

 <p>Front Range Roundtable Fuels Treatment Partnership</p>	<p>Monthly Meeting</p>	<p>Wildlife Working Team</p>
<p>Created by: Summer Grimes</p>	<p><i>Meeting Minutes</i></p>	<p>Tuesday, April 23, 2013</p>

Meeting Name	Monthly Meeting – April 2013
Meeting Date	Tuesday, April 23, 2013
Meeting Time	10:00 AM – 3:00 PM MDT
Venue	740 Simms Street, Golden, CO, 80401 and Dial-in (snow day)
Attendees	By phone: Rick Truex (US Forest Service), Hal Gibbs (US Forest Service, ARP), Casey Cooley (Colorado Division of Parks and Wildlife), Lynne Deibel (US Forest Service, ARP), Jenny Briggs (US Geological Survey), Felix Quesada (US Forest Service, PSICC), Gali Beh (Beh Consulting), Summer Grimes (CSU MS Student), Courtney Schultz (CSU, Dept. of Forest and Rangeland Stewardship, guest observer)

Meeting Notes

1) Introductions and Ice Breaker

2) Updates and Meeting Agenda - Gali

- Discuss changes to project outline
- Review work plan and team goals from last meeting, check in on progress
- Rick to debrief team on his discussion with the Landscape Restoration Team two weeks ago
- Review revised species list based on filer 1 rule (applied to birds and fish)
- Launch discussion:
 - potential species stressors
 - look for redundancy within guild(s)
 - discuss why filtered species are ecologically informative
 - make hypotheses on population responses
- Review monitoring protocols
- Discuss overall meeting schedule and upcoming events

Discussion of Project Outline

- Gali proposed language for the team’s Mission statement and Methods. Asked for feedback.
 - Rick – would like to think about the Mission. Had a few suggestions.
 - Lynne – would also like time to think about it.
 - Hal – offered suggestions.

Discussion of Work Plan, Goals and Team Progress

- Gali is happy with progress. Feels that the team is on track and asked for input on pending tasks.
- Team feels that protocols are on track

3) Rick – Debrief on his meeting with the Landscape Restoration Team (LRT)

- Walked LRT through the goals of the Wildlife Team and the species filtering process
- Discussed the challenges with ranking species
 - Gave them examples of how the wildlife team has assigned informative species scores
- Felt that the LRT understood the purpose, direction and framework
- Explained the Wildlife Team’s next steps
- Received a lot of positive feedback, no alarming or negative feedback.
 - Lynne – also received positive feedback from LRT members who feel that the plan is logical and appreciate the work and thought process. They like that the wildlife team isn’t making “decisions”, but will present a suite of options that range from fairly intensive monitoring to highly intensive, along with the associated costs.

4) Review revised species list based on filer 1 rule (applied to birds and fish)

- Rick suggested species groups that might make sense (i.e. “woodpeckers”, “songbirds”, “ungulates”, etc.) when considering the creation of sampling approaches
- The list is down to 65 species
 - Now the team needs to come up with additional scoring and synthesis within these taxonomic groups/guilds to “hone in” on the truly informative species re: CFLRP treatments.
 - Keep multiple species protocols in mind, but be sure that we have a technique that works very well for species that are tightly tied to this area.
- Rick wants the team to take a critical look and make sure that species of interest and importance have not slipped through the cracks.

5) Discussion:

Gali asked Lynne to begin the discussion about protocols

- i. Lynne
 - Found survey protocols – all list a variety of methods and levels of intensities of surveys. She believes that the team can create objectives, costs and answer management questions from available methods.
 - a) Bullfrog – there is an existing protocol
 - b) Snakes – there is an existing protocol
 - c) Lizards – tricky. The Flat-tailed Lizard is one of few lizard species that has its own specific protocol, but Lynne believes this can be used as a general, non-specific method for other lizards. She did not find a specific protocol for Collared Lizards.

