Summary Report

City of Boulder Resident Survey

on Local Species Knowledge and Priority in Local Open Space Management

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Contents

I. Introduction and Research Methods

Land managers are often faced with land users guided by varying levels of knowledge and concern with regard to the myriad issues involved in management decisions. Specifically with regard to public attitudes toward wildlife and biodiversity, different users will place different priority on conservation as a land management goal. With the aim of improving our understanding of Boulder residents' perspectives on these issues, this study examined the knowledge of local residents of local species of concern, and residents' attititudes toward species preservation as a priority in Open Space management.

A mail survey was undertaken with a random sample of 1,000 households of the City of Boulder. The sample was purchased from a commercial firm, and the original mailing (cover letter, survey, return envelope) undertaken in April 2002. A follow-up postcard was mailed 2 weeks hence, with a new survey packet mailed after another 2 weeks. Completed surveys were returned from 398 households, representing a 39.8% response rate. The estimates presented here have sampling error of +/- 4.9 percent.

Topics Included

The mail survey included several topics as deemed relevant by City of Boulder Open Space and Mountain Parks Department representatives. The topics included:

1. RELATIVE PRIORITY ASSIGNED VARIOUS OPEN SPACE PURPOSES: How much priority do residents assign to open space as serving habitat conservation purposes? as a buffer from development? as a context for recreation?
2. PREFERRED MANAGEMENT APPROACH: Do residents prefer an ecocentered or multiple use approach to decisions regarding local open space?

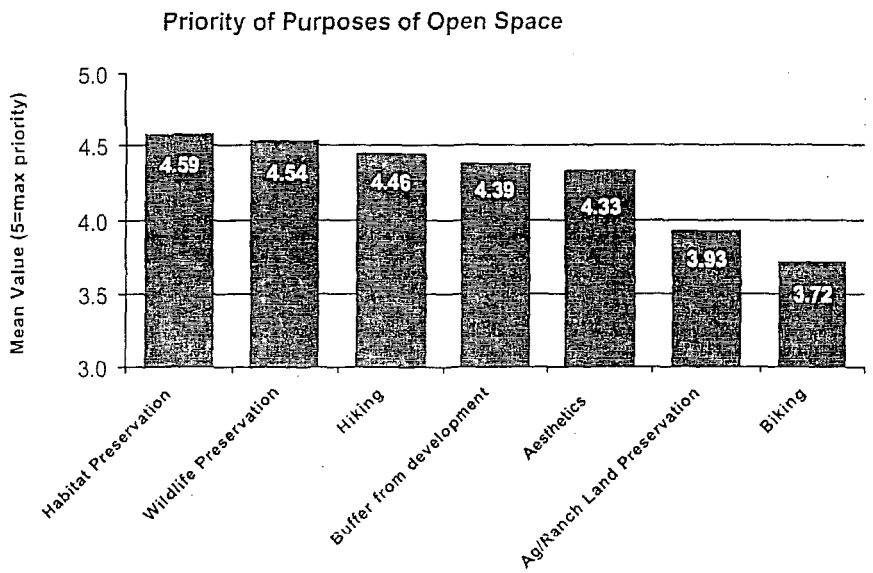
3. KNOWLEDGE OF LOCAL SPECIES OF CONCERN: Are residents aware of local species of 'critical concern'? Are they more aware of certain types of species?
4. PRIORITY DUE LOCAL SPECIES OF CONCERN: How much priority do residents feel local species of 'critical concern' should receive within the context of land management decisions?
5. INTEREST IN LEARNING MORE ABOUT LOCAL SPECIES: Are residents satisfied with their level of knowledge regarding local species? If not, through what routes would they like to learn more?
6. ENVIRONMENTAL PERSPECTIVE: What type of environmental perspective typifies Boulder residents? How does this perspective relate to knowledge and concern with local species?

In the case of each group of questions, demographic variation in responses by age, gender, income and education were examined. Also examined were variations by frequency of use of open space and proximity to open space. Within this report, these variations are noted if statistically significant at the $p<0.05$ level.

II. Results

Relative priority assigned various open space purposes

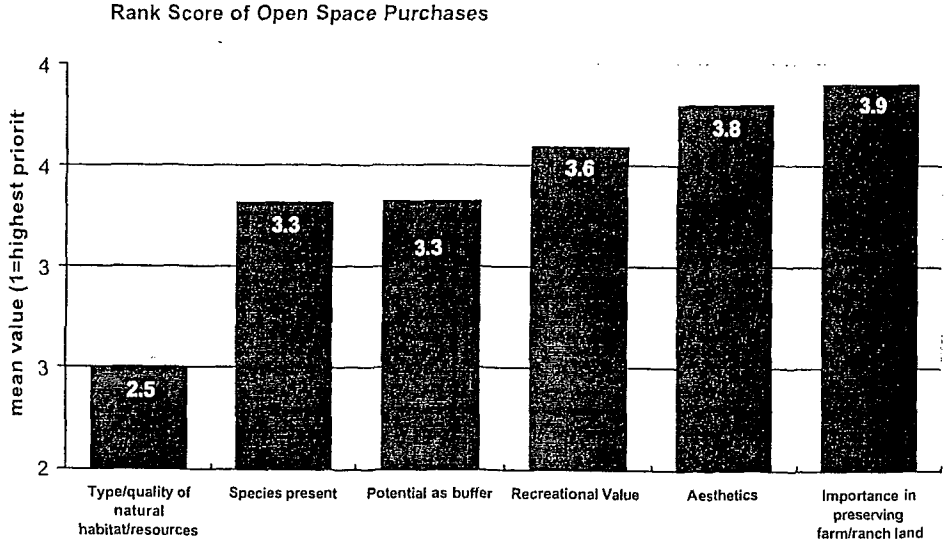
Respondents were asked to rate the importance of several purposes of open space on a scale of 1 (not at all important) to 5 (very important). The following chart reflects the mean value assigned by respondents to each of the seven purposes. Habitat preservation received the highest mean rating (4.59), while wildlife preservation, hiking, aesthetics, and buffer zones received only slightly lower ratings. Biking and preservation of agricultural/ranch lands received the lowest ratings, 3.72 and 3.93 respectively.



Variation: The survey responses demonstrated significant variations in the amount of priority placed on different purposes by respondent age, gender, income, and educational level. As compared to younger respondents, older respondents placed less priority on hiking, biking, and wildlife preservation, but greater priority on agricultural/ranch land preservation. Women placed a higher priority on agricultural/ranch land preservation, habitat preservation, and wildlife preservation than did men. Respondents with higher levels of education placed higher priority on hiking and the use of open space as a buffer from development as contrasted with respondents with lower educational levels. Finally, higher income levels were associated with higher priority assigned hiking as a purpose of local open space.

More frequent users of open space placed greater priority on several of the stated open space purposes as contrasted with less frequent users; hiking, biking, walking dogs, habitat preservation, aesthetics, and development buffer all received greater scores of 'importance' by more frequent users. Residents living closer to open space placed greater priority on biking and aesthetics as compared to residents more distant. Importance placed upon other open space purposes did not vary by proximity.

