

	<b>Monthly Meeting</b>	<b>Wildlife Working Team</b>
Created by: Terra Lenihan	<i>Meeting Minutes</i>	Tuesday, March 18, 2014

<b>Meeting Name</b>	Monthly Meeting #17
<b>Meeting Date</b>	Tuesday, March 18, 2014
<b>Meeting Time</b>	10:00 AM – 2:30 PM MDT
<b>Venue</b>	USFS-RO
<b>Attendees</b>	Terra Lenihan (Beh Consulting), Rick Truex (US Forest Service), Casey Cooley (Colorado Parks and Wildlife), Lynne Deibel (US Forest Service, ARP), Felix Quesada (US Forest Service, PSICC), Jenny Briggs (US Geological Survey), Steve Germaine (US Geological Survey), Janelle Vallederes (US Forest Service, PSICC)

**Meeting Notes**

**1) Welcome and Ice Breaker**

**2) Discussion of our sampling design, strata and criteria:**

1. Lynne went over our agenda. RMBO will be joining us at 12:30.
2. Janelle presented her GIS work. Rick explained the goal today is to get to 90% agreement to allocate the samples; RMBO will do the work based on our criteria. Some discussion needed. Rick went over the basic criteria (Terra add that to the notes). Got the RMBO grid. Took out fires 2009-2013. We can discuss. Then saw area was still very large, so clipped down to just project areas.
3. Purple outline – CFLR boundary; dark green is FS land. Grid cell – remaining. Colors are project areas (treated, and to be treated).
4. Friday’s meeting they discussed other things: going back to fires like Hayman (2002). Exclude veg types other than those in lower montane? Exclude cells with 20-49% treatment.
5. Zoomed into the AR part of the map. Rick explained cells.
6. Past v future treatment areas – are we going to distinguish between these two? Rick said there’s not enough sampling info to do that. Things treated will still be in the “pool.”
7. Showed UMC part of map – not all colored cells are going to be treated (slope considerations mainly) – to honor intent of CFLRP. Need a good enough coverage (control v treated). Uncertainty – what happens mgmt. wise, what if it catches fire? Jenny asked if we can prioritize by certain # of cells that have been treated. Rick – spatially balance sample everything. We need to discuss; if samples change, do we change our sampling selection?
8. Felix will work with Jeff on getting treatment areas better defined. There’s area though with private ownership. FS has no rights on that road. Along Rampart Range Rd should probably get treated. Lynne asked do we need an easement? Yellow color identifies treated or will be treated between 2016-2019. They just started the NEPA process. Expecting to move through fairly quickly. Decision by Spring 2015 is the goal. Jenny explained in each cell there are 247 acres. Felix assumes they will get as many acres as they can. Casey asked, if a cell has say 98% operability, would we want to choose those cells? Janelle thought the cells closer to

roads are more likely. Janelle doesn't think they mapped operability as far as how close to roads they are. Felix thought you can get a road into a lot of these, even with temp roads. Janell thought in those areas maybe we do 80% or higher, rather than 50% treatment. Casey recalled when Jeff was doing this, with slop 20-21% there was some road variability/operability. Lynne asked do we increase the percentage? Casey thinks logically, if most of cell is operable, it's ok. But hard to tell if that's 50 or 80%. Need more input from Jeff Underhill. Janelle showed Trout West. Most have been treated, or will be next year. We will need to talk to RMBO about this challenge. Agree on some level of stability this first year, then next year revisit. Felix said this area's close to being tapped. They keep going back here, because NEPAs been done.

