to fire, and associated fire with a wider range of uses. Both groups demonstrated equivalent levels of knowledge about fire; most respondents recognized the beneficial effects of fire to forest ecosystems. However, two-thirds believed that all fires should be suppressed immediately in the park. Respondents were most supportive of prescribed burning if it was used for fuel reduction or to restore native vegetation. The results of the slide show portion of the study revealed that knowledge increased significantly between pre- and post-viewing tests. The lowest percentage of correct answers on the pre-test (33%) was for a false statement indicating that fire causes great damage to wildlife and their habitats. The percentage of correct answers increased to 86% after viewing the slide show. The author concludes that despite knowledge of the benefits of fire, the public was still generally reluctant to allowing fires to burn in Olympic National Park. However, educational efforts did result in greater knowledge, which may in turn lead to greater acceptance of fire as a management tool.
The object of this study was to determine attitudes, perceptions, and knowledge of black-footed ferret, prairie dogs, and reintroduction as a recovery strategy. The data were gathered from 27 meetings with local ranchers from Phillips County, Montana, 25 informal interviews with local ranchers, and 710 mail surveys of residents of Phillips County and Billings, ranchers in MT, members of conservation orgs from MT, and local ranchers. Over half of local ranchers opposed reintroduction and all considered prairie dogs to be pests. Almost all believed that environmentalists would use the reintroduction of ferrets to restrict ranching and over half believed the same about the federal agencies. Local ranchers had the highest negativistic, utilitarian, and dominionistic scores and the lowest moralistic, humanistic, and naturalistic/ecologistic scores. Members of conservation organizations and urban residents scored highest on the moralistic, humanistic, and naturalistic/ecologistic scales. Local ranchers scored significantly higher on knowledge questions than all other groups, which all scored relatively the same. All groups except local ranchers thought they know more about ferrets than they really did and all groups thought they knew more about prairie dogs than they did. The authors concluded that the main barrier to reintroducing ferrets is the extremely negative attitude of local ranchers towards prairie dogs. Ranchers are also concerned about losing control of the management of their land if ferrets are reintroduced. Knowledge about ferrets does not correlate with support for reintroduction so simply providing more educational programs would not be sufficient. Public relations programs that provide incentives as well as consequences (used in a cautious manner) for cooperation in reintroduction projects would be necessary.
The purpose of this study was to determine knowledge, values, and attitudes of Montana residents toward prairie dogs. The data were gathered from 671 surveys from rural residents, urban residents, ranchers, and members of conservation organizations. For all items, dislike of prairie dogs decreased from ranchers to rural residents to urban residents to conservation members. Over half of the ranchers did not want any public lands maintained as prairie dog colonies but a majority of respondents thought that at least some land should be retained as such. Attitudes toward management of prairie dogs followed a similar trend with ranchers wanting more control over public grazing allotments and compensation for losses due to prairie dogs. Experience was the most cited source of information about prairie dogs with books, articles, and newspapers also a frequent source. Ranchers and rural residents tended to get information from friends and family as well. The authors concluded that public relations and education programs need to be positive and incentive-based. Enlisting ranchers and rural residents with more positive views of prairie dogs to help with these programs would probably be more effective than using agency personnel. The public does not appear to know how important prairie dogs are to the ecosystem in which they live which makes conservation more difficult so more education is needed.
The objective of this study was to determine opinions on wolf translocation and reasons for those opinions, whether mitigation would change the minds of those opposed to translocation, and how much knowledge respondents had about wolves. The data were gathered from 899 surveys distributed in person to contacts and to conference attendees with 375 responses from livestock groups in Sonora and Chihuahua and academia groups in Sonora, Chihuahua, and the University of Arizona. Chihuahuan residents had a more positive attitudes towards wolves than Sonoran residents. Over 60% of all respondents favored translocation with the biggest reason being that the Mexican wolf was in danger of extinction. Of those who opposed it, livestock losses were cited as the most important reason but around half would change their mind given some sort of mitigation. Chihuahuan residents had more knowledge about wolves than Sonoran residents. Higher education was positively correlated with attitudes towards wolves as was size of city in which the resident lived. Knowledge increased with size of city but knowledge among rural residents (though not those living on ranches) was also high. The authors concluded that the general public needs to be better educated about the wolf and why translocation is important. Mitigation plans should also be considered before translocation takes place rather than after the fact.