Next, respondents were asked to rank six purposes of open space in order of importance for evaluation of a property's contribution to the City of Boulder's open space portfolio. Respondents were asked to use each number only once, with 1 being the most important factor for evaluation and 6 being the least important factor.[1]



[1] Please note that many respondents did not, however, use each number only once, typically ranking several categories as high priority.

Recall here that priority value 1 indicates highest priority for the purposes of this question, therefore lower scores represent higher rank. Consistent with the results presented above, respondents indicated that the type and quality of natural habitat on a land parcel should rank most highly in evaluating said property for purchase. Also important are the species present and the potential of the property to act as a buffer for development. The importance of land with regard to presevation of agricultural or ranching history ranked lowest in evaluation criteria.

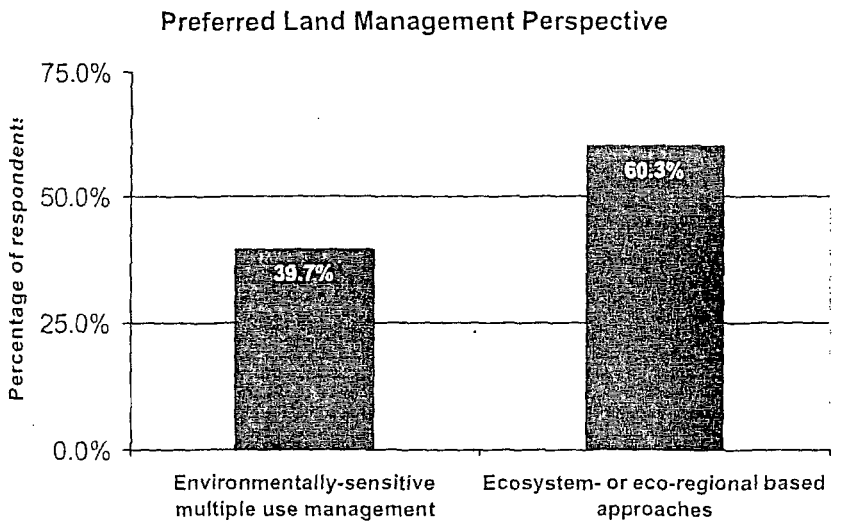
> *Variation*: No statistically signficant variations were evident in responses to the rank scoring exercise.

Preferred Management Approach

Respondents were presented the following description of management perspectives, then asked to choose that which they perceive most desirable for the City of Boulder Open Space and Mountain Parks Department.

There are at least two general perspectives that public managers can take when managing various land uses. The first is an environmentally-sensitive multiple use management approach. This perspective aims to satisfy a diverse set of human needs, while also being sensitive to ecological limits. Within this perspective, human uses are prioritized, but environmental considerations are important in land management decisions. The second perspective is an ecosystem- or eco-regional based approach. Within this management perspective, many of the same trade-offs are needed as in multiple-use management, but environmental considerations are prioritized. Human uses are allowed on a sustainable basis.

Respondents favored:



As reflected in the chart above, the majority of respondents, 60.3%, preferred the ecosystem- or eco-regional based approach, and 39.7% preferred the environmentally-sensitive multiple use management approach.

> *Variation:* As contrasted with younger respondents, older respondents tended to prefer the environmentally-sensitive multiple use management approach. Significant variation was apparent across genders, with men tending to also prefer multiple use management.
>
> More frequent users of open space tended to prefer ecosystem or ecoregional based approaches ($p<0.06$).

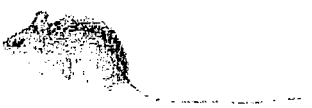
Respondents were then asked to decide whether *all* native plants and animals should be equally considered in setting land management priorities, or if specific plants and animals should be identified and targeted for protection. A relatively larger percentage (38.4%) of respondents suggested that all native plants and animals should receive equal priority, while 32.2% of respondents suggested that specific plants and animals should receive targeted priority. Among those respondents choosing, "depends on situation," written explanations suggest that many felt species should be targeted if unique, rare, endangered, or if playing a crucial role in the food chain. Other respondents felt more information was necessary to make a decision on which species should be targeted within the management of local open space.

> *Variation*: No statistically signficant variations were evident in the priority setting exercise.

Knowledge of Local Species of 'Critical Concern'

Respondents were presented with brief profiles and pictures of six local species of "critical concern," meaning that development and recreation pressure are reducing appropriate habitat. The species' profiles and pictures are presented below.

The **Preble's Meadow Jumping Mouse** is found in moist fields, thickets, and woodlands. The Preble's Meadow Jumping Mouse feeds upon grass and plant seeds, insects and fungi. The mouse is, in turn, preyed upon by foxes, racoons, coyotes, hawks, and owls.

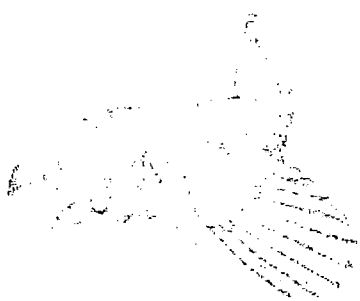


The **Ute Ladies'-tresses Orchid** is a perennial which occurs locally in low-elevation streamside areas such as wet meadows or flood-plain meadows. The Ute Ladies'-tresses Orchid is dependent upon natural disturbances (e.g., flooding, grazing, fire) to maintain its habitat, but in the absence of such disturbances, seasonal agricultural practices and ranching appear to help maintain viable orchid habitat. Meadow voles and grazing ungulates (e.g., deer, cattle) browse upon the orchid.

The **Peregrine Falcon** is a large falcon with a black hood and wide black "mustaches" found locally in open country, especially along rivers. The Peregrine Falcon acts as a top-level predator within ecosystems along the Front Range, meaning that it has very few natural predators. Peregrines feed almost exclusively on birds, but they occasionally hunt small mammals, including bats, rats, voles, and rabbits.

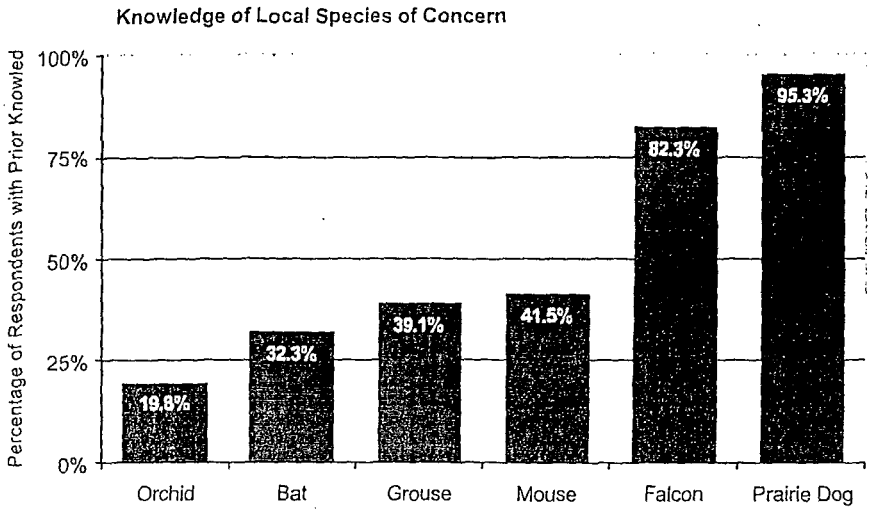
The **Black-tailed Prairie Dog** is found locally in shortgrass prairies. The prairie dog lives in "towns" which may contain as many as several thousand individuals. About 98 percent of the prairie dog's diet consists of green plants. The Black-tailed Prairie Dog is considered a "keystone" species, meaning that its behaviors serve an especially important role in the functioning of the shortgrass prairie ecosystem. For instance, the black-tailed prairie dog is a primary source of food for badgers, black-footed ferrets, raptors, and swift fox.