- Monitoring Efforts
 - a) Big ongoing efforts are out there for many species in Canada and these can most likely be used for this area as well.
- ii. Janelle via Rick
 - Janelle identified general techniques for Cutthroat Trout, Greenbacks and majority of invertebrates
 - For most species, there is a generic protocol and the team needs to determine if the technique lends itself to estimating density, absolute abundance, etc. for the CFLRP species in question.
- iii. Felix – Mammals with Jenny
 - Felix was only able to do a minor search.
 - a) Bats – handbooks and inventory methods (from Canada) exist in addition to ch. 7 of the wildlife guide on the WWT website. Some information is specific to species (Thompson’s big-eared Bat and Hoary Bat) with limitations on monitoring and protection. Existing data available may be available via Colorado Mountain Working Group, Natural Heritage Program, UNC, etc.
 - b) Abert’s Squirrel – has information but feels it is the same as what Rick has already posted on WWT website
 - c) Mountain Lion – hasn’t found a lot of info yet.
- iv. Casey – Birds with Steve
 - Most birds have an existing protocol
 - a) Woodpeckers, finches, sap suckers, etc. have existing CO protocols with integrated bird conservation monitoring
 - b) Raptors – Goshawk protocol developed by USFS. May be opportunity to use this protocol for other raptors
 - c) Owl – there are area- and species-specific protocols, but there is no “sample frame protocol”. Can’t find large-scale monitoring examples.
 - d) Hummingbirds – not much information out there. Does this mean it needs to come off of the list?
 - e) Mammals
 - Big game – combination of sampling and monitoring protocols depending on the species in question. Need to have clear objectives and questions to drive the choice of protocol
 - f) Comment about Bats
 - Re: active mines program. Hasn’t looked at it enough to know if the information is useful for CFLRP, but thinks it is worth investigating. These surveys are done when public lands are closing mines to see if bats are present. The information is informative about bats, but he is unsure if the information will be informative to CFLRP forest treatments.

- g) Asked the group: Is it useful to have general explanation describing the data that Parks and Wildlife has from a big game perspective and how they go about collecting it? Thinks it would be helpful for the group to know what we have and the associated limitations. He offered to have a big game biologist come in to discuss this with the group if it is desired.
- Rick – believes this is a great idea for the “for consideration” list.
 - He believes the group needs to be very attentive to available data even if it is not directly relevant to the CFLRP because data can be used to inform sampling methods for species. Ex: bats in mines: The data itself may not be relevant to the CFLRP but the sampling techniques used to obtain the data may be.
 - Important to bring ‘experts’ into the picture later down the road who understand these sampling techniques

Gali presented the following four topics that the team needs to discuss:

1. Potential species stressors
 2. Redundancy within guilds
 3. Discuss why filtered species are ecologically informative
 4. Make hypotheses on population responses
- Rick suggested that instead of following a topic outline, the team should have a general discussion and blend the topics. Down the road, the team should then hold an additional “unstructured” discussion to dig into species details as they relate to the above list.
 - Rick – intro to stressors
 - The biggest challenge in identifying species for CFLRP monitoring is being able to identify population responses and make sure that the response is due to what is happening on the Front Range. “Separate the signal from the noise”. Signal = population response to the CFLRP treatments and landscape condition, Noise = all other things that may influence how the population responds.
 - Example is a Neo-tropical migrant. They have always posed a challenge for management and monitoring.
 - When thinking about stressors, the team must be sure that they are considering whether it is happening locally, offsite, etc. A few obvious stressors:
 - Direct habitat modification, fragmentation, hunting, fishing, recreation, inter-specific interactions (i.e. parasites), etc. Many things that can influence individual populations.
 - Don’t need to identify every single one, but focus on impacts that can confound the ability to determine what is going on within a population as a result of Front Range management activities.
 - Need to be strategic and not overdo it, but must also make sure we are not neglecting an important stressor. Neglecting these details will make it harder to understand how the population is responding to Front Range management activities.

- Gali – asked for clarification:
 - The team should focus on stressors that may influence the CFLRP footprint area like Climate Change, or chemical contaminants, etc?
 - Rick – we need to be very cognizant about things that influence population processes. Our goal is to be able to detect population responses associated with Front Range management activities. For example, it doesn't make sense to have a Neo-tropical migrant as a primary species, but it would be very useful to have them on a secondary list because there is a protocol that can efficiently sample them.