The object of this study was to explore the meaning of wolves and wolf reintroduction to residents of the greater Yellowstone ecosystem. The data were gathered from 40 interviews with people who lived within 90 miles of the border of Yellowstone National Park. Residents distrusted scientific views of the wolves, instead relying on accounts from their friends and neighbors as well as traditional lore to form opinions about wolves. They also distrusted the federal government intensely - most thought the wolves were just another excuse for the government to control their lives even more. The economic concerns of ranchers were based in a deeper concern about the viability of their lifestyle in adverse conditions. The authors concluded that because park officials focused so heavily on the opinions of the rest of the country and very little (so residents felt) on those of the surrounding area, the closest neighbors to the park felt powerless and resentful. Even though Yellowstone is a national park, a better job needed to be done working with local residents to ensure, if not support, then at least some sort of acceptance of the reintroduction. In future controversial situations more must be done in this area.

The purpose of this study was to determine attitudes toward wolf reintroduction. The data were gathered from 130 phone surveys of residents in Greenlee County, Arizona. Over half opposed reintroduction, while a fifth supported it. The most common reason for opposition was concern for ranchers and their livelihood (despite the fact that only 6% of the respondents were ranchers), followed by concern for human safety and fear of more predators. The most common reason for support was that wolves are integral to the ecosystem, followed by wolves are native and the respondent was an animal lover. Over half of the respondents thought reintroduction would have no impact on their lifestyle or business. Two-thirds of respondents were not aware that the reintroduced wolves would not have endangered status and thus could be removed or killed if they became a problem. Over 3/4 of the respondents supported this provision in the reintroduction plan. The authors concluded that more information about wolves and humans needs to be available since many respondents mistakenly believed that wolves would attack humans. The removal of endangered status protection from reintroduced wolves also needs to be publicized since most respondents did not know about it. Despite attendance at public meetings concerning reintroduction, many of these respondents were strongly opposed to reintroduction and continued harbor incorrect perceptions about wolves, indicating that information at the meetings was not being used to formulate an opinion, possibly because that information came from a distrusted government agency. Some other way of disseminating information from a reliable source needs to be found.
The purpose of this study was to replicate one done in 1996 to ascertain how people's attitudes toward fuel reduction strategies had changed. Data were gathered from mail surveys of 323 Oregon and Washington residents. Respondents rated nine different sources of forest management information in both surveys. Printed media (newspapers and magazines) and friends and family remained the most useful source of information but the Forest Service dropped below timber groups as a useful source. In both surveys, most respondents supported at least the limited use of prescribed fire and mechanized thinning. However, trust in the Forest Service to be responsible and effective when using prescribed fire dropped by 9% in the 2000 survey. In 2000, respondents were also much more concerned about the effects of smoke from fires and less likely to agree that smoke is acceptable if a healthier forest is the result. Significantly fewer respondents in the 2000 survey felt that the Forest Service provided enough information about management actions or that they used public input in making management decisions. However, more respondents thought that managers were trying to collect more input from local communities. The authors attribute this contradictory finding to the fact that the public sees the Forest Service soliciting more public comments but does not believe those comments are actually used in formulating management policies. New questions on the 2000 survey revealed that the majority of respondents trust their local Forest Service employees but believe that the federal government prevents them from doing their jobs. The 2000 survey also included a 15-item knowledge quiz which showed that respondents had generally high knowledge about mechanized thinning and still high but slightly less knowledge about prescribed fire. There was a strong relationship between knowledge and support for both prescribed fire and mechanized thinning as well as between trust in the Forest Service to carry out effective programs and support for prescribed fire and mechanized thinning. The authors note that the change in attitudes toward the Forest Service should be a caution to managers. They also suggest that traditional means of communicating with the public about fire management may not be sufficient to reverse this process. Managers must find more interactive ways of communicating with their constituencies. However, the public was supportive of fuel reduction, though they were more supportive of thinning than of prescribed fire. Since knowledge is related to greater acceptance of prescribed fire, the authors feel that managers must make education a priority in order to keep and strengthen positive attitudes toward fire. The authors conclude that public attitudes are situational and will change over time; they feel this is an important reason for carrying out longitudinal studies.

The purpose of this paper was to present results of a survey of southern New Jersey residents on attitudes and level of support for a regional ecosystem management plan. The data were gathered from a mail survey of New Jersey residents divided into four groups based on Census tracts characterized by socioeconomic stability versus instability and zoning classification as primarily preservation versus development. The groups were 1) preservation/stable tracts, 2) preservation/growth tracts, 3) development/stable tracts, and 4) development/growth tracts. Survey questions focused on familiarity with planning efforts, attitude toward planning efforts, level of support for planning efforts, and socioeconomic conditions. Most respondents supported ecosystem planning (3 to 1 ratio, though more than 1/3 indicated neutrality on the issue). Significant factors related to support were education, household income, membership in environmental organization, employment status, and familiarity. The authors concluded that there was general support for ecosystem management efforts and that people often focus on direct impact to them when supporting management actions.