The ***Townsend's* Big-eared Bat** is found locally in scrub deserts and pine and pinion forests, usually roosting in caves, although sometimes in buildings. These bats emerge late in the evening to forage and are swift, highly maneuverable fliers. Prey items include small moths, flies, and other insects.



The **Sharp-tailed Grouse** resembles a female pheasant, although slightly smaller. It is found locally in grasslands, scrub forest, and arid sagebrush, nesting in grass-lined depressions or in tall grass or brush. The grouse feeds upon seeds, berries, insects, grain waste from agricultural crop harvest, and is, in turn, preyed upon by coyotes, foxes, and raptors.

For each species, we asked about respondents' prior knowledge; the following percentages of respondents expressed knowledge of the species prior to the survey.



Respondents were most familiar with the black-tailed prairie dog and the peregrine falcon. The prairie dog has been the subject of substantial public controversy and media coverage, while the falcon could be considered a 'charismatic' species. Substantially fewer respondents were familiar with the mouse, grouse, and bat, while less the 20% had previously been aware of the Ute Ladies' Tresses Orchid on local lands.

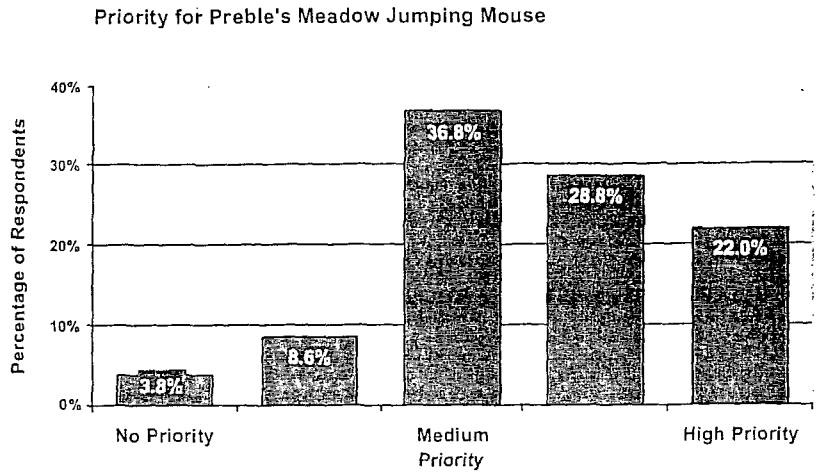
Variation: Of the demograhic characteristics, variation in species knowledge by age was most pronounced. Older respondents were more likely to have prior knowledge of the mouse, orchid, grouse, and the falcon. As for gender, men were more likely to have prior knowledge of the orchid, although no other variation was found. Finally, with respect to education, there was no significant variation in knowledge of the six species.

Only one signficant variation was evident for frequency of use and proximity to land, more frequent users of open space were more likely to be aware of the area's bats.

Priority Due Local Species of Critical Concern

Following each question regarding knowledge of each local species of critical concern, respondents were asked how much priority they thought managers should give the species when making decisions about land uses (1 = no priority, 5 = high priority). The respondents' were then asked "why?" with space provided for an open-ended response.

On the Preble's Meadow Jumping Mouse:

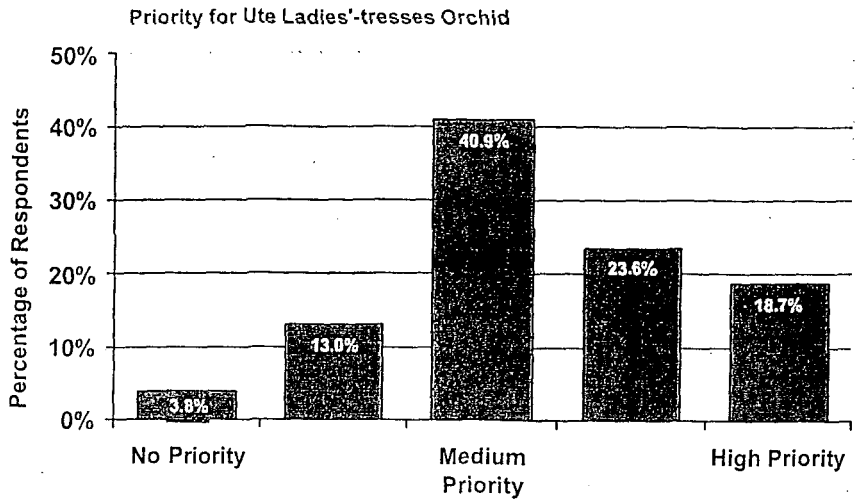


Most respondents felt that the Preble's Meadow Jumping Mouse should be given moderate to moderately high priority. Among those suggesting relatively high levels of priority, a large number of respondents noted the mouses' role in the food chain, as they provide food for predators and allow for "balance." As an example of this sentiment, one woman noted that the Preble's Meadow Jumping Mouse should be protected to "sustain ecological balance and food sources." Many stated that the mouse was becoming extinct, although some respondents thought that the mouse was prevalent and could survive on its own. Among those suggesting lower levels of priority be given to the Preble's Meadow Jumping Mouse, one respondent stated that, "[Boulder] has already done a lot to preserve the natural habitat of this animal," while another wrote, "it's just a rodent."