- Casey
 - Question about social stressors or recreation. He is unsure of where/how to place the public's desire to have large elk herds or not (based on values).
 - Rick believes it needs to remain on the table. Social stressors are more indirect than direct because it has to be dealt with through management guidelines, mitigants, etc.

- Rick – hypotheses on population responses
 - First need to take a step back and think about what populations do in general because this can have a huge impact on what we monitor and how.
 - Realities that he outlined:
 - What does a population do? Increase, decrease, remain stable, etc.
 - Exotic populations
 - Episodic population – pulses of growth followed by stabilization, decline, etc.
 - For all of the above, there are a variety of functional plots that the populations can take (linear relationships, thresholds, etc.)
 - Also important to keep food webs in mind.
 - Primary consumers will generally be more variable than secondary
 - Species higher on a trophic level can decline quickly but typically increase very slowly.
 - Many angles when trying to think about how a population will respond.
 - Also need to think about how to select the best response variable. Need to be strategic. This can include:
 - Abundance
 - Vital Rates
 - Distribution

(Jenny joined the discussion via phone)

- The group discussed how to proceed and cut species from the remaining list. Everyone agreed that it would be wise to take a deeper look at each species.
- Hal brought up a concern about species redundancy.
 - Rick believes that this redundancy would result in the selection of primary species over secondary and the creation of additional and/or more specific guilds. This should help with the functional component.

6) Lunch – 11:54 AM -12:25 PM.

Post-lunch, the group worked through guilds / groups.

- Casey
 - Mammals – 5 groups (on Rick’s spreadsheet)
 - Birds
 - Songbirds
 - Neo-tropical Migrants
 - Nocturnal Owls
 - Woodpeckers
 - Raptors
 - Other Birds
 - Reptiles (no functional group assigned)
 - Invertebrates
 - Bark beetles
 - Moths, Skippers, Butterflies
- Gali – Suggests that the team approach the groups one at a time (keeping in mind current species on the list) – team agrees
 - Reasons to keep
 - Reasons to drop
 - Notate the details that informed each decision to provide a framework

a) Carnivores – ex. Mountain lion, Red fox, Black bear

i. Lynne

- Referred back to species selection criteria to think about why the species was ecologically/politically/socially informative in the first place
- Thinking about trophic levels and its position in food chain
- Thinking about ease / availability of protocols and “usefulness”
- As a group of species, considering all of the above, she believes all should remain on the list for now.

- ii. Rick
 - Relatively small number of carnivores
 - Cons
 - these carnivores are generalists in the ponderosa pine zone
 - population responses are typically slow and may be confounded by other stressors that we haven't identified
- iii. Casey
 - Leans toward cons due to the fact that they are generalists, wide ranging, etc.
 - Can be sampled but not a lot of current CFLRP-wide data
 - Views carnivores as a "secondary" priority position
- iv. Hal
 - Agrees with Rick and Casey's Cons and Lynne's pros.
 - Would not keep them as a primary group due to cons
- v. Felix
 - Might be wise to maintain a predator on the list based on large game decisions, keeping in mind the cumulative effects of fuels treatment
- vi. Jenny
 - Believes there is a lot of public interest in carnivores. Potential for human conflict if the public perceives management as alteration of carnivore habitats. Supports keeping them in the mix to gather data on their responses to management and whether or not there was any human interaction increases or concerns following species and habitat / prey management.
 - Understands it might be hard to get high detectability without expensive and labor intensive monitoring efforts
 - Keep on list with notes of caution about human interaction and expense of techniques
- vii. Gali
 - Agrees with Jenny that public interest in the species is a reason to keep

b) Tree Squirrels

- i. Jenny
 - Trapping is time and labor intensive, and is a risk to the species due to stress and possible death.
 - Would studying 'sign' be a better way?
 - Many unknowns about the effectiveness of various monitoring techniques
 - Having mentioned the above, she knows that these species are highly reflective of landscape conditions and treatments.
 - Believes they are very important to monitor if the most appropriate and best techniques can be identified
- ii. Felix
 - Thinks they should be a primary, especially Abert's