The objective of this study was to determine attitudes toward the Kirtland's Warbler (KW) and recovery efforts and the effects of sociodemographics on those attitudes. The data were gathered from 123 mail surveys to residents of Mio and Grayling, Michigan. Almost all respondents were aware that KWs only lived in Michigan and most knew that KWs were endangered because of loss of habitat. Over half knew that cowbirds have an effect on other bird species and supported the removal of cowbirds. Over half knew that the recovery program for KWs was part of an ecosystem management plan. Over 60% felt the recovery effort was effective and over half supported the program. Over half thought that other wildlife may benefit from the habitat management and 70% thought that ecosystem management was important. A majority thought local communities benefited economically from KWs. Respondents thought that the local attitude toward KW was more positive than negative and that it had gotten more positive because of the KW Festival. Over half favored the Endangered Species Act (ESA) and most of those opposing the law felt it should be strengthened, modified, or integrated with other laws. The authors concluded that there is widespread support for the recovery program and people believe that they are benefiting from the presence of an endangered species near them. There was also support for the ESA though not everyone agreed it was working as written - more information could be provided about the act to ensure that support continues.
The object of this study was to determine public knowledge of fire and attitudes toward wilderness fire policy, as well as the best ways to promote acceptance of fire management actions among the public. Data were gathered from 183 mail surveys of visitors to the Selway-Bitterroot Wilderness in Idaho and Montana. The average score on a set of knowledge true-false statements was a little over half correct with the highest percentage of correct answers being 67% for any one question. The lowest percentage of correct answers was 23% for a false statement about the large size of prehistoric forest fires in the Rocky Mountains. The next lowest percentage (40%) was for a true statement about how fire suppression can actually increase the chances of a large fire occurring. Respondents were also given a range of nine fire management options in wilderness areas, from complete suppression to no suppression, and asked to choose the most acceptable and unacceptable, as well as what other options would be also acceptable or unacceptable. Almost all the respondents felt that no suppression was unacceptable, while less than half felt the complete suppression was unacceptable. Just over a third felt that complete suppression was acceptable and over half the respondents chose one of the four suppression options as most acceptable. However, there was greater support overall for options which would allow small, safe fires to burn in wilderness areas, with just under half of the respondents citing those options as acceptable. In exploring factors which may have affected these attitudes toward fire, the authors found no relationships between attitudes and age, education, or visitation. They did find a positive relationship between knowledge and tolerance for allowing fire to burn. The authors conclude with three suggestions for management actions: 1) educate the public; 2) avoid sudden changes in policy; and 3) educate all segments of the public. As this study shows, knowledge is connected to attitudes and managers need to ensure the public has the pertinent information to make decisions about management actions. Given the range of positions on fire management by the respondents in this study, the authors feel it would be rash for managers to suddenly change policies. Instead, policies should change gradually and, if possible, small fire projects should be conducted before moving on to larger ones. Lastly, the public is a varied group and education needs to be broad enough to reach as many people as possible. The authors believe that communication through schools and service clubs, as well as newspaper and television, will reach the broadest audience.
The purpose of this study was to examine the structural and social responses of two New Mexican communities (Santa Fe and Ruidoso) to wildfires. Structural responses include requiring fireproof building materials, managing vegetation, passing building codes and land use regulations, zoning, and obtaining fire insurance. Social responses include making better decisions and improving organization, management and planning. Ruidoso was named the second most at risk community for forest fires in the nation by the Forest Service in 2002. Before this designation, community groups had managed to change some of the town's regulations which allowed homeowners greater freedom to create defensible space around their homes. The town also hired an urban forester who now coordinates the Ruidoso Wildland Urban Interface Group (RWUIG) which deals with many of the fire issues facing the community. There are two programs aimed at fuel reduction in the area: the Community Forest Management Plan and the Twenty Communities Cost-Share Program. The first involved outreach by the urban forester who meets with residents to assess their properties and suggest fireproofing actions. The goal of the plan is to treat 13,000 acres around the community to a ground fire standard which is intended to constrain fires to the ground rather than spreading into the trees. The second is a state-run program which will reimburse homeowners up to 70% of the costs for creating defensible space around their homes. In 2002, the town passed four fuels management ordinances. The first required fire resistant building materials in new construction, the second created a wildland hazard overlay district, the third outlined all fuels management in the community, and the fourth revised the already existing tree ordinance mentioned above. The community also purchased four grappling trucks to assist residents in removing slash and debris from thinning efforts. Enforcement of these new ordinances has begun but the effectiveness of the ordinances has not been determined. However, through the various funding programs available, the community carried out over 300 fuel reduction projects in 2001 and many more were underway in 2002 when this study was done.

