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Northeast Nevada Natural Resources Opinion Survey

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As we enter the 21st century, users and managers of rangelands face numerous challenges, including education, proper application of science, multiple use management, and cooperation among diverse user groups, all within the context of environmental sustainability. Rangelands are defined as untilled lands on which the native vegetation is predominantly grasses, forbs (wildflowers) and/or shrubs. Our Great Basin rangelands are "filling up" in the sense that more people are discovering and using resources that historically were used by comparatively few. How society responds to these challenges will affect future generations. The health of rangeland ecosystems, sustained agricultural production, and continued use of natural resources are at stake. Productive rangelands, i.e., rangelands with properly functioning ecological processes, will provide these values.

From January 1, 1999 to June 30, 2000 an informal needs assessment was completed by attending and documenting the resource issues discussed during 40 plus meetings of diverse focus groups. These included meetings of coordinated resource management teams, the Nevada Section of the Society for Range Management, conservation districts, weed districts, Nevada Weed Management Association, riparian research groups, Nevada Cattlemen's Association, holistic resource management teams, Nevada Chapter of the Wildlife Society, and the Northeastern Nevada Stewardship

Group. These groups represent a cross-section of the educational needs for both laymen and professional resource specialists.

Results of this informal needs assessment approach have shown three major areas of emphasis: (1) restoration of rangeland productivity, (2) sustainable/multiple use of rangeland resources, and (3) resource conflict resolution. In order to further refine and prioritize needs, a natural resources survey was prepared to gather public opinion about rangeland resources and resource issues. These questions comprise a survey intended to formalize natural resource issues, concerns, and opportunities for northeastern Nevada.

SURVEY METHODS

Before this survey was mailed, a draft survey was sent to 20 reviewers, including ranchers, miners, members of the Northeastern Nevada Stewardship Group, and representatives from the Bureau of Land Management, U.S. Forest Service, Natural Resources Conservation Service, Nevada Department of Wildlife, and Nevada Division of Forestry. This survey targeted northeast Nevada, specifically Elko, Eureka, Lander, and White Pine counties. In order to ensure an adequate sample size, 1,000 surveys were mailed. Survey recipients were chosen completely at random from the tax roles of the four counties. For equitable distribution, the number of surveys sent to residents

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of each county was stratified by county population. The survey questions were divided into three primary categories based on results of informal needs assessment: (1) restoring rangeland productivity, (2) sustainable/multiple use of rangeland resources, and (3) resource conflict resolution. Each survey also included 4 general questions about economics and environment.

RESULTS AND DISCUSSION

A total of 246 surveys were returned, for a return rate of 24.6%. Specific results of the survey are summarized by category below. Questions shown in tables are abbreviated to conserve space. Original questions provided background information when needed.

Restoring Rangeland Productivity

Survey takers were asked to rate the importance of seven rangeland productivity challenges on a scale of 1 (very important) to 5 (not important). The respondents rated rangeland health as the most important productivity challenge, with 81.3% indicating this challenge was important to very important (Table 1). This was followed closely by the challenges of noxious weed control (76.2%) and burned area rehabilitation (75.3%).

Table 1. Relative importance of rangeland productivity challenges

Challenge	Rated as Important to Very Important (% of Survey Respondents)
Rangeland health	81.3
Noxious weed control	76.2
Burned area rehabilitation	75.3
Wildlife habitat improvement	73.3
Revegetation of cheatgrass - infested areas	71.0
Livestock forage production	66.7
Reclamation of mined land	62.3

Respondents took the challenges of restoring rangeland productivity very seriously (Table 2). The increasing frequency of wildfire on rangeland and resulting cheatgrass invasions were considered as significant problems by more than 75% of those surveyed. Almost 80% indicated that revegetation of burned areas dominated by cheatgrass, and threatened with invasion by noxious weeds, should

be revegetated with desirable species to limit establishment of undesirable species. However, as important as the weed issue is, 90.2% of the respondents think most Nevada residents don't recognize noxious weeds (Table 2).