- iii. Hal
 - Agrees that they should remain as a primary
 - iv. Casey
 - Agrees
 - Very ecologically informative
 - Need to overcome challenges surrounding trapping and monitoring, but should remain a primary
 - Monitoring methods – need to figure out the most informative method for the purpose of this project
 - v. Rick
 - Agrees they should be primary
 - There are two non-invasive techniques that work extremely well for tree squirrels
 - Cameras can have very high detection probabilities
 - Point/sign surveys
 - Techniques are available, the challenge will be matching them to our needs and scale
 - vi. Lynne
 - Agrees with the above
 - Cameras have been successful
 - The public is interested in squirrels – may be a useful tool for monitoring
- c) Bats
- i. Felix
 - Likes the idea of monitoring them
 - Believes the information gathered may not be overly informative to this project
 - Methods work and are relatively “easy”
 - May be generally informative for stand health but believes roosting data will be far less informative
 - Doesn’t believe they should be a primary for reasons of biodiversity
 - ii. Hal
 - Agrees with Felix’s logic but wants more information about them
 - Keep around for now until we can have further discussions about monitoring techniques and results
 - iii. Casey
 - If the goal is to measure population response, etc., bats and the available information about them limits them
 - We are changing roosting availability through CFLRP treatments, so that data may be useful, but acoustic monitoring and mist net monitoring may not be usefully informative for this project
 - On the fence about bats. Would also like more information

- iv. Rick
 - Agrees with everyone.
 - Would be great if we can monitor them, but there are many challenges
 - For this project, they may not be ideal but there may be an opportunity to use some of the information to provide an index of impacts
- v. Lynne
 - No additional comments beyond the above
- vi. Jenny
 - Agrees with the group's logic

d) Ungulates – Elk, Mule Deer, Big Horn Sheep

- i. Hal
 - Slightly conflicted
 - Believes the project will be affecting their habitat, but hopefully in a positive way
 - The project can affect both habitat and “ease” of hunting
 - Supports monitoring one of them, deer or elk but not sheep.
- ii. Casey
 - Agrees with Hal
 - They are wide ranging, so it is hard to measure population responses
 - Elk – we are generally over objective, so they may not be as informative.
 - He would probably choose Mule deer if he had to pick one
 - Critical problems with Mule Deer populations in CO
 - He is conflicted re: sheep. There is a lot of data on sheep, but he is unsure if they would be as informative as Mule Deer.
 - CFLRP project area, looking at it from a larger perspective, mirrors Mule Deer winter range on the Front Range and that is what his agency views as a somewhat “limiting factor” for Mule Deer. This might offer some logic to monitoring them over the other two. Although, the time and cost of accomplishing this makes him nervous.
 - May be able to focus on vegetation to improve or restore winter range habitat
 - Unsure if CFLRP contains measuring of grass or shrub cover – may be an important missing piece
 - Understory response and forage capacity measurements would really compliment Mule Deer winter-range restoration work. This would focus more on the quality of the area and what this means for a wide-ranging ungulate. But this also requires money and time.
 - Would be useful to review literature on ungulate responses to forest treatment and use this for future reference and justification about studying population response
 - Believes ungulate sign surveys are very informative when looking at how game species are using stands, but they may not be as informative for studying population responses.