9. Back to UMC. Just north of Waldo (southern east side). Do we leave it or keep it? There are areas that are highly operable/accessible. Concern about fire in these neighborhoods. Janelle looked at percentages within a treatment area, and how many of those would be available for controls. We could probably get rid of any cells with treatments. Jenny – do we have a total number of sampling cells at which we would do work for this project? Rick thought 160 would be good per year, for 11 years. Lynne thought with the funding that we expect/have now, we will have 60 cells. But we will lobby to get closer to 100 cells. RMBO can handle that. Jenny thinks we need to identify ~150 cells year after year. Rick – we are not trying to come up with 150 at this time. It's philosophical. We are looking at inference of what we could sample. Casey if we're talking about UMC specific, there are many cells operable that we haven't looked at veg type to indicate – those cells in the south east – that's a lot of douglas fir/ponderosa with extensive road network. Can Jeff show us how much based on veg type and then based on how much of that cell will get treated. Then it's reduced to a more usable framework. Felix said it looks like veg type is taken into account. We don't want to make inference to lodgepole pine areas. Rick said that's part of the refinement. Let's make a decision. We need to get with Jeff, Mark, and Dick. To look at our maps and so we can refine. Rick suggest we do that April 2 or so. Rick will be in Ft Collins April 3. Maybe then? And April 4 in the morning. They could meet with FS folks between now and then, then meet with RMBO April 4.
10. Rick asked if we include fires? Places like Pike is considering places like High Park and Waldo as "treated." Do we want to include it as wildlife response? Janelle thinks clarify that with Jeff. Is that just a placeholder. Jenny asked what about high severity patches? What about sites that get burned in our treated areas – what do we do then? Jenny can we build in a general policy for that/ if a status changes? And a threshold for moderate/low/high severity? Janelle mentioned that is usually mapped in GIS. It may end up messing up bird data if you add those in. If FS doing a prescribed fire then maybe that falls into it, because it's a restoration tool. Go back to CFLRP as far as restoration tools. Rick – ok in AR area where there's lots of dead trees. Fire comes through, do we keep sampling? Casey , no , all other birds gone, then you see an increase of woodpeckers? Jenny – cleaner if we have a mechanical treatment category, a mid-severity category. Rick that would be a sign of CFRL failure to change management.
11. Rick explained. Objective of CFLRP is to reduce uncharacteristic wildfires. Steve if treated areas burn in stand replacing areas, but if areas CFLRP hasn't gotten too, that isn't something that isn't instantaneous but will take time. We are not giving CFLRP justice if we don't keep sampling areas that may have changed landscapes (i.e. from severe wildfires). Steve said our desired sample size is established based on a treated control setting. This adds another treatment level. "Planned" treatments, mechanical vs unplanned, wildfires. FS calling those treatments, but on the ground they're very different. What about abert's squirrel? They are not there. Do we continue to sample? Trees gone. We need to ask the question from a data-driven, sample size perspective. Differences will exist between planned vs unplanned treatments. Janelle asked are we tasked with getting that information? Jenny thought if we could provide some of that data it could be

valuable. Take 4 sampling categories (untreated, restored, low/moderate treated, severe treated). But we may not be able to infer enough. Steve asked could we make these descriptions? The more things we compare, the more certainty we want to have in answering these questions, the more dollars we may need. Dollars are fixed. If we compare more things, and dollars are fixed, the more diluted our data becomes. Our statistics will be less meaningful and just a description. Felix suggested three categories – controlled, mechanical and unplanned fire. Some of Waldo was high severity, some low/moderate. It would have been treated differently. That's why Jenny suggested four levels. Rick said we can't over engineer; we're not in an experimental setting. We have these two strata. So we have untouched on the scale, then CFLRP management, and then hot fires. If we did a spatially balanced on all the cells we'd get only 10% treated areas CFLRP. Casey reminded group to go back to intent – to see how treatments are effecting wildlife. If so that lends it to treated vs untreated. The large uncharacteristic wildfires are not serving the intent. Rick said but then we are sampling very dense areas. Jenny can see both sides. We've never discussed if a wildlife monitoring program would include burn sites? Dense forests are atypical. Do we ask LR team about it? Rick said we need to move forward. *Motion that we define our sampling universe: all that Janelle's done, exclude fires that have occurred in 80% or more cell in last 10 years. Move forward with inference to that sampling universe, then if it burns we include it in the future.* So our sample isn't deluded, we decrease the past fires. Janelle said if you go with 10 years, than we would have some controls of Hayman. We could go back 12 years if we want to exclude Hayman. Lynne if we go with Rick's proposal, then we will likely have some fires. Jenny - do we increase the sample size to build in more cushion if a significant proportion of our sites burned? Do we justify in our budget request, not the minimum but we expect that some will burn so we add 20% more. Casey if it burns it's now just say 10 grids that have burned, 40 treated, 40 untreated. How about all past fires are not included what we have mapped. The mapping does go back pretty far. Jenny thinks it might be worth asking Hal and Sara if they would be interested if they want us to include recently burned areas. Steve thinks also to consider how many years back do we exclude? Do we exclude the fires in the late 90s that burned really hot? Moving forward, in 10 years, if there are more catastrophic hot fires, some group will reconvene to look at those sites. *Jenny seconded, everyone agreed. Lynne explained: we will have CFLRP program treated (mechanically or prescribed fires) and will continue to sample fires moving forward. We can change this in the future.*

12. Rick suggested if grids include 50 or 80% of the veg types unnecessary, we will exclude them. Casey asked if we excluded sites with water. Areas like Red Feather, all those lakes. Need to decide to exclude cells with x % of water, x % of lodge pole pine, spruce fir, wet-mixed conifer, rock, meadows? 10 or 12 sites must be sampled, need to be safe. What is dominant, v co-dominant? Casey why would we exclude a park? Rick suggest waiting on the park discussion. Others – 50%?
13. Rick mentioned there is a Wildlife Regional FS meeting April 8-10 in Loveland. Some presentation by Lynne and Wildlife Program Manager (Clay). Some piece about our process, other about challenges/opportunities. Also a poster session to highlight our process. Felix volunteered to work on the poster session. Agenda in draft form. Ok to invite Wildlife team. Theme is landscape and agency change.