Other representative statements included:

- "The "critical concern" for this mouse has not been sufficiently demonstrated." (male, age 55-64)
- "Each species should be allowed to live in their natural habitat provided they aren't hindering *some* limited human expansion." (female, age 18-24)
- "It eats insects and fungi and provides food for small, local numerous carnivores." (female, age 55-64)
- "Native plants and animals should always be given priority when we decide to move into their territory by building structures for our benefit." (female, age 25-34)
- "There must be a happy medium here somewhere. Recreation and wildlife should be able to exist together. There has to be a way to make it work." (male, age 25-34)
- "When one species is protected and is the food source of others, the entire system benefits. If its predators and food aren't also protected then the system gets out of balance. Humans have already put the entire world out of balance.' (female, age 45-54)
- "The mouse needs its habitat too." (female, age 35-44)

On the Ute Ladies'-tresses Orchid:

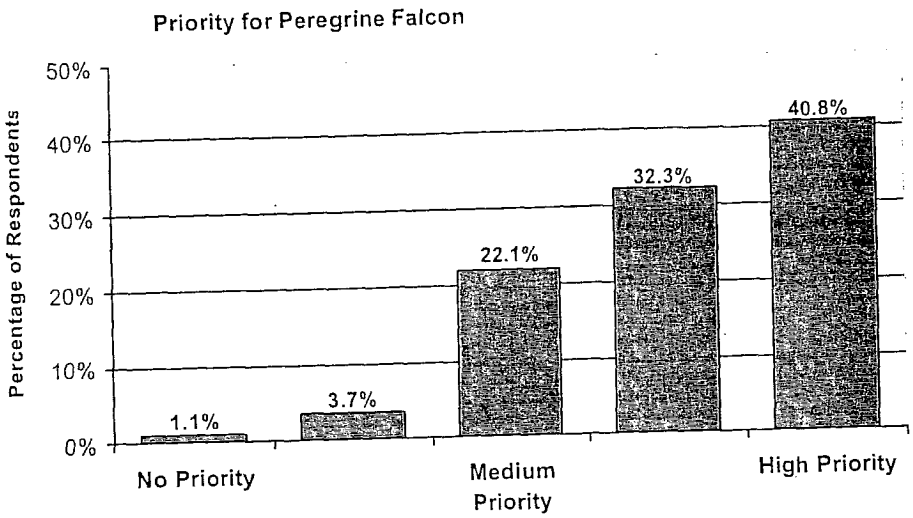


The majority of respondents felt the Ute Ladies'-tresses Orchid should be given moderate priority. Reasons for such priority included aesthetic reasons, grazing food, and balance of the ecosystem. One respondent wrote, "It's so important to keep native plants." Another stated that, "it is obvious that this plant benefits many other species- if this plant's habitat is affected, then other species will be affected." Others felt that giving priority to the Ute Ladies' tresses Orchid would involve unnecessary expense and that the orchid could survive on its own. Others said "it's just a plant."

Other representative statements included:

- "While the orchids are enjoyable, I think they could be compromised if another use for the land is more important." (female, age 25-34)
- "Deer and cattle can eat other plants." (female, age 25-34)
- "Let Mother Nature handle it!" (male, age 65-74)
- "It would be nice to protect the orchid, but I don't think we need to plan around it." (female, age 18-24)
- "I would choose the orchid over voles and ungulates!" (female, age 75+)
- "It is important to the environmental beauty, but not necessary to ranching." (female, age 18-24)
- "It is obvious that this plant benefits many other species- if this plant's habitat is affected, then other species will be affected." (female, age 18-24)
- "Life deserves first priority." (female, age 25-34)
- "I love flowers and they don't interfere with my life in a negative way." (male, age 45-54)
- "It's important to keep native plants," (female, age 35-44)

On the Peregrine Falcon:

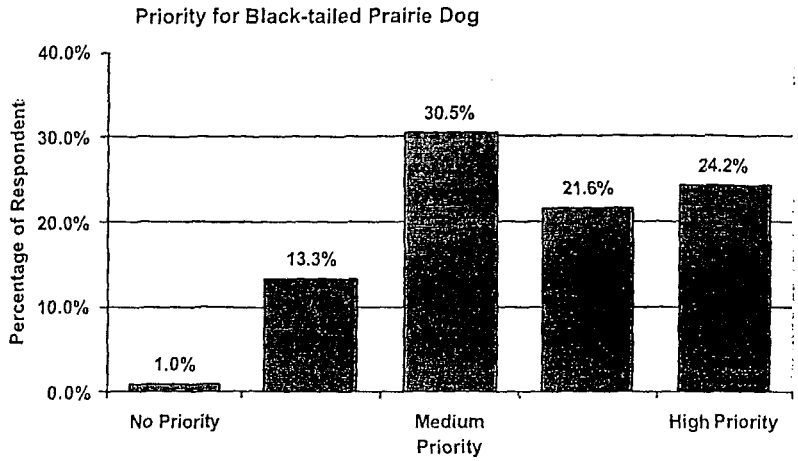


Most respondents felt that the Peregrine Falcon should be given high priority in local open space management decisions. The comments reflected the respect afforded the falcon.

Representative statements included:

- "[They are] important for maintaining [the] ecosystem and they're beautiful!" (female, age 35-44)
- "These birds are amazing animals to watch." (female, age 25-34)
- "They help maintain the food chain and keep rodent and rabbit populations within normal limits." (female, age 25-34)
- "They are a beautiful species that deserves consideration." (male, age 25-34)
- "...this falcon resides in an environment where it is best suited to survive in- why ruin that?' (female, age 18-24)
- "It eats prairie dogs!" (male, age 65-74)
- "Very elegant bird of prey and they eat mice (rodents) and help keep their population in check." (male, age 45-54)
- "The peregrine is a stunning bird; its prey does not nourish my soul in the same way." (female, age 75+)
- "Top-level predators are often the first to go. Their absence leads to further unbalance as the population of their prey explodes." (male, age 35-44)
- "They are lovely creatures." (male, age 18-24)

On the Black-tailed Prairie Dog:

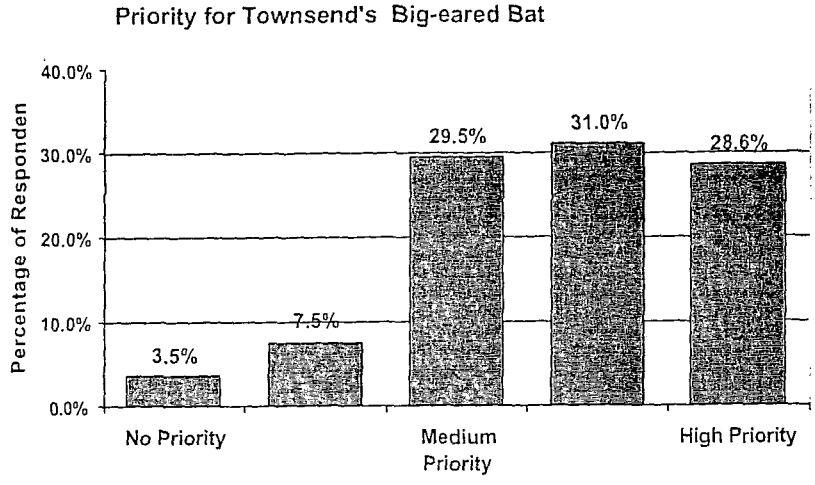


Priority ranking for the prairie dog were similar to those assigned the orchid and mouse, with the majority of respondents placing moderate to moderately high priority on this species. Some respondents felt that the prairie dog should be given priority because they are a keystone species, part of the food chain, and/or they are "cute." One respondent commented that, "we need to maintain our environment and fellow creatures as much as possible." Others felt that prairie dogs are a nuisance: they carry diseases, are overpopulated, make unwanted holes, disrupt residential neighborhoods, and are "just rodents."