- iii. Rick
 - Mule Deer need the front range to over-winter – sees this as a compelling reason to monitor them in the CFLRP
- iv. Lynne
 - In addition to what has been mentioned, there might be an opportunity to explore issues with over-browsing
- v. Jenny
 - Agrees and sees this as an opportunity for a secondary goal – examining how ungulates affect the vegetation

e) Shrews and Pocket Gophers – Montane Shrew and Northern Pocket Gopher

- i. Casey
 - Small mammals in general are informative from an ecological standpoint
 - Labor intensive sampling – Con
 - Northern Pocket Gopher in CO – people are questioning genetic subspecies right now. May not be able to speak to this without genetic hair sampling and testing
 - Informative and would like for them to remain. Adds complexity of micro-habitats and might shed light on importance within the project area
- ii. Rick
 - Both should be carried forward
 - Many reasons to keep them on the list as a primary species
 - Pro – can hopefully tease out management effects
 - Con – can complicate sampling in addition to time and money
- iii. Lynne
 - Agrees, nothing additional to add
- iv. Jenny
 - Keep on the list
 - Look for methods that can target those groups in low-risk ways. (Traps are frequently fatal)
- v. Felix
 - Agrees with the group. Nothing additional.
- vi. Hal
 - After discussing the significance, maybe this is an example of where the group needs to look back over the original list to incorporate additional species

f) Porcupine and Beaver

- i. Rick
 - Nothing to contribute at this time
- ii. Lynne
 - Hasn't had a chance to look into them too deeply
 - Porcupine is associated with Ponderosa Pine habitat and treatments can definitely have an impact.
 - Has not noticed any monitoring methods but does believe some are out there
- iii. Jenny, Felix, Rick and Hal do not have a lot to contribute at this time.
 - Hal doesn't think he would keep Beavers on the list and is unsure about porcupines
- iv. Casey
 - Echoes everyone's comments
 - Unsure about sampling methods for porcupines, although he feels that they may be slightly more informative than beaver
 - Decided that he would vote for both to be removed from the list due to the number of 'unknowns'

g) Birds – many “everything else” species on the list

- i. Skipping birds other than nocturnal owls, woodpeckers and raptors for now – the team will gather in a smaller subteam with bird experts to navigate through the species and focus on available protocols

h) Birds –Owls

- i. Lynne
 - Pros – available survey methods.
 - Cons – nocturnal owls; timing does not make for easy sampling due to spring weather conditions
 - Owls play a major role in the food chain
- ii. Jenny
 - Nothing to contribute at this time
- iii. Felix
 - Relatively easy to detect with surveys
 - Feels that Mexican Spotted Owls would be extremely limited
 - Discussed raptors before leaving call
 - Goshawk
 - a. Feels that they are generalists outside of their nesting requirements
 - b. May be wise to combine them with other raptors

(Felix left the call)

- iv. Hal
 - Thinks the difficulty with owls and raptors will be deciding what is primary and what is secondary
 - v. Casey
 - Agrees with everyone so far
 - Believes they are ecologically informative
 - Con – available data is generally very specialized. Unsure how it can be implemented CFLRP-wise. May be better to look at occupancy data
 - vi. Rick
 - Agrees with Hal
 - Carry forward with some combination of Owls and Raptors
 - These species will be our link to the small animal community and more easily sampled than small mammals.
 - Several rely on small mammals – provides a compelling reason to keep some of them as primary species
- i) Birds – Woodpeckers
- i. Jenny
 - Tree sign seems relatively abundant – may be a useful tool for this group
 - Votes for keeping them as primaries
 - ii. Hal
 - Same comment as owls and raptors. Some need to remain, but the team needs to put a lot of thought into which ones will be primary vs. secondary
 - Would like to consult with bird experts
 - iii. Casey
 - Thinks the team is seeing a trend with all birds. Some are more informative than others and the major task is to come up with good, solid reasoning about why one is chosen over another.
 - Nesting requirements, foraging, etc. must all be taken into consideration.
 - Realistic hope is open vs. closed forest trend
 - iv. Rick
 - Nothing additional to add
 - v. Lynne
 - They do create cavities and other habitats for other species, so they can be ecologically informative in that way as well
 - Rick agrees with this observation

j) Birds - Raptors

- i. The team believes that Raptors and Owls have very similar requirements. Need to figure out which ones are the “best” and trim the list down to them. Would be useful to consult with experts and find more sampling methods and data examples.