The importance of weed control on revegetated mine sites was less obvious, with 43.6% of respondents concerned and 40.3% unsure. However, when asked about the importance of revegetating burned or mined public lands, 84.4% of the respondents agreed that wildlife habitat was a high priority goal and 74.1% viewed livestock forage similarly as high priority (Table 2). Most of the respondents (88.5%) indicated that native plant species should be used, when possible, to revegetate burned or mined public lands. In those situations where native plant species are cost prohibitive or difficult to establish, 66.9% of respondents favored use of adapted non-native species. Because of increasing demand for revegetating disturbed areas, 68.2% of respondents think a niche for local seed growers/suppliers may be emerging. Finally, 86.5% of respondents see a need for continuing education and research regarding the restoration of rangeland productivity in northern Nevada.

Approximately 77% of respondents indicated that prescribed fire, livestock, herbicides, and mechanical manipulation can be used either individually or in combination as vegetation management tools to sustain or improve rangeland productivity. When asked to rate these tools by preference on a scale of 1 (highest) to 5 (lowest), 68.8% of respondents rated livestock as the preferred vegetation management tool, followed by mechanical manipulation (53.0%), prescribed fire (43.0%), and herbicides (21.9%).

Sustainable/Multiple Use of Rangeland Resources

When asked to rank six multiple uses on northern Nevada's rangelands on a scale of 1 (very important) to 5 (not important), respondents identified wildlife habitat and species diversity, watershed, and livestock forage as the most important rangeland uses (Table 3). However, 5 of the 6 uses were rated by more than 60% of the respondents as being important to very important.

A total of 66% of respondents indicated that wildlife habitat and diversity, watershed, livestock forage, recreation, mineral production, and

Table 2. Survey responses to questions about restoring rangeland productivity

Question	Responses (by %)		
	Yes	No	Unsure
Do you think the increasing frequency of wildfires in northern Nevada is a serious problem?	76.9	13.2	9.9
Is the invasion of the flammable, exotic annual cheatgrass a problem?	82.7	6.6	10.7
Does the possibility that cheatgrass areas may become dominated by noxious weeds put added emphasis on revegetation of these areas with competitive desirable vegetation?	79.5	4.5	16.0
Do you think most Nevada residents recognize noxious weed species and understand how they are spread?	3.7	90.2	6.1
Is weed control sometimes a concern on mined land that is being revegetated?	43.6	16.0	40.3
Should the establishment of rangeland vegetation for livestock forage be a high priority goal for revegetation efforts on public lands that have been burned or mined?	74.1	16.0	9.9
Should the establishment of rangeland vegetation for wildlife habitat be a high priority goal for revegetation efforts on public lands that have been burned or mined?	84.4	8.6	7.0
Should native plant species be used, when possible, to revegetate public lands that have been burned or mined.	88.5	3.3	8.2
When native plant species are cost prohibitive or difficult to establish, should adapted non-native plant species be used to revegetate public lands that have been burned or mined?	66.9	14.3	18.4
Do you think there may be a market niche for local producers to grow varieties of desirable vegetation to keep up with the demand for seed needed to revegetate burned or mined land?	68.2	7.9	24.0
Can livestock, prescribed fire, herbicides, and mechanical manipulation be used either individually or in combination as vegetation management tools to sustain or improve rangeland productivity?	77.1	4.2	18.8
Is there a need for continuing education and research with regard to restoring rangeland productivity in northern Nevada?	86.5	6.1	7.4

Table 3. Relative importance of sustainable/multiple uses of rangeland resources

Type of Use	Rated as Important to Very Important (% of Survey Respondents)
Wildlife habitat and diversity	89.3
Watershed	87.2
Livestock forage	78.3
Recreation	69.8
Mineral production	61.3
Woodland products	48.8

Table 4. Survey responses to questions about sustainable/multiple uses of rangelands

