

BCNA ECOSYSTEM STEWARDSHIP INITIATIVE
VOLUNTEER SAFETY

Dear volunteers,

Thank you for volunteering for BCNA's long-term monitoring program on Boulder County protected lands. Because this project may involve extensive field work in remote places, we ask you to read and adhere to the following safety guidelines:

1. Always tell someone where you are going, where your car will be parked, and when you will return. Don't forget to notify him or her upon your return.
2. Always carry water, food, survival gear (such as parka, wool hat, space blanket), a topographic map, compass, and matches.
3. Always carry a cell phone or whistle.
4. Seek shelter immediately if you see lightning or hear thunder. If you are caught out in the open, find a relatively low, dry area away from solitary trees, and crouch down with only your shoes touching the ground.
5. Inspect yourself thoroughly for ticks after returning from the field. Remove any embedded ticks immediately with tweezers.
6. Hike with caution in rocky or grassy areas of the foothills and plains. Never place your hand under a rock or overhanging ledge without first checking for rattlesnakes.
7. Above all, move cautiously and deliberately--never hurry--and enjoy your time in the field.

Boulder County Nature Association Ecosystem Stewardship Initiative
Program Goals and Procedures

Goals

1. Carry out long-term monitoring of natural processes in Boulder County native ecosystems.
2. Use data collected to improve management and influence policy-making.
3. Recruit a cadre of naturalists to monitor and protect natural areas in perpetuity.

Procedures

1. Participants adopt a protected natural area to monitor. The area should be in a relatively natural condition but does not have to be a wilderness. Examples: Shadow Canyon, Mitchell Lake, South Boulder Creek State Natural Area.
2. Each naturalist works with one or more helpers/apprentices. Each naturalist commits to training a replacement. This is a commitment in perpetuity to ensure that someone monitors the site.
3. Participants visit their area for three to five hours at least twice each spring/summer season (1 June-20 July mountains; 25 May-15 July foothills and plains), twice in the summer (15 June-31 August); optionally once in the fall (10-30 September) , once in winter (1 December-15 February), and once in spring (15 April-20 May). They monitor three or more of the following:
 - Plant species of special concern
 - Noxious weeds
 - Breeding bird populations*
 - Butterflies
 - Mammals*
 - Water quality (in streams or ponds)
 - Recreational use and evidence of disturbance*

*Required

Volunteers enter all the data collected in each adopted area into a single Excel file, with a separate spreadsheet for each category. This file is updated annually. In this way, we create a comprehensive and easy to access record of every observation in each adopted area.

Protocol for Ecosystem Stewardship Surveys
15 Apr 2006

I. General Protocol

- a. Draw boundaries of your study site on a 7 1/2' topographic map. Study sites must lie within protected lands (wilderness areas; national forests; federal, state, or local parks and open space lands; private lands protected by conservation easement). Recommended size of sites is 0.25-1.0 km².
- b. Visit the site at least twice during the breeding bird season (25 May-20 July), twice during the summer butterfly season (15 June-31 August); optionally, once during fall (10-30 September), once during winter (1 December-28 February), and once during spring (15 April-20 May). Try to schedule visits for approximately the same dates from year to year.
- c. Devote three to five hours of observation time per visit.

II. Specific Areas of Study. This is intended as a menu that volunteers can choose from; no volunteer is expected to carry out every task.

1. Birds (annually): two breeding season (25 May-20 July) surveys, one optional fall (10-30 September) survey, one optional winter (1 December-15 February) survey, and one optional spring (15 April-20 May) survey.

a. List all species seen or heard during breeding season. Use Colorado Breeding Bird Atlas protocol to categorize nesting species as "possible," "probable," or "confirmed."

b. Optional point-counts: During each 25 May-20 July survey, count all species seen or heard during 5-minute and 8-minute intervals from three permanent point-count stations located at least 200 m apart. GPS point-count station locations. These counts must be completed within two hours of sunrise on mostly calm (wind < 25 kph) mornings. *Note: Only one person should count at any given point-count station. Additional members of the group can record or help with identification but cannot point out birds to the primary observer.*

c. Map and GPS nesting locations of all Colorado Natural Heritage Program and Boulder County species of special concern. Determine nest productivity when possible. *However: never approach or disturb active nests. GPS should be done after the nesting season.*

2. Butterflies (optional, annually): two to four (15 May-15 September) surveys, conducted on approximately the same dates each year.

a. List all species observed during all visits to the area. Keep a record of range of dates and habitat for each observed species.

b. Count all species seen during a survey along a permanent 800 m transect or several permanent transects totaling 800 m in length. Surveys must be conducted between 10 a.m. and 12 noon MDT on calm, mostly sunny days when the temperature exceeds 12° C (52° F) .

Protocol: Walk slowly and steadily along the transect, noting all butterflies within 5 m of where you are walking or standing. Document any additional butterflies observed in the "off transect" section of the form. You can stop to photograph or observe through binoculars butterflies that are within the 5 m sampling space; however, during the pauses incurred while attempting to identify a butterfly, all other butterflies observed can only be recorded as occurring off transect. Identify butterflies as to species or genus whenever possible; if that is not possible, enter butterfly by family or as "unidentified butterfly." *Note: Only one person should count along transects. Additional members of the group can walk behind, recording or helping with identification, but cannot point out butterflies to the primary observer.*

c. Map and GPS sighting locations of all Colorado Natural Heritage Program species of special concern.

3. Mammals (annually)

a. During each visit, record species and number observed, along with tracks or sign observed.

b. Compile an annual list of mammals observed, including maximum numbers, habitats, and dates of observation.

c. Map and GPS sighting locations of all Colorado Natural Heritage Program and Boulder County species of special concern.

d. Map sighting locations of all elk, mountain lions, and black bears, and their scats.

4. Plants (periodically)

Note: Different areas will have very different needs. We should tailor our protocol to the given area/jurisdiction. For example, the Boulder Open Space and Mountain Park System already has an extensive system of vegetation monitoring plots, so there is no need to add additional plots. In contrast, on National Forest Service lands there is little vegetation monitoring, so vegetation plots could be very useful.

a. Fill out Colorado Natural Areas form describing general plant communities and their condition.

b. Map and GPS locations, habitat, and extent of occurrence of all Colorado Natural Heritage Program species of special concern.

c. Note and map or GPS locations of noxious weeds.

d. (Very optional) Develop a list of all plant species observed.

5. Recreation (annually)

a. During each visit, record number of people observed and categorize their behavior (on/off trail, hiking/jogging/dog-walking/hunting).

b. During each visit, record number of pets observed and categorize their behavior (leash, voice and sight, wandering, chasing wildlife).