

9/2 North Trail Study Area Plan Natural Resource Expert Panel

Approximately 35 people attended the 9/2 North Trail Study Area (TSA) Plan Natural Resource Expert Panel.

Kevin Bracy Knight, Open Space Board of Trustee member, welcomed the public to the expert panel event.

Steve Armstead, North TSA Project Lead, thanked Kevin and the board for their participation in the process as well as the community for their active engagement and participation in this plan and provided details about the planning process and next steps.

Heather Bergman, Peak Facilitation, informed the public that the goal of the expert panel was to hear new and creative ideas that other entities have used to protect natural resources while also providing quality visitor experiences. She elaborated that Open Space Mountain Parks (OSMP) is looking forward to hearing what the public thinks are the best ideas from the expert panel to try in the North TSA. She noted that the ideas heard tonight may show up in one, some or none of the draft scenarios and thanked the panelists for their participation.

Dave Anderson, Director and Chief Scientist of the Colorado Natural Heritage Program (CNHP), spoke about CNHP which is part of Colorado State University and is responsible for aggregating data on where rare species are located in Colorado and how they're doing in each location. CNHP partners with organizations all over the world to determine where conservation efforts should be focused and their staff is comprised of botanists, zoologists and ecologists. He spoke about the NatureServe Ranking System's Conservation Status Ranks, including the Global (G) Ranks which show the degree of rarity on the global scale and the State (S) Ranks which show the degree of rarity on the state scale.

- 1- Critically imperiled
- 2- Imperiled
- 3- Vulnerable to Extirpation or Extinction
- 4- Apparently Secure
- 5- Demonstrably Widespread, Abundant and Secure

There are 28 known occurrences of Bell's twinpod (ranked as G2G3, S2S3) and 11 of those are in Boulder County. Bell's twinpod habitat exists in Northern Larimer County down to the North TSA. The City of Fort Collins Pineridge Natural Area supports a mediocre population of Bell's twinpod. They have closed trails and put up educational signs to protect this important resource.

- Xeric Tallgrass Prairie includes Grassy Slope Sedge (ranked as S2/G3). Many plant species within Xeric Tallgrass Prairie are ranked as state imperiled. There are numerous populations of this, covering 600 acres in the North TSA.
- Important Mixed Grass Prairie Mosaic accounts for approximately 5,000 acres within the North TSA.
- Wetland and Riparian areas include many important plant species, too.

- Colorado's Landscape Disturbance Index shows the heavy human footprint that has occurred just next to the Boulder area.
- Colorado includes numerous potential conservation areas and there are quite a few areas of these areas with very high biodiversity significance within the North TSA.

Janet Chu, author, naturalist and former biology instructor, complemented the City of Boulder for the work they're doing on the North TSA. She thanked those who have monitored butterflies with her and outlined that she would be talking about managing the needs of butterflies including:

- Life cycles
- Seasonal changes
- Microclimate requirements
- Threats and solutions

Butterflies require:

- Food (host plants)
- Energy providing plants (nectar)

Butterflies lay eggs on host plants, then the caterpillar eats the host plant. Caterpillar forms a chrysalis and within 12-14 days it emerges as an adult butterfly, mates and lays eggs. Adults get nectar from flowers and minerals from puddles. Some butterflies are very specific in their host plant needs. Butterflies are seasonal- some types fly right after the snow melts.

Microclimates- butterflies live where there is:

- Moisture for host plant growth; riparian areas are excellent
- Sunlight for warmth/wing muscle energy
- Rich, diverse vegetation
- Undisturbed refuge for eggs and chrysalides

Challenges for butterflies:

- Trails that subdivide the habitat
- Dogs- alter vegetation
- Bikes encourage erosion
- Trampling- accentuates humidity extremes
- Prescribed burns
- Controlled grazing
- Pesticides

Solutions:

- Place trails near borders of valuable habitat
- Keep trails away from riparian areas

- When dogs allowed, restrict to on leash
- Bikes on gravel trails, least erosion
- Plan for trampled areas – picnic tables, parking, outhouses, etc.