k) Reptiles

i. Casey

- Existing data is scarce
- Small ranges can be a pro and a con
- May be informative from a treatment standpoint (improving treatment areas)

ii. Rick

- Suggests that group reviews the ecologically informative rankings to see if anything should be carried forward

iii. Lynne

- Species made the list because of their role as prey in addition to specific niche occupations
- Presence fell within the core of the CFLR, but it is very specific ie. riparian areas, rocky cliffs, etc.
 - She feels that there is a low likelihood that treatments will negatively impact these species – does not believe that they will be very informative to the CFLR. They are mostly on habitat fringes.
 - Offered to go back to revisit the species and write up justifications for their persistence

iv. Rick and Hal

- Agree with Lynne
- Support her offer to revisit the list and provide more details

l) Bark Beetles

i. Rick

- Ecologically informative but already very heavily studied
- Questions whether they should be emphasized as a primary species

ii. Jenny

- Agreed with Rick - already heavily covered by the agencies

iii. Lynne, Casey and Hal – agree with Rick as well. Believe additional efforts within this project would be redundant.

- Casey wonders if beetle information might be useful when considering other species that rely on them for food. Wonders if there is currently a landscape-level look at beetles and wildlife distributions and if not, would it be useful?

m) Moths, Skippers, Butterflies

- i. Jenny, Casey, Rick, Lynne
 - No major details to add
 - Casey believes that climate and precipitation may confound any efforts in the CFLRP.
 - CNHP has worked extensively with the Pawnee Skipper – they may have useful information to offer.
 - Rick – if compelling reasons exist to maintain and monitor certain host plants, may be good to consider as an indirect effort.
 - Lynne knows of a butterfly resource in Estes Park that may be good for information.
- ii. Hal
 - Recalls reading a study that butterflies respond quickly to habitat changes and restoration experiments.
 - Information in this study that may possibly lead to the retention of one or two species – Janelle may know about this.

n) Amphibians – Bullfrog and Fish

- i. Casey re: Bullfrog
 - They are ecologically informative and he understands why it made the list, but is not sure if they are informative from a ponderosa pine stand viewpoint.
 - Does not think it is high on the list for CFLRP needs
 - Rick, Lynne, Jenny and Hal agree
- ii. Fish –
 - The team uses the same logic as the bullfrog. Fish are very ecologically informative, but probably not for the CFLRP project
- iii. Amphibians are removed as a group

7) Calendar, Work Plan and Next Steps

- The team discussed the April and May work plan and calendars
- Casey to develop a subteam to review bird classifications with Steve. Lynne offered to help.
- Lynne and Felix to review respective forest watch lists to see if any species were not scored correctly.
 - Lynne does not recall seeing a ‘species of concern’ list for this area – she is going to double check.
- Rick and Jenny think it would be useful to create homework for 1-2 people focusing on taxonomic groups and highlight species representatives from each group with supporting information. This information can then be presented to the group for a more detailed discussion.
 - Hal suggests that the upcoming meetings should have a portion devoted to discussions about deeper analysis of these groups.
 - This will produce more substantial rationale for keeping or removing species.
 - The team agrees.

- Rick summarized the groups and general plan going forward
 - Carnivores – keep for now to get more info
 - Tree Squirrels – carry forward for May list
 - Bats – need more info to decide if carrying forward
 - Ungulates – team to think about or the next meeting and present any information found.
 - Shrew and Pocket Gophers – no decision about primary vs. secondary. Rick nominates that they are not carried forward and suggests that the team documents their rationale for “why” during the next meeting.
 - Porcupine and Beaver – need more information

- The team agrees and Gali notated goals on the work plan.
 - May - Gali and Rick suggested further discussion about Tree Squirrels, Raptors, Nocturnal Owls and Woodpeckers. During this meeting, the team will agree on primary and secondary species in these categories and develop a rationale for eliminating Amphibians and Reptiles. The team needs to do research before May’s meeting to help with designations.
 - June – species of focus to be determined during May’s meeting.

8) Meeting Conclusion

- The next meeting is moved to 5/30/13 at 740 Simms Street, Golden, CO, 80401 in the Cargill Room.