Other representative statements included:

- "Too much priority [is] currently given to this animal over others in our area." (female, age 45-54)
- "The prairie dogs multiply rapidly, riddle the ground with holes thus damaging farm and ranch land." (female, age 55-64)
- "The city is unable to properly manage current colonies. They quickly become denuded of vegetation." (male, age 55-64)
- "Although they too are part of the eco-system, they are somewhat of a nuisance." (female, age 35-44)
- "They're tough to the extent that they "do their thing" in the short-grass prairie eco-system, let them stay *there*." (female, age 75+)
- "[They] don't *appear* to be threatened in this area." (male, age 25-34)
- "They don't bother my lifestyle and their ability to have viable ecosystem to make their homes should be protected to some extent." (male, age 45-54)
- "They are cute and whenever I am depressed I drive and when I see them they make me happy." (female, age 45-54)
- "All animals should be protected in order to protect the whole animal kingdom and ecosystem." (female, age 25-34)
- "We need to maintain our environment and fellow creatures as much as possible." (female, age 45-54)

On the Townsend's Big-eared Bat:



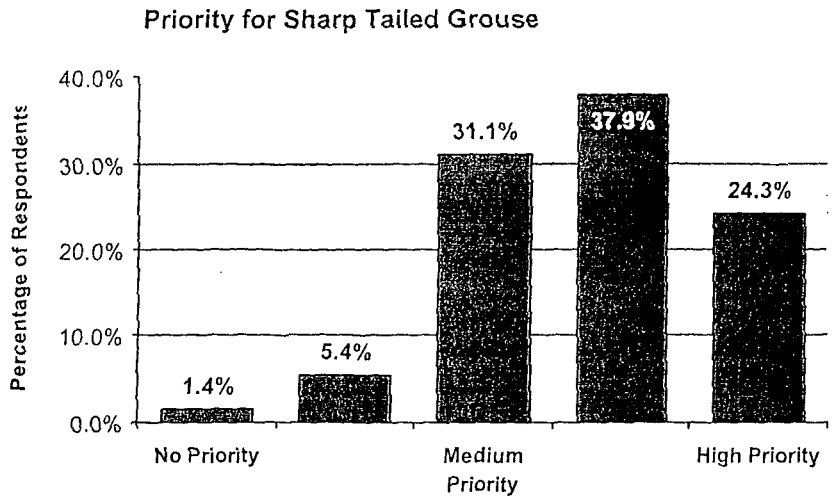
An approximately equal percentage of respondents gave the bat moderate, moderately high, or high priority, with these 3 categories accounting for nearly 90% of respondents.

Respondents noted that bats eat insects, provide balance for the ecosystem, and are attractive and mysterious. One woman stated, "These bats rid the area of annoying pests such as insects, etc... that is a good thing for us!" Others felt that the bats can destroy buildings, carry rabies, are ugly, and can thrive on their own.

Other representative statements included:

- "They can fend for themselves, as small predatory mammals who can fly and stay away from humans." (male, age 18-24)
- "This bat has habitats that range far beyond the city boundaries." (male, age 55-64)
- "I don't need moths, flies, and other insects, but I'll never forget the bat which flew down our chimney and had to be pried off the living room wall!" (female, age 75+)
- "I think it's neat that we have bats in this area. Plus, they eat annoying insects such as mosquitoes." (female, age 18-24)
- "These bats rid the area of annoying pests such as insects, etc... that is a good thing for us!" (female, age 18-24)
- "Just leave them alone!" (male, age 65-74)
- "They eat mosquitoes and keep to themselves and their homes should be protected." (male, age 45-54)
- "I don't like bats, but if they eat insects that's great." (female, age 45-54)
- "Better to have bats than insecticides." (female, age 45-54)

On the Sharp Tailed Grouse:



Respondents generally believed the grouse should receive moderate to moderately high priority in local land management decisions. Respondents noted that Sharp Tailed Grouse should be given priority because they are pretty, are game birds, balance the ecosystem, and/or are a threatened species. One respondent wrote that we should give them priority because, "[they] maintain [the] food chain and ecological balance." Others noted that they can thrive anywhere and do not need help.

Other representative statements included:

- "There are far fewer [grouse] than prairie dogs, but that's not apparent from the media coverage!" (male, age 55-64)
- "I wouldn't want them to have to live in a residential area but grouse, foxes and coyote all seem to find places to live while avoiding humans wherever possible." (female, age 25-34)
- "[They] maintain [the] food chain and ecological balance." (female, age 45-54)
- "It is a natural component in the ecosystem." (female, age 55-64)
- "Much depends on balance, which humans are not able to measure accurately." (female, 45-54)
- "Need to protect open space for species to flourish." (female, age 45-54)
- "It is an important middle position to the food chain." (male, age 18-24)
- "They live where humans shouldn't, therefore keep houses and buildings away from their homes." (male, age 45-54)
- "I know the grouse/pheasant populations in this area are very low and they rely on a lot of ground cover to survive." (male, age 45-54)
- "Important to the environment and the "circle of life." (female, age 45-54)

Overall, the great majority of Boulder residents felt that managers should give all six species moderate to high priority when making decisions about land uses. However, the two more "charismatic" and "mysterious" species, the Peregrine Falcon and the Townsend's Big-eared Bat, received higher priority than did the others.

> *Variation:* Older individuals responded in favor of lower levels of priority for the falcon, prairie dog, and bat as contrasted with younger respondents. No significant variation by education or income was demonstrated.
>
> Individuals who more frequently use open space responded in favor of higher levels of priority for the falcon, prairie dog, and bat as contrasted with less frequent visitors.

Satisfaction with Knowledge of Local Species

Only 19% of respondents stated they were satisfied with their current level of knowledge of local, native plants and animals. Approximately 45% expressed being "somewhat" satisfied, while an additional 37% are not satisfied with current knowledge.

Among those interested in learning more preferred modes of education were flyers (44%), TV (41%), lectures (42%), books (40%), and radio (19%).

> *Variation:* Women were significantly more likely to express interest in flyers and lectures as educational routes for information on local species. Respondents with lower income and education were more likely to express an interest in education through the television and radio as contrasted with respondents with higher income and educational levels.
>
> More frequent users of open space are more likely to express interest in books as an educational route, as contrasted with less frequent users.

Environmental Perspective

The survey included a series of 15 questions used in past social science research to measure individual environmental perspectives.[2] Based upon responses to this series of questions, a scale was created to reflect respondents' general environmental perspective.[3] Higher scale values represent a more pro-environmental perspective, suggesting an individual concerned with environmental decline, concerned with humans' ability to manipulate environmental conditions, and willing to make tradeoffs on behalf of the environment.

As for linkages between this environmental perspective and the other survey components, we find the following:

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[2] The measurement scale is taken from: Dunlap, Riley E., Van Liere, Kent D., Mertig, Angela G., Jones, Robert Emmet. 2000. "Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale." *Journal of Social Issues.* Vol. 56, No. 3: 425-442.

[3] Factor analysis revealed that, indeed, the 15 questions consistently represent one attitudinal dimension, with the scale reliability coefficient (alpha) a satisfactory 0.87.

