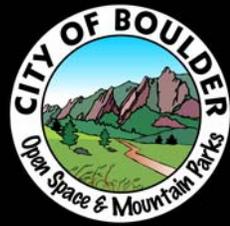


Wildlife monitoring before and after new trail construction in EM/DD TSA



Update for public meeting 10/16/08

Wildlife Monitoring in EM/DD TSA

Background

- New trails in 2008:
 - Goshawk Ridge Trail in EM HCA
 - Spring Brook Loop in VMP-designated Natural Area
- The EM/DD TSA Plan specifically directs wildlife monitoring efforts to:
 - Collect more information to augment existing baseline data
 - Wildlife abundance and use patterns in the TSA
 - Measure changes in wildlife abundance and use patterns in response to new trail construction



Wildlife Surveys in EM/DD TSA in 2008

<u>Target species</u>	<u>Sampling Method</u>	<u>Season</u>
Deer and Elk	Pellet plots, bed mapping	All
Turkey & Grouse	Pellet plots, roost observations	All
Songbirds	Auditory point counts	Spring-Summer
Raptors (Owls, Forest Hawks)	Broadcast stations	Spring-Summer



Pellet Plots

Sampling schedule (1 year pre-trail construction; years: 1, 2, 3, 5, 7, 10 post-trail)

Study Design

Spring Brook Loop plots:

- 25 plots interior & control
- Sampled every 3-12 months
- 2008: 16.5 person days

Goshawk Ridge Trail plots

- 90 plots at varying distances from trail
- Sampled every 10 months
- 28 control plots
- All-staff work day: 39 person days



Turkey Roosts

Roost Observations

- Crepuscular: dawn or dusk
 - 1.) Determine use
 - 2.) Categorize user groups
 - Male or female

2008 work effort:

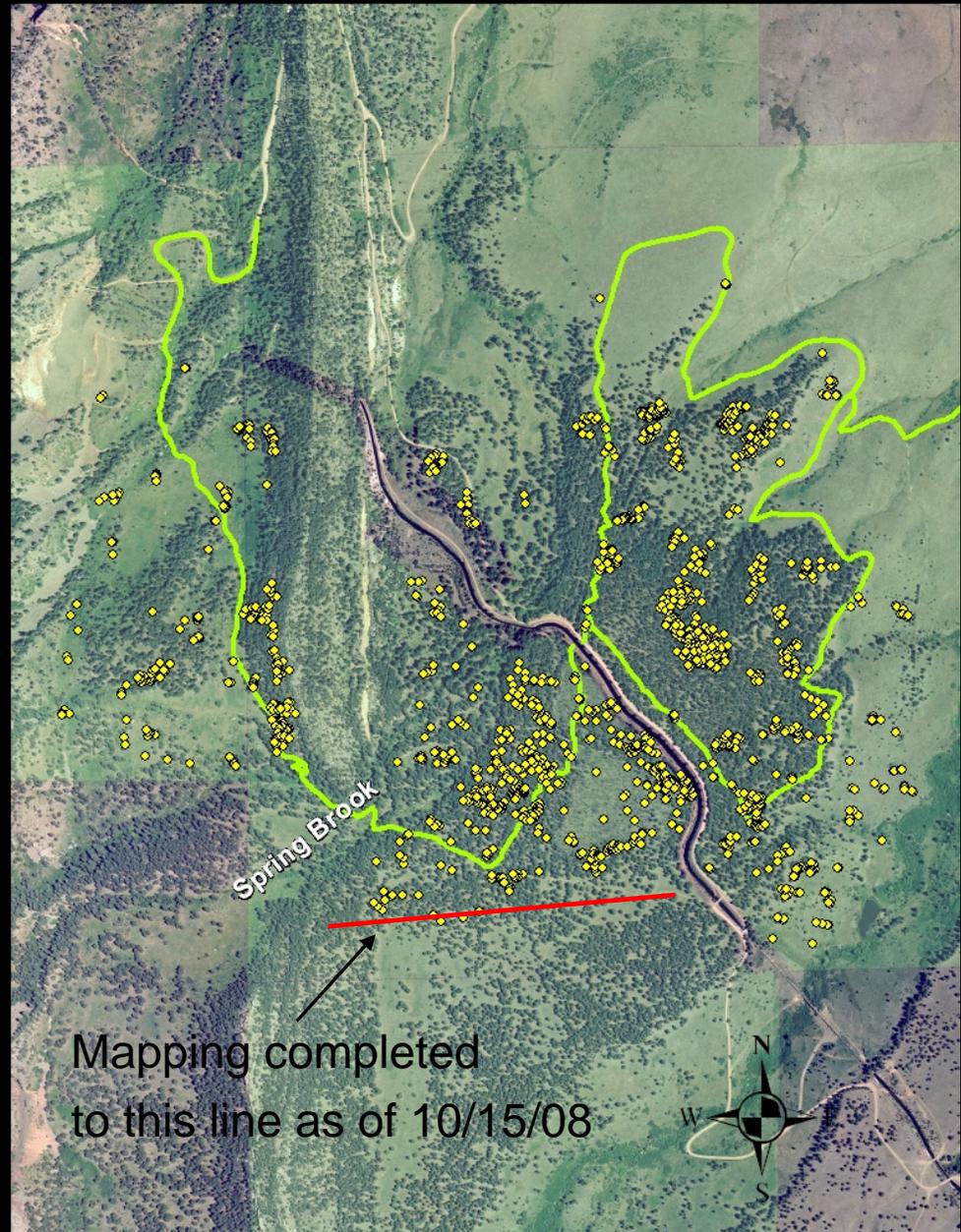
- 36 observation periods @ 6 sites from 10/07 -10/08
- 3 confirmed roost sites in mature forest; 3 potentially used seasonally
- AVG use of 20 turkeys / roost
 - (range: 8-39 turkeys)