Steve Jones, wildlife consultant and author spoke about resource inventory approaches including the following:

- Landscape/Zone Management: use the best available information, designate management areas based on their biological richness and sensitivity to disturbance.
- Coarse filter: Use selected indicator species to map and designate habitats and to ascertain potential impacts of various trail alignments. This is a good, solid approach which was used in OSMP's North TSA Inventory and Assessment Report, but he felt using a fine filter approach in addition to the coarse filter would provide more thorough information and better protection to natural resources.
- Fine filter: Map breeding locations and critical foraging areas of species of special concern. Use Colorado Parks and Wildlife, Colorado Native Plant Society, and other recommended buffer zones for individual species to determine which trail alignments will have the fewest impacts on species of concern. He felt the North TSA Inventory and Assessment Report should be less scattered in its approach to species of concern (e.g. specific location documentation of burrowing owls, not just sightings). He felt that all species of concern must be taken into account and large habitat patches must be provided for certain species to thrive (e.g. ferruginous hawks)

He would like to see the North TSA Inventory and Assessment Report use the CNHP Tracking Format and Ranking (as the Boulder County Comprehensive Plan does) in order to map breeding sites, locations, and specifics and use this information to determine where trails should and shouldn't go. CNHP listed birds documented in the North TSA include bald eagles, burrowing owls, prairie falcons and bobolinks. Through the OSMP monitoring program strong data on where species are located is available.

He felt that species believed to have been extirpated from the North TSA (such as the white-tailed jackrabbit, black-footed ferret, long-billed curlew, and mountain plover) should still be included in the North TSA Inventory and Assessment Report noting the potential for re-introduction here or elsewhere.

He noted that agencies trying to protect endangered species are typically under-funded, but that Boulder County is affluent so if these species can't be protected here, where can they be?

His suggested North TSA priorities included:

1. Mapping breeding areas and foraging areas for vertebrate species of concern.
2. Mapping rare plant communities, rare insect communities, and other critical resources.
3. Determining desirable buffers using Colorado State Parks and Wildlife recommendations and available recommendations from scientific studies.
4. Engaging recreational community to identify most desirable trail corridors.

5. Engaging recreational community to design informational signage; involve all recreational users in ongoing resource inventory and monitoring.

He liked the wildlife closure area signs from Boulder Reservoir that included the explanation for closures for educational purposes.

Sarah Reed, Associate Conservation Scientist with the Wildlife Conservation Society acknowledged and thanked each of her co-authors. She grew up in Boulder and noted that she benefitted from the City of Boulder and Boulder County's commitment to open space and she is excited to contribute to this process. She spoke about:

1. What we know: effects of recreation on wildlife
2. What we don't know: priorities for future research
3. What to do: management strategies

She outlined the effects of recreation on wildlife as:

- Habitat loss and fragmentation
- Changes in community composition and diversity
- Changes in population abundance and distribution
- Changes in individual behavior and health

We know less about the degree to which recreation activities contribute to effects on wildlife than the effects of urbanization and climate change. Most of what we know is about mammals and bird species- we know relatively little about what's happening for amphibian, fish and reptile species. Ninety three percent of studies reviewed found at least one negative effect of recreation on wildlife. Studies of motorized forms of recreation showed fewer effects than non-motorized activities which is not intuitive and various effects haven't been adequately compared.

Management recommendations emerging from these studies:

- None (35.2%)
- The majority recommended on-site management techniques including:
 - Spatial restrictions (29.2%)
 - Capping visitor numbers (14.6%)
 - Visitor education (13%)
 - Temporal restrictions (11.3%)
 - Physical improvements (8.5%)
 - Rule change (8.1%)
 - Enforcement of rules (6.1%)

What we don't know:

- Which species are most sensitive to disturbance by recreation?
- What are the consequences of recreation for populations and communities?

- How do different recreation activities impact species differently?
- What are the thresholds of recreation disturbance- number of visitors, spatial distribution, or timing?
- What are options for managing the effects of recreation, and are they effective?

What to do?

Most people, surveyed in Jefferson County, would like to see conservation balanced with recreation.

Management strategies:

1. Solutions proposed most often involve on-site mitigation, but evidence of effectiveness is limited.
2. Access decisions should balance a site's benefits for recreation and conservation.
3. Designation decisions should consider a site's role in the reserve network.

Take a landscape perspective and balance the benefits system-wide. Sonoma County Acquisition Plan was used as good example of balancing multiple objectives.

Natural Resource Panelist Questions and Answers:

Q: What is the percentage of social trails and what impacts do social trails have on species? What impacts will the presence of social trails have on the final planning process?

S. Reed responded that social trails are a common management issue. Animals don't know the difference between designated and social trails and they both have the same effect on species. She looks at both designated and social trails to determine trail effects.

Q: How do we get more enforcement for already existing regulations? What alternatives are available to get money spent on education and enforcement?

S. Armstead responded that OSMP has substantial ranger staff to provide enforcement, but because of the size of our system, the rangers are spread thin and can't be in all locations at all times. We need to look at ways to continue to educate people and get the community to buy-in and follow rules and regulations.

Q: How is planning staff going to learn about the information presented here? Why is city staff not here? Why can't panelists participate in the process?