Santa Fe is a much larger city than Ruidoso and is at risk from fire particularly because of the density of trees in the Santa Fe Municipal Watershed. A large fire would be catastrophic for the water supply of the city, not to mention it would cause much property damage. A large portion of the watershed is located in a wilderness area where thinning is prohibited but most of the rest of the area is in the Santa Fe National Forest. A study in 1997 showed that the mainly ponderosa pine forest in the watershed was dangerously dense and therefore vulnerable to both fire and disease. The Santa Fe Municipal Watershed Project (SFMWP) was created to develop a plan to reduce fire and disease hazards in the watershed. The Forest Service, community groups, environmental groups, and others all contributed to the plan, which underwent a full environmental impact assessment by the Forest Service. The plan focused mainly on ecosystem restoration and consisted of four phases: 1) various thinning activities, including the cutting of trees up to 16" in diameter, but no commercial harvesting; 2) burning of slash piles left from thinning; 3) prescribed burning to reduce small trees and surface fuels; and 4) annual monitoring and evaluation of treatments. The implementation of this plan has proceeded slowly with many problems along the way. Despite the plan's completion in 2001, only 11 acres out of 7,000 had been thinned as of 2003. There have been various roadblocks, including an appeal of the environmental impact statement by environmental groups and forest closures due to fire threats. However the biggest obstacle is seen as the absence of a project manager to coordinate and oversee the various projects. The authors
conclude that both structural and social responses are necessary to for effective management of forest lands to reduce fire hazards. In Ruidoso, both responses were present, resulting in an efficient plan of action which was undertaken quickly. In Santa Fe, the structural responses were not supported by social responses, resulting in the development of a plan but very little action stemming from that plan, though the authors note that more progress has been made since this study was completed. The authors feel that each community should approach their management of fire hazards in whatever way seems best but they stress that any program must have structural and social support to succeed.

The purpose of this study was to explore the fire management preferences and knowledge of wilderness users. Data were gathered from 400 on-site surveys in wilderness areas in Idaho and Montana. Respondents were more likely to support allowing fires to burn which were started by natural causes and less likely to support allowing those started by humans to burn. The majority approved of allowing fires to burn in little used areas of wilderness but were not as supportive of allowing these fires to burn into other areas. Respondents deemed the quality of the natural resource as an important determinant in deciding whether to allow a fire to burn or not and did not feel that the quantity of recreation activity in an area should be strongly considered. Wilderness users have relatively high knowledge about fire and its effects. Respondents were asked to place a dollar amount that they would be willing to pay per day in order to recreate in the wilderness. They were then shown line drawings of the results of low and high intensity fires and asked whether that amount would change. Most of the users would not change their original value due to the effects of a low intensity fire and 2/3 would not change due to the effects of a high intensity fire.
The purpose of this study was to examine the mediating effect of general environmental attitudes and knowledge on the relationship between values and attitudes among four wildlife constituent groups: consumptive users, nonconsumptive users, both consumptive and nonconsumptive users, and nonusers. The data were gathered from 1220 phone surveys with residents of the Southern Appalachians. There were mixed attitudes toward wildlife protection with the majority supporting preservation of critical habitat for threatened and endangered species, that the Endangered Species Act should not be restricted, and that habitat for trout is not more important than for nongame fish. However, a majority also supported stocking lakes and rivers for sport fishing. Nonconsumptive users had more favorable attitudes toward wildlife protection, greater knowledge, and stronger environmental values than the consumptive users. Nonconsumptive and consumptive users had more knowledge than other groups and stronger environmental values than nonusers.

Environmental attitudes mediated the effect of values on specific wildlife attitudes. Knowledge mediated the effect of values on attitudes in both the consumptive and combined user groups but higher knowledge increased the correlation between values and attitudes for the consumptive users and decreased the correlation for the combined users. The authors concluded increased knowledge affects groups in different ways so the effects of education campaigns may not always be predictable. Some groups rely on their values more in forming their attitudes, while some rely more on knowledge.