- Individuals with more pro-environment perspectives place greater levels of priority on all open space purposes;
- Individuals with more pro-environment perspectives consider habitat quality, species present, and aesthetic value as key factors in evaluating property for open space purchase, with less emphasis on recreational opportunities provided;
- Individuals with more pro-environment perspectives are substantially more likely to favor an ecosystem or ecoregional approach to open space management, as opposed to a management style promoting multiple use;
- There is no significant difference in knowledge of local species of critical concern across individuals with varying environmental perspectives;
- Across all species incorporated in the survey, individuals with more pro-environment perspectives suggested higher levels of priority be afforded the species in land management decisions;
- Individuals with more pro-environment perspectives are more likely to be dissatisfied with their current level of knowledge of local plants and animals;
- Individuals with more pro-environment perspectives are most interested in learning about local species through radio, books, and lectures;
- Individuals who more frequently use open space are more likely to have a pro-environment perspective;
- No significant variation in environmental perspective was apparent across genders, educational levels, or income.

III. Implications

- **Continue to promote conservation purposes of local open space.** Residents express significant commitment to the habitat conservation purposes of local open space. Importantly, commitment to species preservation is not based upon knowledge of individual species.

- **Continue to educate residents about local species of concern, particularly plants.** Residents are most familiar with charismatic and controversial species, and typically less familiar with local flora.

- **Also continue to educate residents about more general environmental issues.** Overall environmental perspective is associated with commitment to an ecosystem-based land management approach. A pro-environmental perspective is also associated with emphasis on the habitat conservation purposes of local open space, even more so than knowledge of particular species.

- **Use a variety of educational routes.** There is great interest in furthering individual knowledge of local species through books, flyers, and lectures, in addition to broadcast media. From the open ended comments, it appears that many residents are interested in considering species' role in the "food chain" and "cycle of life."

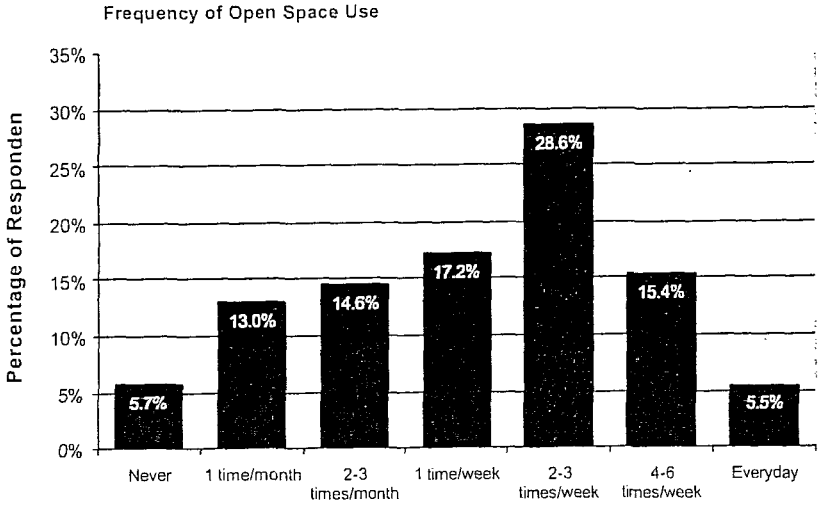
- **Consider a variety of audiences.** Frequent open space users have greater knowledge of local species and more commitment to the habitat conservation purposes of open space. Consider less frequent users as another key audience.

IV. Appendices

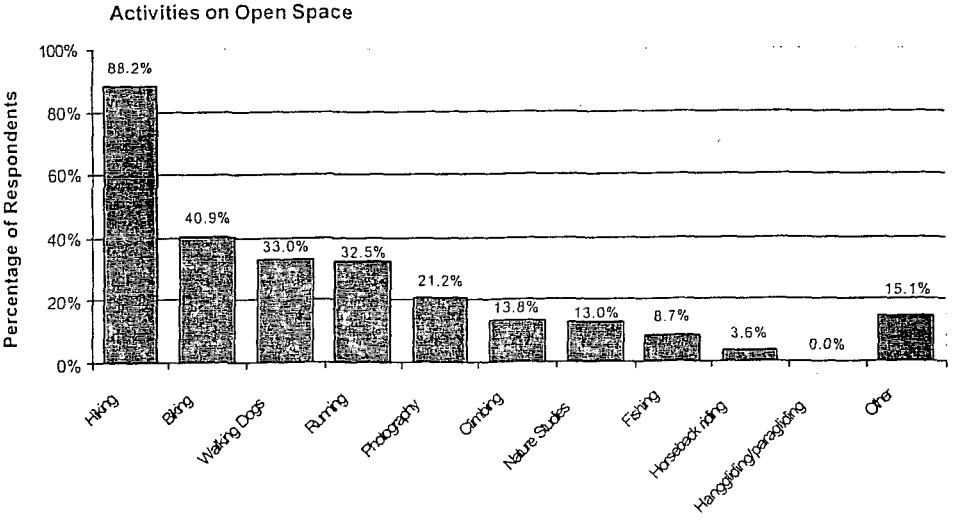
Respondent Background

In order to examine variation in survey responses by important background characteristics, the survey included questions about use of and proximity to open space, age, gender, race, education, income, and housing type.

Respondents were asked how often over the past year they had used City of Boulder open space:

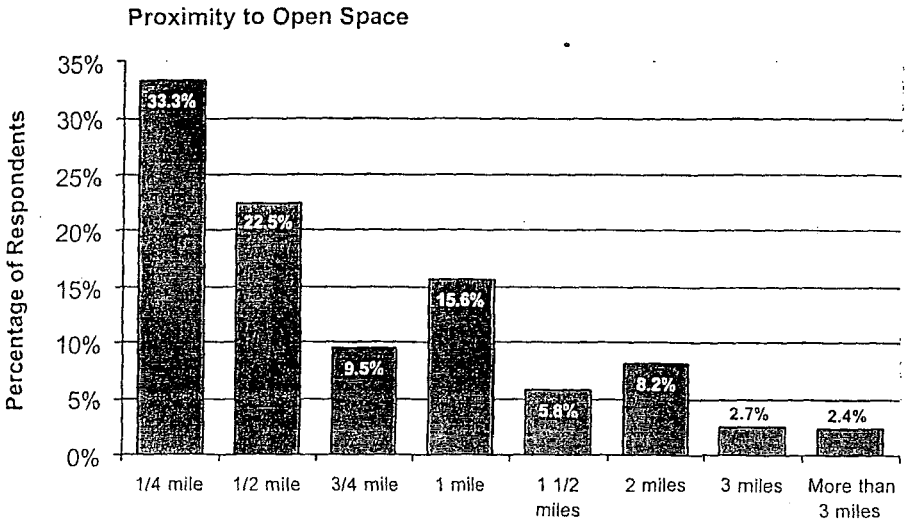


The majority of respondents use open space at least once/week. Only 5.7% of respondents never use open space.