Questions	Responses (by%)		
	Yes	No	Unsure
Are the multiple uses described in Table 3 generally compatible with each other?	66.0	22.0	12.0
Do you think elk, deer, and cattle are compatible on rangelands?	78.2	11.9	9.9
Do you think we should maintain the diversity of bird, mammal, and reptile species in sagebrush habitat?	90.5	5.0	4.5
Are livestock and a wide diversity of wildlife species compatible on rangelands?	78.2	9.1	12.8
Is hard-rock mining compatible with production of wildlife and livestock on rangelands?	57.8	22.1	19.7
Are the nonconsumptive rangeland uses such as hiking, backpacking, picnicking, wildlife viewing, off-roading, and camping important to rangeland users?	88.0	7.0	4.5
Approximately 87% of Nevada's land is managed by federal agencies. Is the remaining 13% important for both livestock production and wildlife habitat?	81.4	7.4	11.2
Are riparian areas (vegetation adjacent to streams and springs) important for wildlife habitat?	95.5	2.9	1.7
Are these riparian areas important for livestock production?	72.6	15.8	11.2
Should the proper functioning of riparian areas be an important management priority?	83.1	6.2	10.3
Is there a need for continuing education and research with regard to sustainable use of multiple resources in northern Nevada rangelands?	86.0	6.4	7.6

Table 5. Perceived needs of various audiences for education about sustainable/multiple use of resources

Audience	Rated as Having Great Need (% of Survey Respondents)
Youth	84.5
Legislators	84.0
Teachers	77.6
General public	76.7
Local government officials	76.1
Environmentalists	72.6
Outdoor enthusiasts	70.8
Miners	67.1
Rancher	66.8
Agency personnel	66.5

Table 6. Ranked importance of controversial rangeland issues

Issue	Rated as Important to Very Important (% of Survey Respondents)
Wildfire revegetation	75.1
Wildlife (general)	68.8
Livestock grazing	68.0
Mined land revegetation	65.0
Wilderness	62.2
Exchanges of public and private lands	57.4
Roadless areas	52.7
Threatened and endangered species	52.3

woodland products are compatible uses of rangelands (Table 4). More specifically 78.2% said elk, deer, and cattle are compatible on rangelands, and 78.2% indicated that livestock and diverse wildlife species are compatible. A large majority (90.5%) agreed that wildlife diversity in sagebrush habitats should be maintained (Table 4).

Just under 60% of respondents indicated that mining was compatible with wildlife and livestock production, with 19.7% unsure about this relationship (Table 4). As important as consumptive uses obviously were to the survey respondents, 88% indicated that non-consumptive (recreational) uses are also important. Respondents also indicated the 13% of Nevada's land that is privately owned is important for both livestock production and wildlife habitat.

The response to three questions about riparian areas (vegetation adjacent to streams and springs) showed the value placed on these areas by the respondents. Riparian areas were identified as important wildlife habitat and as important for livestock production by 95.5% and 72.6% of the respondents respectively. Approximately 83% of respondents indicated, that proper functioning condition of these areas was important. A large majority (86%) of respondents agreed that there is a need for continuing education and research on sustainable use of multiple resources in northern Nevada.

Survey takers were asked to rank the perceived needs of ten audiences for education about sustainable/multiple use of resources in northern Nevada. Youth were identified as having great education need, followed closely by legislators, then teachers, the general public, local government officials, and environmentalists (Table 5). Those audiences requiring less education about sustainable/multiple use, according to the respondents, are miners, ranchers, and agency personnel. However, even these three audiences were recognized by more than 66% of the respondents as having great educational needs.

Resource Conflict Resolution

Respondents were asked to rate eight potentially controversial rangeland issues on a scale of 1 (very important) to 5 (not important). Of these issues, wildfire revegetation, wildlife (general), and livestock grazing received ratings by 75.1%, 68.8%,

and 68.0%, respectively, of the respondents as being important to very important issues (Table 6). In order, these were followed by the issues of mined land revegetation, wilderness, land exchanges, roadless areas, and threatened and endangered (T&E) species. These issues were rated as important to very important by 52% to 65% of respondents, indicating that they are important issues to many people.