Deer & Elk Beds

Objectives:

- 1.) Map location of beds using line transects
 - Measure site specific variables and bed condition
 - 1685 beds mapped (900 with site measurements)
- 2.) Monitor re-use of bed clusters after trail construction
 - Cover all beds in multiple 50 meter square, periodically check for evidence of scraping



Field map of area showing location of deer beds

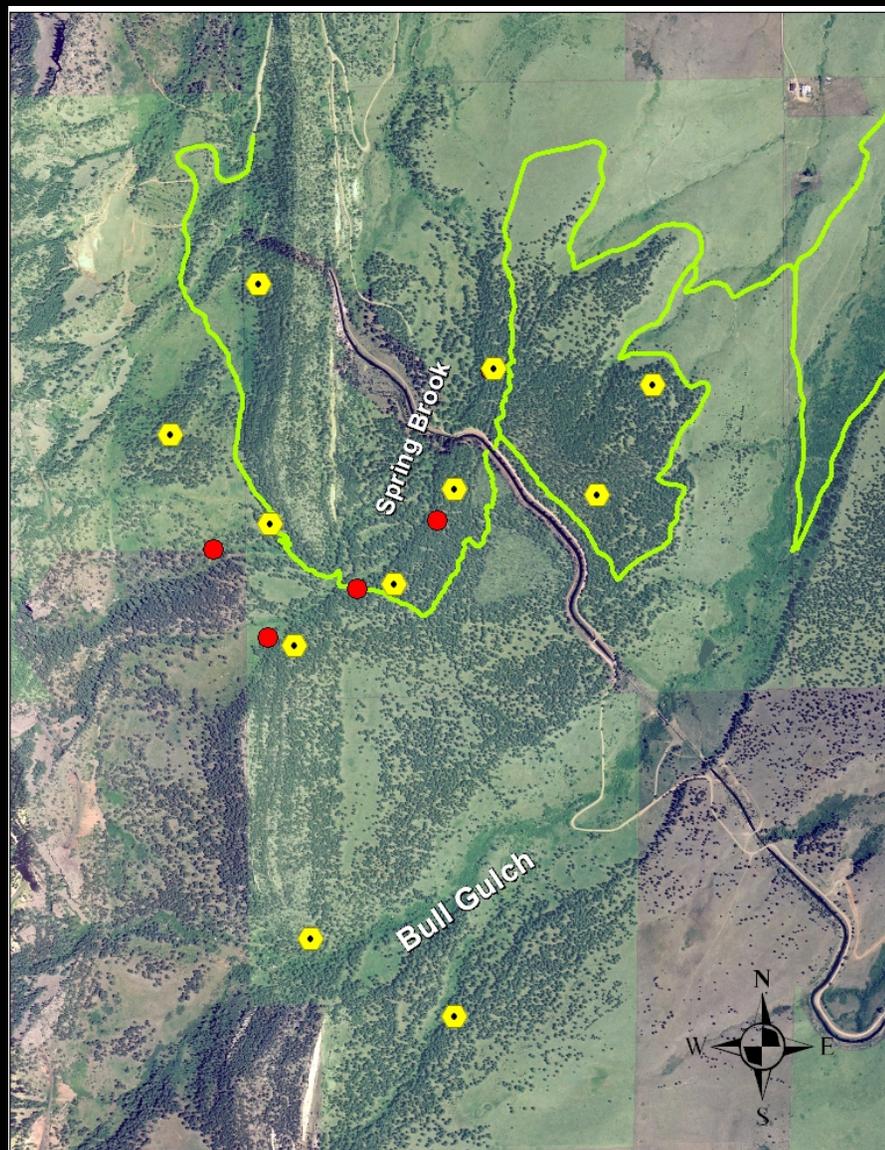