Almost 90% of respondents use open space for hiking; Running, biking, and dog walking are also common uses of open space. Less frequent uses of open space are photography, horseback riding, nature studies, and climbing.

The majority of respondents live within one mile of open space:



The demographic characteristics of survey respondents is contrasted with 2000 Census profiles in the table below. Survey respondents tend to overly represent middle aged residents, women, higher education, non-hispanic residents, and homeowners. We examined the utility of weighting the survey results by age and education in order to more closely represent the Boulder population. The results did not substantially change, and due to the additional error introduced by weighting, the results presented herein are unweighted.

		2000 Census	Survey Respondents
Age (Valid N=391)	18-24 years	22.4% [1]	10.5%
	25-34 years	19.5%	22.0%
	35-44 years	13.6%	21.5%
	45-54 years	12.4%	22.8%
	55-64 years	6.0%	11.5%
	65-74 years	3.7%	6.6%
	75 years and over	4.1%	5.0%
Gender (Valid N=380)	Male	51.6%	44.8%
	Female	48.4%	53.1%
Education (Valid N=385)	Less than High School	2.4%	0.5%
	High School graduate	8.8%	3.1%
	Some college or Associate's Degree	19.6%	6.6%
	Bachelor's Degree	36.3%	37.9%
	Graduate or Professional Degree	30.5%	41.8%
Income (Valid N=261)	Less than $10,000	4.1%	5.4%
	$10,000-$14,999	3.3%	5.7%
	$15,000 - $24,999	7.0%	9.6%
	$25,000 - $34,999	8.5%	12.3%
	$35,000 - $49,999	12.8%	18.8%
	$50,000 - $74,999	17.4%	32.6%
	$75,000 - $99,999	16.6%	15.7%
	$100,000 - $149,999	17.2%	16.5%
	$150,000 or more	13.2%	10.8%
Race (Valid N=368)[2]	White	90.5%	91.2%
	Black/African American	1.6%	0.3%
	Asian, Pacific Islander	5.1%	1.8%
	American Indian, Eskimo, Aleut	1.0%	1.5%
	Other	4.4%	3.4%
Hispanic Origin (Valid N=358)	Yes	8.2%	3.9%
Housing Tenure (Valid N=371)	Own/buying	49.5% [3]	67.4%
	Rent	50.5%	32.6%
Housing type (Valid N=385)	Single family	NA	61.8%
	Apartment	NA	18.8%
	Condo, townhouse	NA	16.0%
	Mobile home	NA	1.8%
	Group Quarters	NA	0.3%
	Other	NA	1.0%
Mean Household Size (Valid N=391)		2.2	2.18

1: Age category estimated by addition of two-fifths age 15-19 category to age 20-24 category.

2: Number of respondents with valid response, not including "other race"

3: Census data reflects percentage of total housing units.

Public Survey, March 2002
City of Boulder Open Space and Mountain Parks Department

Section I: Open Space Purposes and Priorities

The City of Boulder's open space serves many purposes. From your perspective, how important are each of the following purposes of open space?

	Not at all important		Moderate importance		Very important
Hiking	1	2	3	4	5
Biking	1	2	3	4	5
Preservation of agricultural/ranch lands	1	2	3	4	5
Preservation of natural areas and resources	1	2	3	4	5
Wildlife preservation	1	2	3	4	5
Aesthetic purposes (mountain views)	1	2	3	4	5
Buffer from development	1	2	3	4	5
Other? _____	1	2	3	4	5

Imagine that a piece of property has become available for possible purchase as open space. In evaluating the property, please RANK the following criteria in order of importance for evaluation of the property's contribution to the City's open space portfolio (1 = MOST important factor for evaluation, 6 = LEAST important factor for evaluation).

Please assign each factor a rank score of 1 (most important) to 6 (least important). *Please use each number only once.*

_____ Recreational value
_____ Importance in preserving farming/ranching
_____ Type/quality of natural areas and resources
_____ Species present on property
_____ Aesthetics
_____ Potential as development buffer
Other? Please describe: _____

Section 2: Open Space Management

As you see from the above questions, individuals may assign many different priorities to open space. When it comes to managing various land uses, there are at least two general perspectives that public land managers can take. These are briefly described below. Please read the descriptions, and then mark "X" next to the perspective you believe is most desirable for City of Boulder Open Space and Mountain Parks.

_____ *Environmentally-sensitive multiple use management:* aims to satisfy a diverse set of human needs, while also being sensitive to ecological limits. Within this perspective, human uses are prioritized, but environmental considerations are important in land management decisions.

_____ *Ecosystem- or eco-regional based approaches:* Within these management perspectives, many of the same trade-offs are needed as in multiple-use management, but environmental considerations are prioritized. Human uses are allowed on a sustainable basis.

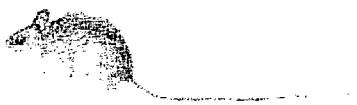
Now please think about how native plants and animals should be considered in management decisions for local open space and mountain parks. Should **all** native plants and animals be equally considered in setting land management priorities, or should **specific** plants and animals be identified and targeted for protection?

_____ all native plants and animals should receive equal priority
_____ specific native plants and animals should receive targeted priority
(briefly explain: _____)
_____ depends on situation (briefly explain: _____)
_____ neither
_____ don't know

Section 3: Local Species

Following are brief descriptions of six species of "critical concern" within the City of Boulder's open space and mountain parks, meaning that development and recreation pressure are reducing appropriate habitat. Please review each species description and respond to the questions that follow.

The **Preble's Meadow Jumping Mouse** is found in moist fields, thickets, and woodlands. The Preble's Meadow Jumping Mouse feeds upon grass and plant seeds, insects and fungi. The mouse is, in turn, preyed upon by foxes, racoons, coyotes, hawks, and owls.



Prior to this survey, were you aware of the Preble's Meadow Jumping Mouse's presence within this area? Yes _____ No _____

When making decisions about land uses, how much priority do you think managers should give the Preble Meadow Jumping Mouse?

No Priority		Moderate Priority		High Priority
1	2	3	4	5

Why? _____

_____

The **Ute Ladies'-tresses Orchid** is a perennial which occurs locally in low-elevation streamside areas such as wet meadows or flood-plain meadows. The Ute Ladies'-tresses Orchid is dependent upon natural disturbances (e.g., flooding, grazing, fire) to maintain its habitat, but in the absence of such disturbances, seasonal agricultural practices and ranching appear to help maintain viable orchid habitat. Meadow voles and grazing ungulates (e.g., deer, cattle) browse upon the orchid.

Prior to this survey, were you aware of the Ute Ladies'-tresses Orchid's presence within this area? Yes _____ No _____

When making decisions about land uses, how much priority do you think managers should give the Ute ladies-tresses orchid?

No Priority		Moderate Priority		High Priority
1	2	3	4	5

Why ? _____

_____

The **Peregrine Falcon** is a large falcon with a black hood and wide black "mustaches" found locally in open country, especially along rivers. The Peregrine Falcon acts as a top-level predator within ecosystems along the Front Range, meaning that it has very few natural predators. Peregrines feed almost exclusively on birds, but they occasionally hunt small mammals, including bats, rats, voles, and rabbits.