Four specific questions were asked about T&E species. A substantial majority (73.0%) of the respondents were unaware that the spotted frog is being considered as a candidate for T&E listing by the U.S. Fish and Wildlife Service, and 50.0% did not know that sage grouse are also being considered for T&E petitioning by environmental organizations (Table 7). However, 61.7% of respondents think their livelihood or lifestyle is potentially affected by classification of wildlife species as T&E. A large majority (82.9%) of respondents think that T&E species and livestock can co-exist on Nevada's rangelands (Table 7).

In terms of resolving resource use conflicts, 79.8% of the respondents preferred a collaborative citizens' participation or "grassroots" approach over debating these conflicts in the courts (Table 7). However, 52.5% are unaware of any collaborative approaches to resource conflict resolution in their counties. Almost 64% of respondents indicated that they or someone they know would be willing to work with a citizen's group to identify and discuss natural resource issues. Eighty-six percent of respondents indicated there is a need for continuing education regarding the process of collaborative discussion and resolution natural resource issues/conflicts.

General Questions

The vast majority of respondents (93%) think that the economic health of communities and families should be considered in public land management decisions. Similarly, 88.9% indicated that the ranching heritage on our public lands should be considered in the land management process, and 91.6% think that public land managers should make balanced decisions that consider the economic and cultural welfare of rural communities equally with environmental considerations.

Table 7. Survey responses to questions about potentially controversial rangeland issues

Questions	Responses (by %)		
	Yes	No	Unsure
Are you aware that the spotted frog may be evaluated soon by the U.S. Fish and Wildlife Service to determine whether it should be listed as threatened or endangered?	21.2	73.0	5.8
Are you aware that the sage grouse may be petitioned for listing as threatened or endangered by a coalition of environmental organizations?	48.3	50.0	1.7
Do you think your livelihood or lifestyle is potentially affected by classification of wildlife species as threatened or endangered?	61.7	29.6	8.3
Do you think that endangered species and livestock can co-exist on our rangelands?	82.9	4.6	12.5
Do you think that a process of collaborative citizens' participation or "grassroots" approach to resolving resource issues is more worthwhile than debating these issues in the courts?	79.8	4.2	16.0
Are you aware of the efforts of any collaborative processes such as coordinated resource management (CRM), holistic management (HM), resource stewardship groups, or other grassroots resource efforts in your county?	34.5	52.5	13.0
Would you or someone you know be willing to work with a citizen's group to identify and discuss natural resource issues?	63.8	15.4	20.8
Is there a need for continuing education with regard to the process of collaborative discussion and resolution of natural resource issues?	85.5	6.2	8.3

SUMMARY

Northeast Nevadans are keenly aware of the issues, concerns, and opportunities associated with natural resources on rangelands. In order to prioritize issues deemed most important by the survey respondents, I considered those rangeland productivity and sustainable/multiple use issues with importance values greater than 75% (see Tables 1 and 3) to be the highest priority natural resource issues in northeast Nevada. Therefore, the priority rangeland productivity challenges are overall rangeland ecological health, noxious weed control, and burned area rehabilitation. The priority sustainable/multiple use categories are wildlife habitat/diversity, watershed, and livestock forage.

Respondents perceived a high degree of compatibility between livestock and wildlife on rangelands, and indicated that wildlife diversity can and should be maintained. In relation to watershed management, respondents identified the riparian vegetation adjacent to streams and springs as being very important for both wildlife and livestock, and as having high management priority. The respondents were not only interested in consumptive use of resources, but also valued nonconsumptive uses very highly. Approximately 86% of the respondents indicated a need for continuing education and research with regard to

restoring rangeland productivity, multiple use of rangeland resources, and resolution of natural resource issues.

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