Forest Raptors: Hawks & Owls

Forest Hawks

- Cooper's Hawk breeding territory in Spring Brook drainage 2006-08
- Northern Goshawk
 - Detected in 2/08 ●
 - No subsequent detection during multiple dawn surveys (stations noted in red) in March/April

Owls ●

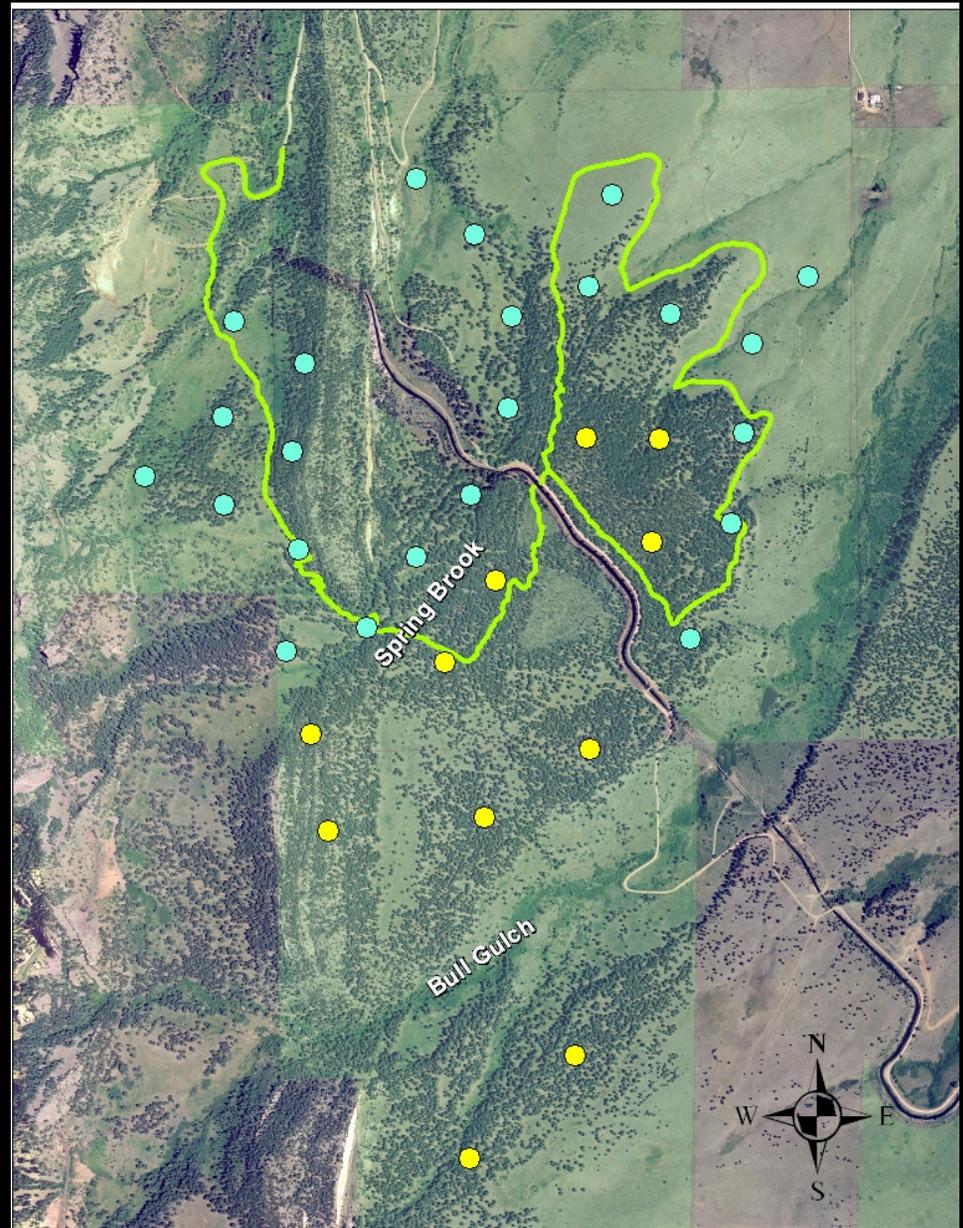
- 11 stations surveyed (yellow) 3x in 2008
- Focused on suitable habitat
- Detections: No Flammulated Owl; 2 pairs Great Horned Owl; 1 pair Long-eared Owl