Prior to this survey, were you aware of the presence of the Peregrine Falcon within this area? Yes _____ No _____

When making decisions about land uses, how much priority do you think managers should give the Peregrine Falcon?

No Priority		Moderate Priority		High Priority
1	2	3	4	5

Why? _____

_____

The **Black-tailed Prairie Dog** is found locally in shortgrass prairies. The prairie dog lives in "towns" which may contain as many as several thousand individuals. About 98 percent of the prairie dog's diet consists of green plants. The Black-tailed Prairie Dog is considered a "keystone" species, meaning that its behaviors serve an especially important role in the functioning of the shortgrass prairie ecosystem. For instance, the black-tailed prairie dog is a primary source of food for badgers, black-footed ferrets, raptors, and swift fox.

Prior to this survey, were you aware of the Black-tailed Prairie Dog's presence within this area?
Yes _____ No _____

When making decisions about land uses, how much priority do you think managers should give the Black-tailed Prairie Dog?

No Priority		Moderate Priority		High Priority
1	2	3	4	5

Why ? _____

_____

The **Townsend's Big-eared Bat** is found locally in scrub deserts and pine and pinion forests, usually roosting in caves, although sometimes in buildings. These bats emerge late in the evening to forage and are swift, highly maneuverable fliers. Prey items include small moths, flies, and other insects.

Prior to this survey, were you aware of the Townsend's Big-eared Bat's presence within this area? Yes _____ No _____

When making decisions about land uses, how much priority do you think managers should give the Townsend's Big-eared Bat?

No Priority		Moderate Priority		High Priority
1	2	3	4	5

Why? _____

_____

The **Sharp-tailed Grouse** resembles a female pheasant, although slightly smaller. It is found locally in grasslands, scrub forest, and arid sagebrush, nesting in grass-lined depressions or in tall grass or brush. The grouse feeds upon seeds, berries, insects, grain waste from agricultural crop harvest, and is, in turn, preyed upon by coyotes, foxes, and raptors.

Prior to this survey, were you aware of the presence of the Sharp-tailed Grouse in this area? Yes _____ No _____

When making decisions about land uses, how much priority do you think managers should give the Sharp-tailed Grouse?

No Priority		Moderate Priority		High Priority
1	2	3	4	5

Why ? _____

_____

Overall, are you satisfied with your level of knowledge of local, native plants and animals?

Yes _____ No _____ Somewhat _____

If interested in learning more about local, native plants and animals, what would be your preferred mode(s) of education? Check all that apply.

_____ TV
_____ radio
_____ flyers
_____ books
_____ public lectures/meetings/seminars
_____ other? _____
_____ don't want to learn more

Section 4: Environmental Perspective

Listed below are statements about the relationships between humans and the environment. For each one, please indicate whether you STRONGLY AGREE, MILDLY AGREE, are UNSURE, MILDLY DISAGREE or STRONGLY DISAGREE with it.

This series of questions will take approximately 4 minutes to answer and is designed to reflect your general stand on environmental issues. Please think carefully and answer truthfully.

Do you agree or disagree that:	*Strongly Disagree*	*Mildly Disagree*	*Unsure*	*Mildly Agree*	*Strongly Agree*
We are approaching the limit of the number of people the Earth can support.	SD	MD	U	MA	SA
Humans have the right to modify the natural environment to suit their needs.	SD	MD	U	MA	SA
When humans interfere with nature it often produces disastrous consequences.	SD	MD	U	MA	SA
Human ingenuity will insure that we do NOT make the earth unlivable.	SD	MD	U	MA	SA
Humans are severely abusing the environment.	SD	MD	U	MA	SA
The earth has plenty of natural resources if we just learn how to develop them.	SD	MD	U	MA	SA
Plants and animals have as much right as humans to exist.	SD	MD	U	MA	SA
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	SD	MD	U	MA	SA
Despite our special abilities humans are still subject to the laws of nature.	SD	MD	U	MA	SA
The so-called "ecological crisis" facing humankind has been greatly exaggerated.	SD	MD	U	MA	SA
The earth is like a spaceship with very limited room and resources.	SD	MD	U	MA	SA
Humans were meant to rule over the rest of nature.	SD	MD	U	MA	SA
The balance of nature is very delicate and easily upset.	SD	MD	U	MA	SA
Humans will eventually learn enough about how nature works to be able to control it.	SD	MD	U	MA	SA
If things continue on their present course, we will soon experience a major ecological catastrophe.	SD	MD	U	MA	SA

Section 5: Background Information

On average, over the past year, about how often have you used City of Boulder open space?

_____ Never
_____ 1 time per month
_____ 2-3 times per month
_____ 1 time per week
_____ 2-3 times per week
_____ 4-6 times per week
_____ Everyday

For what purposes do you use open space (check all that apply):

_____ Hiking
_____ Running
_____ Biking
_____ Walking dogs
_____ Horseback riding
_____ Other? Please describe:_____
_____ Don't use open space
_____ Nature studies
_____ Photography
_____ Hanggliding/paragliding
_____ Fishing
_____ Climbing

The closest Open Space to your house is:

_____ ¼ mile (about 2 blocks)
_____ ½ mile (about 4 blocks)
_____ ¾ mile (about 6 blocks)
_____ 1 mile (about 8 blocks)
_____ 1 ½miles (about 12 blocks)
_____ 2 miles (about 16 blocks)
_____ 3 miles (about 24 blocks)
_____ More than 3 miles

What type of housing unit do you live in?

_____ Single family home
_____ Apartment
_____ Condominium, townhouse
_____ Mobile home
_____ Group quarters (dormitory, fraternity)
_____ Other?_____

Do you own or rent your residence? ____ Own (or buying) ____ Rent

Please approximate your household's total 2001 annual income (before taxes).

_____ Less than $10,000
_____ $10,000 - $14,999
_____ $15,000 - $24,999
_____ $25,000 - $34,999
_____ $35,000 - $49,999
_____ $50,000 - $74,999
_____ $75,000 - $99,999
_____ $100,000 - $149,999
_____ $150,000 or more

Which of the following is the highest level of formal education you've completed?

_____ 0-11 years, no diploma
_____ High school graduate
_____ Some college or Associate's degree (not a Bachelor's degree)
_____ Bachelor's degree
_____ Graduate or Professional degree

Which of the following categories best describes your race?

_____ White or Caucasian
_____ Black or African American
_____ Asian or Pacific Islander
_____ American Indian, Eskimo, Aleut
_____ Other

Are you of Hispanic origin? ____ Yes ____No

Which category includes your age?

_____ 18-24 years
_____ 25-34 years
_____ 35-44 years
_____ 45-54 years
_____ 55-64 years
_____ 65-74 years
_____ 75 years or over

How many members are there in your household? _____

How many of these are children under 18 years of age? ____

What is your gender? ____ Male ____ Female

Thank you!