The object of this paper was to summarize the findings of three previous studies (see Cortner et al., 1984; Gardner et al. 1985; and Taylor & Daniel, 1982 in these abstracts) concerning the importance of recreation in forests to the public, public tolerance of fire as a management tool, and public perceptions of recreational acceptability of various forest burn areas. Forest recreation was viewed as extremely important by nearly half the respondents in the studies which asked about it. Forests as a source of food for wildlife was also extremely important for about half the respondents but forests as a source of timber was only ranked extremely important by about a third of the respondents. However, respondents felt that destruction of trees was an extreme problem with forest fires. The authors felt that this concern was because trees were being viewed as more than economically valuable; they also are a source of habitat and food for wildlife, watershed protection, recreational opportunities, and scenic beauty. A majority believed that fire could be beneficial for forests and most of this group identified clearing and thinning of underbrush and fuel reduction as the major benefits. In one study, almost half the respondents believed that a low intensity fire could also improve recreational opportunities. A majority in all studies disagreed with letting fires burn that had been started by lightning or by people but agreed with allowing prescribed burning. Even with the possibility of prescribed fires escaping, more than half of all respondents supported prescribed burning. Two of the three studies show that around 3/4 of the respondents do not agree with strict fire suppression policies such as putting out all fires immediately. In the third, over half the respondents did not agree with these policies. More than half the respondents in all the studies supported letting low intensity fires burn as long as they were monitored. The study by Taylor and Daniel specifically addressed scenic quality and recreational acceptability of various burn areas. They found that scenic quality was enhanced by light fires but decreased by severe fires. Recreational acceptability was decreased by both light and severe fires, but much more so by the severe fires. This was also dependent on the type of recreational activity which was being considered by the respondent. Camping was the most affected by severe fire, followed by picnicking, hiking and backpacking, and nature study. Camping was also affected by light fire, whereas the other three activities were not. The Taylor and Daniel study also showed a positive relationship between the provision of education information about fire effects and increased knowledge and tolerance of fires. The authors concluded that there was general public acceptance of light fires combined with disagreement with strict fire suppression policies. Further, education is an effective tool in increasing tolerance of fire as a management tool, though fire effects on recreational opportunities may remain negative in the public's opinion.
The purpose of the study was to determine public perceptions of scenic quality and recreational acceptability of ponderosa pine forests in the Southwest which had experienced light prescribed fire or severe fire and the effect of fire information on these perceptions. Data were gathered from almost 200 residents of Tucson, Arizona. Participants were given one of four versions of an informational pamphlet about fire and its effects on ponderosa pine forest: 1) narrative plus production function graphs for timber production, forage production, wildlife populations, watershed parameters, and air quality parameters; 2) narrative plus line drawings of before, during, and after scenes of light and severe fires in the forest; 3) narrative plus production function graphs and line drawings; and 4) control which gave general information about management of ponderosa pine forests without a specific emphasis on fire. After reading the information, they viewed two sets of slides, one set which was rated for scenic quality on a scale of 1-10 and the other which was rated for recreational acceptability also on a scale of 1-10. However, for the latter, participants first had to choose which recreational activity they would most like to participate in for that slide and base their rating on that activity. Finally, participants filled out a survey which evaluated their knowledge and attitudes toward fire. The results indicate that scenic quality is most improved after light fire for a 3-4 year period and most damaged by severe fire. Recreational acceptability depended on the activity which was being examined. Camping was the activity most affected by severe fire, followed by picnicking, hiking or backpacking, and nature study. Only camping was affected by light fire. In comparison to scenic quality, recreational activities were more affected by severe fire, but this varied by activity. Camping was twice as affected as scenic quality while hiking and backpacking were affected about the same. Fire information did not significantly effect either scenic quality or recreational acceptability evaluations. In comparison to the control group, those who were provided information on fire effects were more knowledgeable and had more positive attitudes toward fires. However, those who read the pamphlet which included both the production function graphs and the line drawings generally were less positive than the other two information groups, though they were still more positive than the uninformed group. The authors believe this indicates that the pamphlet contained too much information which became confusing and overwhelming to the reader. The authors also found a positive relationship between increased knowledge and greater tolerance of forest fires. Support of prescribed fire was high, with over 90% of participants agreeing that underbrush and debris in pine forests should be burned periodically. The authors conclude that information about fire effects should be used in educating the public but this information should not be expected to change people's perceptions of scenic quality and recreational acceptability.
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The purpose of this study was to determine if there is a significant gender and parental status effect on Willingness To Pay (WTP) for environmental programs dealing with the protection of wildlife and salmon. The study was based on the Schwartz Norm-Activation model and Willingness to Pay model and examined beliefs (awareness of consequences (AC)) and WTP for environmental programs. The data were gathered from telephone interviews of adults living in California. The authors regressed AC belief scales on gender, AC weights on gender, and WTP on gender. They found no significant differences between males and females on AC (altruism) and AC (biocentric) beliefs. Males scored higher (same direction as females) on AC (self-interest) beliefs (due possibly to waterfowl and salmon being game species). There were no significant differences between males and females on the relative weights (importance) of any of the AC beliefs or on WTP for wetlands habitat improvement, wildlife contamination control improvement, and river and salmon improvement. WTP was higher for all programs for all 3 groups. There were no real parental status differences on AC beliefs or WTP for environmental programs. The authors concluded that findings regarding gender effects, though of interest, are generally mixed.