S. Armstead replied that the panelist presentations are being recorded and can be watched by staff and the public. All present city staff stood up so that the public could see that many staff were in attendance to see what information was presented.

Panelists were requested not to participate in the North TSA public process to enhance objectivity and neutrality.

Q: Are tickets issued for dog conflicts and if so, how many on average?

S. Armstead responded that dog issues are one of the most frequent violations that get ticketed and that he didn't have the average number of violations memorized, but would include the number in this meeting summary. Since 2012, the top five most common violations issued in the North TSA have been:

- Lack of valid Voice and Sight Program tag (92)
- Illegal camping (55)
- Dog running at large, not on a leash (48)
- Dog running at large, not in voice and sight control (34)
- Tent, net structure prohibited (30)

Q: Can Sarah talk about the management characteristics and techniques that make people want to respect restrictions and not violate them? Would you recommend education over restrictions?

S. Reed replied that there is not much definitive information available about which techniques work best. She did note that strategies that actively engage people in the process tend to be more effective than more passive forms of management. For example, she mentioned that building stewardship through citizen-science and having members of the public help with conducting research and monitoring resources has proven effective.

Q: In Larimer County's Bell's twinpod habitat management, has any monitoring been done to determine how successful the signs have been in keeping people out of this habitat? And while this trail area has been closed, was an alternative to the closed trail provided?

D. Anderson replied that alternate routes to the closed trail do exist; otherwise, usage of the trail on Bell's twinpod habitat would continue to be a problem. He indicated that he isn't aware of what type of (if any) monitoring has been done to determine whether people have been staying off the closed trail.

Q: Species numbers decline with habitat fragmentation and various uses. What would the consequences be if we put trails of any kind into the Northern Boulder Grasslands?

D. Anderson noted that careful planning to minimize fragmentation here is important because fragmentation would result in negative impacts including introduction of invasive species. He also mentioned that social trails are likely more destructive than designated ones because they aren't managed or sustainable.

Q: There is a paucity of studies directly comparing impacts of recreational activities, yet, in management strategies we see more closures to motorized activities than non-motorized activities. Is this more directed by politics?

S. Reed responded that most studies that have been done on the impacts of recreational activities have been done on hiking, but there is still a limited understanding and acceptance of effects of hiking as well as other recreational activities.

S. Jones emphasized that with the understanding we do have, maximizing patch size and minimizing edge effects is preferable when designing trails.

Q: What are the likely impacts of invasive plant species in this area, especially related to Bell's twinpod?

D. Anderson mentioned that jointed goatgrass is especially scary in the effects that it can have on native species, but that shale areas don't seem to be as sensitive to or effected by invasive species as other native plants. Bell's twinpod is tough and more tolerant of disturbance than other species, but should still be managed with extreme care. If invasive grasses don't overtake it, it may be okay, but Bell's twinpod is not a good competitor.

Small group discussions:

Discuss what idea you heard from panelists that you'd like to see in the North TSA and why?

Ideas Liked Best for Inclusion in the Plan

Group 1:

- Supported Steve Jones's suggestions of:
 - Having OSMP provide specific results of monitoring that are applicable to the North TSA.
 - Mapping all species of special concern and communities and avoiding nesting, rearing and foraging areas so species can survive.
 - Basing conservation priorities on scientific data
 - Monitoring before new trails are established to prevent damage to living communities.
 - Engaging recreation community in the design of desirable trail corridors.
- Supported paying special attention to locating trails on the periphery of habitat to maintain habitat blocks.
- Supported protecting the natural resources in the North Boulder Grasslands due to its high biodiversity value.
- Supported protecting riparian areas and highly vegetated areas (including considering keeping dogs out of these areas or on leash/on trail only)
- Supported experimenting with capping visitor numbers to gather data on effects of recreational activities on species and biologic systems (perhaps in a less biologically diverse area than the North TSA).
- Noted that due to the toughness of Bell's twinpod, its presence shouldn't necessarily rule out the possibility of a trail nearby.

Group 2:

- Supported using best available data to determine where trails should be located
- Supported including more details of the data available on species of special concern (such as exact locations, numbers, needs, extirpated species information, etc.)

- Supported evidence-based decision-making based on best available data including:
 - Minimizing habitat fragmentation
 - Trail design to minimize fragmentation and introduction of invasive species
 - Perimeter trail design
 - Drawing on experience/success of other agencies and/or areas.
- Supported noting impacts of social trails
- Supported sharing statistics on enforcement activities
- Supported educating and sharing the “why” behind rules and regulations
- Supported encouraging user groups to contribute to data collection to enhance stewardship and understanding.