Field map of area showing location of raptor survey stations

Bird surveys: forest and shrub-nesters

- 11 stations surveyed 3x each in 2007 and 2008 ●
- Trail effect monitoring (2008)
 - Spring Brook (n=8) ●
 - Goshawk Ridge (7) ●
 - Spring Brook Loop trail (8) ●



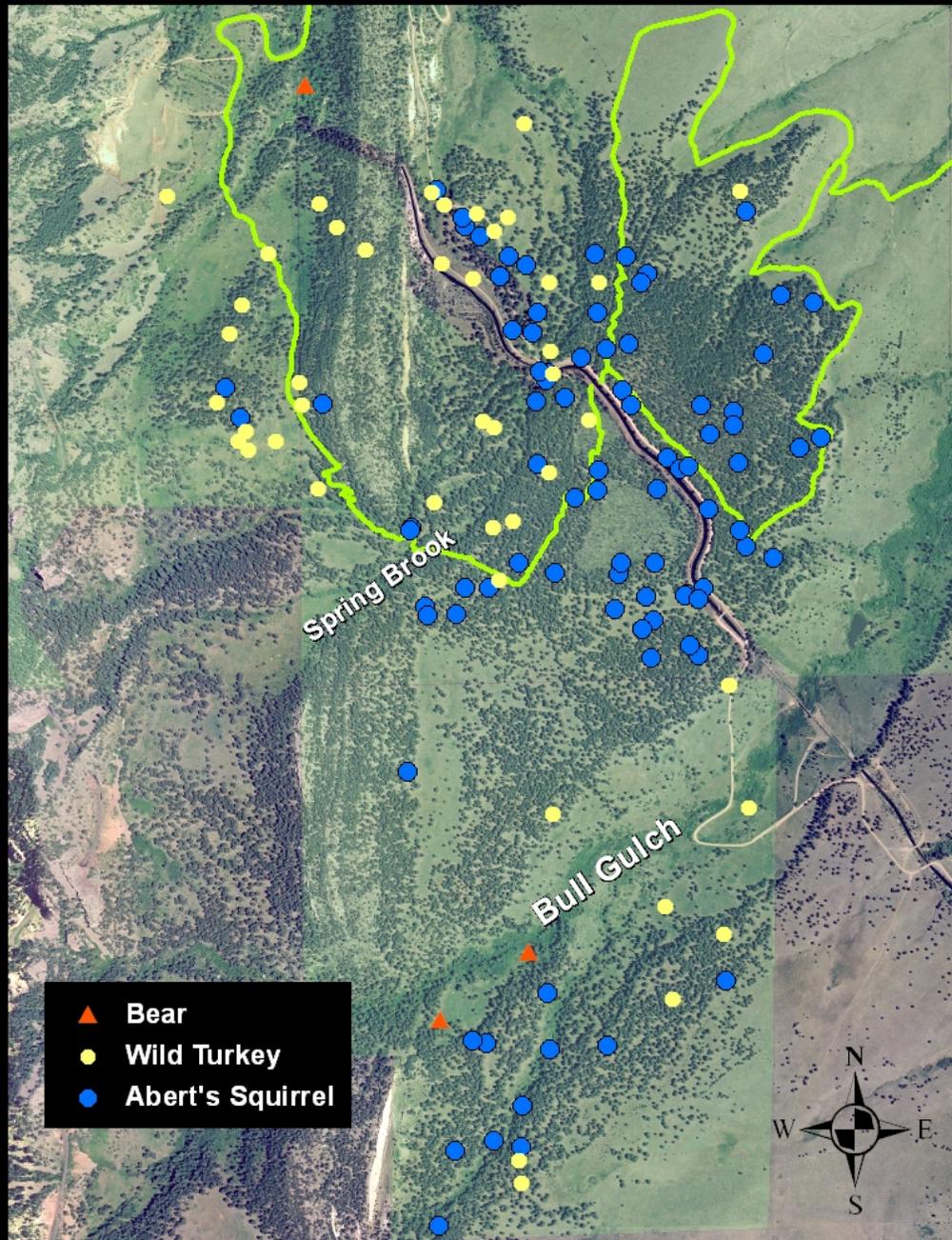
Field map of area showing location of bird survey stations

Opportunistic Wildlife Sightings

- Bear
- Wild Turkey
- Abert's squirrel

Also of note:

- Northern Pygmy Owl
- Northern Goshawk
- Eastern Bluebird nest
- Northern Saw-whet Owl
- Dusky Grouse
- Hooded Warbler



Field map of area showing opportunistic observations of focal target species

Products of EM/DD TSA Wildlife Monitoring

Pellet Plots

- Create animal use indices, model population size
- Estimate trail effect distance on deer, elk, turkey

Bird Surveys

- Locate sensitive sites for future monitoring and protection
- Establish baseline information on local shrub-nesting and forest bird community
- Monitor trail effect on passerines and raptors

Ungulate Beds

- Develop resting site habitat preferences to inform future management decisions
- Monitor re-use of heavily used areas after trail construction

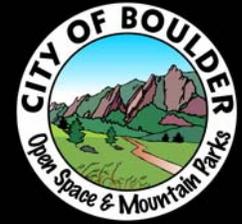
Adaptive Management Options

- Sensitive Site Management
 - Buffer Raptor Nesting Sites
 - Concentrated Bear Activity
 - Turkey Roosting Sites
- Localized restrictions (on-trail & off trail to protect wildlife)
 - Identify high use areas





Summary



Total 2008 efforts ~ 220
person days

Focus of monitoring efforts:

- Ungulates
- Turkeys
- Accipiters
- Owls
- Songbirds (forest and shrub-nesting)

Methods:

- Pellet plots
- Broadcast acoustical
- Passive auditory surveys

Continue all facets of wildlife
monitoring in 2009:

- Seasonal use of turkey roosts
- Re-sample pellet plots
- Accipiter and owl surveys
- Songbird surveys
- Complete ungulate bed mapping