The objective of this study was to determine the attitudes of Utah residents toward certain cougar and black bear management techniques such as bear baiting and hunting with hounds. The data were gathered from 901 phone surveys of Utah residents. Overall, respondents did not approve of cougar or bear hunting and were even less supportive of hunting with dogs and bear baiting as specific hunting methods. Rural residents, men, those with less education, longtime residents, younger (under 25) respondents, and hunters were less opposed to the selected practices. Only 8-19% of the variance in attitudes was explained by the complex of individual variables. The authors concluded that the majority of Utah residents disapprove of hunting bears and cougars and disapprove even more of using dogs and baiting to do so. Certain groups are more or less likely to disapprove of these techniques, so education and public relations campaigns can be tailored to these groups to be more effective.
USDA. (1968). *Public image of and attitudes toward Smokey the Bear and forest fires* (pp. 192): U.S. Department of Agriculture, Forest Service.

The object of this study was to determine public awareness of the Smokey the Bear campaign, their attitudes toward the campaign, and their knowledge of and attitudes toward fire. The data were gathered from 900 personal interviews with adults, 450 surveys from teenagers (13-18), and 450 surveys from children (6-12) from the United States. Of the children, 40% identified Smokey the Bear as their favorite symbol out of five choices. Almost all the children were able to match the symbol with the name Smokey the Bear and were able to associate Smokey with forest fires. When given six possible causes of forest fires, children chose carelessness with cigarettes and arson as the major causes. All teenagers recognized the Smokey the Bear symbol and almost all identified it as Smokey. More teenagers ranked Smokey as their favorite symbol out of six choices and associated Smokey with forest fire prevention. Teenagers were generally positive about Smokey's image but a fifth also thought Smokey was old fashioned, slow, or silly. When given six possible causes of forest fires, teenagers chose carelessness with cigarettes and not extinguishing campfires as the major causes. Almost all adults recognized the symbol and could identify it as Smokey. Adults frequently stated in interviews that the Smokey the Bear campaign is a good program and that it makes people aware of fires and fire prevention. Almost all recognized the function of Smokey in promoting fire prevention. Adults mentioned carelessness with cigarettes and campfires most often as major causes of forest fires. The most common problems associated with fires were the destruction of timber, killing of wildlife, and destruction of homes/property. Adults regarded Smokey's image slightly more positively than teenagers though he was still not viewed as modern or daring by most adults.

The objective of this study was to determine the attitudes of sheep farmers in Norway towards large carnivores using Kellert's attitude scale and whether those attitudes are correlated with predation rates. The data were gathered from mail surveys from around 400 Norwegian sheep farmers. The highest scores were on the dominionistic, negativistic, and utilitarian scales. Farmers in the heavily depredated area were more negative in general but just as positive about carnivores as those living in the lightly depredated area but the differences were slight. As anticipated personal consequence of sheep loss increased so did the negative attitudes toward carnivores. The authors concluded that while exposure to heavy depredation did result in more negative attitudes toward large carnivores, there was not a very large difference in attitudes dependent on depredation. However, the more losses farmers anticipated from carnivores, the more negative their attitudes which indicates managers should focus on not necessarily reducing depredation, but on easing the financial consequences of losing sheep to predators.
The purpose of this study was to measure whether attitudes toward wolves change with sociodemographics, geographic region, and time. The data were gathered from a quantitative analysis of the literature about attitudes towards wolves. Over half of respondents were positive towards wolves and wolf reintroduction. Age, rural residence, ranching, and farming were negatively correlated with attitudes towards wolves. Higher education, higher income, farming, and being female were positively correlated with attitudes towards wolves. American attitudes were more positive than European attitudes and attitudes were more positive among those who did not live among wolves. Time had little effect on attitudes - they did not get more negative or positive. The authors concluded that there are generally positive attitudes towards wolves but these attitudes may not be based on knowledge of wolves and can be easily changed. Managers should focus on the general public (especially women, the highly educated, and those with higher incomes) and hunters and trappers because these groups are more likely to feel positively towards wolves and support their reintroduction. The authors also suggest that research should span longer periods of time, following up with respondents 10 or more years later, to measure whether attitudes are changing over time.

The purpose of this study was to determine how homeowners in the wildland-urban interface (WUI) perceive wildfire risk, what risk reduction strategies they prefer, and who should be responsible for carrying out those strategies. Data were gathered from 4 focus groups of 8-10 homeowners each in the lower peninsula of Michigan. The area had experienced fires in 1980 and 1990, the first of which was a prescribed burn which escaped. The participants were placed in three categories: 1) permanent residents whose homes were destroyed by the 1990 fire (group B); 2) permanent residents whose homes were not affected by the 1990 fire (groups P1 and P2); and 3) seasonal residents who were not affected by the 1990 fire (group S). All groups perceived wildfire as an uncontrollable and unpredictable force, though those feelings were strongest in group B. Participants identified both homeowners and the government as responsible for wildfire protection. The government was viewed as being the provider of information on fire danger and homeowner protection measures as well as being responsible for managing government land for fire safety. Homeowners felt their responsibilities were limited to being careful with fire on their property and protecting their home and property from fire damage. Homeowners chose burning regulations as their preferred fire management strategy, though they mentioned the negative aspect of this strategy twice as often as the positive aspects. Participants felt that regulations are needed to protect homeowners from careless neighbors and visitors. However, they also believed that people would not comply with regulations unless enforcement was increased. Focus group members were much less positive about any restrictions of property rights, including building codes, safety ordinances, and zoning. They preferred voluntary strategies over mandatory ones because the latter unfairly infringe on property rights. They did not want to be forced to do something they viewed as inconvenient or as marring the aesthetics of their property. They also felt that insurance companies were somewhat responsible for dealing with situations where a house had burned down that did not have defensible space. Participants believed that firefighters must be well-equipped though they perceived fires as impossible to control. They supported landscape modification by government agencies more strongly than individual modification of their own properties. However, they feel there is a conflict between managing for the Kirtland's warbler, an endangered species, and managing to prevent fires. The dense stands of jack pine which managers plant to provide habitat for the warbler as viewed as a fire hazard by homeowners. Prescribed burning was not a widely accepted strategy by the focus groups. Many members had recollections of prescribed burns which escaped, especially the large fire in 1980 which started as a prescribed burn to improve habitat for the Kirtland's warbler. While supportive of education programs, most participants felt that the people who needed educating most were those who visited the area in the spring and summer. They rarely mentioned educating permanent residents about defensible space and fireproofing their homes. The authors noted that the lack of willingness to take measures to protect their own homes may be due to the general feeling of hopelessness among homeowners concerning fire behavior. Despite the fact that almost all fires had been suppressed in the area, homeowners remembered only those which got away and caused major and seemingly random damage. They also believed most fires were human caused and further, were caused by visitors to the area, not by permanent residents, which made them even more reluctant to fireproof their homes. Homeowners viewed the primary responsibility for preventing fires as the government's, partly due to the large amount of state and federal land in the area. Rather than emphasizing endangered species management, participants wanted the agencies to make fire management their
Homeowners do feel that they also bear responsibility for fireproofing their homes, but most in the focus groups had not actually taken any steps to do so. The authors concluded that there was surprising homogeneity of ideas and opinions across all groups which means that some strategies, such as education and burning regulations, would be easier to implement. However, the groups were also united against several strategies which managers feel are more effective, such as prescribed burning. Education which focuses on the ability of agencies to control almost all fires and which points out that permanent homeowners are responsible for starting most fires is needed to change ideas about other management strategies.

The purpose of this study was to identify the various discourses held by restorationists and determine how these discourses are similar and different. The data were gathered by surveying 26 participants in river and watershed restoration using Q-methodology in which they sorted 48 statements according to their attitudes about each statement and the statement's relationship with the other statements. The authors found there were four types of discourse among restorationists:

1) Categorical restorationists - restoration is factually necessary and ethically mandated, 2) Conditional restorationists - restoration is only justified if other competing issues can be addressed as well, 3) Ecophilosophers - restoration is impossible and false, using science and technology to restore an area is still an act of humans over nature, and 4) Ecosocietal restorationist - restoration is philosophical and political. Most respondents fell into the categorical or conditional categories. The main two discourses diverge about whether nature and the restoration of nature is of the most importance regardless of other issues or whether trade-offs are necessary in the management of nature. The primary difference may be between self-interested property owners and environmentalists who make up for a lack of material stakes with ideological fervor. It is important to recognize the different values which inform restoration activities and that making a general statement about restorationists is difficult and conflict is difficult to define specifically.

The purpose of this study was to analyze the evolution of national forest values using a 4-part classification system. The data were gathered through content analysis of articles and writings by forest economists, foresters, and others. The authors developed a dictionary that contained words related to a number of components of forest values. The four components included instrumental values of a) economic/utilitarian and b) life support as well as non-instrumental values of c) aesthetic and d) moral/spiritual. Once the dictionaries were developed, they were applied to databases of text on the national forests for a) the general public (newspapers as a proxy), b) forestry professionals (text of keynote and general sessions papers at the Society of American Foresters National Conventions and complete articles in the Journal of Forestry), and c) environmentalists (texts of articles from magazines "National Wildlife," "Sierra," and "Wilderness"). The relative frequency of expression of economic/utilitarian values declined throughout the period for both environmentalists and forestry professionals but remained flat for the public until the later portion of the period when it declined. Expression of life support values by environmentalists and forestry professionals increased over the study period. The public was flat until the end of the period when it increased. Aesthetic values were expressed significantly less than economic/utilitarian and life support values. There was no real linear trend for the public or forestry professionals but environmentalists showed a definite downward trend for expression of aesthetic values. Moral/spiritual values were also expressed less overall than economic/utilitarian and life support values. There was a slight upward trend for forest professionals, a flat trend for the public and significant upward trend for environmentalists (until the end of the period, where there was a decrease for this group). The authors concluded that there has been a gradual shift in national forest values since the early 1980s - at least among forestry professionals and environmentalists while the general public tends to lag behind. There has been a general decline in the expression of economic/utilitarian value and an increase in life support value among forestry professionals and environmentalists. Overall, non-instrumental values were expressed less frequently than instrumental values. Social values which are hardest to define are becoming increasingly important to society. The low expression of aesthetic and moral/spiritual values by forest professionals compared to environmentalists may help understand the intensity of conflict around management of national forests. The statistically significant decline in the relative frequency of expression of economic/utilitarian value by forestry professionals, environmentalists, and the public suggests a problem for the traditional role of economics and assessing forest values. Economic value should be viewed in a broader sense than has been traditional. That life support values increased for all groups points to agreement of the importance of this value and the need to place greater emphasis on ecological values in ecosystem management.
The objective of this study was to measure attitudes of various groups concerning the perceived benefits of forestland as well as measure attitudes using Kellert's typology modified for forests. The study also investigated where landowners gathered information about management techniques. The data were gathered from 1004 mail surveys from nonindustrial private forest landowners, subscribers to "Urban Forests," public officials, members of The Wildlife Society, and members of the Society of American Foresters in nine southeastern states. The benefits of owning forestland included enjoyment of wildlife, trees, and scenery as well as hunting and personal firewood use, while income from timber harvest was ranked much lower. Reasons given for owning forestland included providing wildlife habitat, preserving natural beauty, personal recreation, satisfaction of owning the land, and sentimental attachment, while timber income was again ranked much lower. The top five typologies were utilitarian, anti-scientistic, cathedralistic (forest as a place of sanctuary and spiritual rejuvenation), negativistic, and aesthetic management (combined aesthetic with manipulation of forest to beautify them). Public officials and SAF members were utilitarian and cathedralistic, readers of "Urban Forests" were cathedralistic and utilitarian, members of TWS were anti-scientistic and humanistic, and landowners were anti-scientistic/negativistic and utilitarian/dominionistic. Respondents gathered information from college or state forestry specialists, Extension Service literature, printed media, the Forest Service, and Extension Service agents and would prefer to gather information from foresters, brief printed materials, workshops or classes, periodic newsletters, and educational videotapes. The authors concluded that there were definite differences in the attitudes of various groups which need to be explored when deciding on management plans. It also appeared that people preferred information disseminated directly from forestry professionals rather than through TV or radio.
The purpose of this study was to determine the frequency of prairie dog/human conflicts and compare attitudes, beliefs, management preferences, and knowledge of both residents near colonies and the general public. The data were gathered from hand-delivered surveys to 87 residents living within one block of a colony and mail surveys to 559 residents of the general public in Fort Collins. Respondents living near colonies were more likely to view prairie dogs as unattractive and as useless pests than the general public. Those living near colonies were also more likely to hold negative beliefs such as prairie dogs destroy landscaping. Residents who had lived near prairie for more than five years were more likely to hold negative beliefs than those who had lived there for less than five years. Management that combined both preservation and control was supported by a majority of respondents. However, those living near colonies were more likely to agree that poisoning was the best way to remove prairie dogs while the general public was more likely to agree that capturing and removing dogs was the best. Residents near colonies were more knowledgeable about dogs. Knowledge was not associated with attitudes toward dogs or management approaches but was related positively to support for poisoning. The authors concluded that support existed for the current management plan of both preservation and control but the general public does not support poisoning. More education about prairie dogs may make the general public more accepting of poisoning as a control method. Education of homebuyers looking at houses near colonies should continue to inform people of the possible problems prairie dogs can cause so that they may make better choices about where to live.
The purpose of this study was to examine the relationship between normative beliefs and wildlife value orientations and public acceptability of wildlife management actions across a variety of situations. The data were gathered from mail surveys from residents of the Colorado Front Range. As the severity of a mountain lion incident increased (sighting to kill pet to human injury to human death), the acceptability of extreme responses increased (monitor to frighten to relocate to destroy). As the severity of incident with beaver or coyote (sighted in open space to sighted in residential area to sighted in own yard to carries disease), support for destroying the animal also increased. Respondents with a wildlife protection orientation were less likely to support more extreme responses to wildlife encounters than respondents with wildlife use orientation. For those with a wildlife use orientation, support for extreme measures increased with severity of contact with wildlife. The authors concluded that the acceptability of wildlife management actions is situation specific, though there are correlations to value orientations.