### **3) RMBO discussion with the Wildlife Team**

1. David Hanni and David Plavacky from RMBO joined the meeting by conference call. Kickoff discussion with them to work toward stratification. We have \$50,000 and spatially balanced sampling. Rick gave an introduction of the work the Wildlife Working Team has done and what Janelle has done on the GIS. We have a commitment for \$50k and could be up to \$80k. Rick will dive into our sampling approach. Janell explained that we started with RMBOs grid. Green shows FS ownership and purple shows CFLRP. Rick explained the

CFLR scope with 10 years of management and 15 years of monitoring (we are in year 4). Goal is to look at impacts of CFLRP treatments on wildlife in general. Via IMBC protocol for avian species. RMBO asked about excluding past fires, and what about future fires? Rick explained our thinking; we would exclude 12 years of fires, and then we would go to the collaborative and see if we would change sampling frame going forward, or include those. For now we will exclude last 12 years, then sample everything forward. He also asked as more lands become treated... would you monitor those as those projects are accomplished? Rick explained our charge is to figure out the effects of those on wildlife community so we're monitoring a broader landscape. They asked about clarification on treated v untreated. For this project do we see the differences or lump them all into "treated." Rick said lump them all into treated for now. We are still on the fence and we need to get enough sites to be sampled; 50% in controlled areas. Jenny asked how they dealt with burned areas in their sampling. Do they differentiate with severe burns? They incorporate burn as a strata, but as they switch IMBCR it's more random, not accounting for burned. They keep sampling. David, asked about fire stratification. After we draw samples, we went away from habitat stratification. We try to stratify on features that don't change over time, since that meets the goal of long-term monitoring. Rick explained we are leaning toward any cell less than 50% treated but some treated areas will be excluded from sampling cell. So control strata is truly not treated. That's not in the GIS right now. Rick explained on Pike at UMC is very early in its NEPA analysis. The shaded areas for treatment in 2016+, not all areas in yellow will be treated. RMBO will work with their biometrician on staff. Curious if they can handle the question of skipping over those grids with less than 50% of treated areas, he will have to ask Jennifer (biometrician) about that. Rick suggested we later have a meeting to iron out some of those details. Rick explained treatments are mostly lower montane, ponderosa pine, dry mixed conifer, so to define the sampling area, we would exclude water, lodgepole pine, etc. RMBO would need some direction for that. One of their products is the new Landfire layer which does a pretty good job. Often with FS partners they give them layers they want them to use. They've been discussing how to reign in these associations. It's objective driven. RMBO said as new layers come online you could redraw or redefine sampling frame after that. Those are issues that come in with habitat stratification. Janelle said if we provide veg data can they use it? Yes. David said they like to stratify on things that are fixed. We use often elevation on the grassland, soil types, etc. other layers that could be used. Rick said we'll have to think about the role of habitat. RMBO said another layer they used was PCU for goshawk so more potential vegetation. They brought up two things in the Southwest – Terrestrial Ecosystem Units, or Generalized Terrestrial Ecosystem Units. He could send us that link. Layer combines soil, aspect, climate, etc. Better than elevation cutoff. Rick thought that approach hasn't been used in R2. RMBO said to maintain consistency they wonder if we would create an additional strata within the forest – to focus more efforts within the forest. Or do we keep entire forest AR and Pike separate stratification. Controls would be part of IMBCR program. Treatment part would be treated as an overlay. So we could get more samples from IMBCR. Rick asked them to walk us through it. Right now AR and Pike 2 different strata. AR is sub-stratified. AR has a couple of strata based on elevation, and the Pike is another strata. So David said to integrate these strata, since it's so long-term do we add this stratification into the existing stratification by providing additional strata. Then these samples would be integrated into the monitoring framework, could be used in multiple contexts. Those would make their way into larger FS. Rick thought having it integrated would be good but he can't speak for FS. So on the AR if the elevation bands don't line up then it could be complicated, but RMBO said usually adding strata can be done and doesn't compromise things. Steve asked if they increased their level of strata it could work well, but the team needs to consider smudging any defined stratifications to

accommodate our template it could compromise our goal. It could work but we would have to carefully consider it. RMBO controls may fit nicely but we may hold out the program areas as an overlay.

2. How to maintain controls vs treatment. They think this is complete separation of treatments and controls. So project areas are overlaid onto forest; they would come up with average treatments. One is a stratified selection; but we want to make discreet comparisons between different areas. There are two approaches on how to do this. Overlay design all data is operable; estimates of overlay area are held out separate. Integrated the estimates from the FS and statewide estimates as well. Rick thinks we need to get up to Ft Collins and meet with them and Jennifer. RMBO said the problem with how we're handling grid cells less than 50% treatment is they usually don't drop those because we need a continuous area sample. That criteria of which is treatment and which is control. Their integrated design they can't omit those partial cells. So they need to have a less conservative criteria; the 80% may work better. Also adding the habitat stratification – some problems occur when they are held out as an overlay. Grid cells that have say 40% treatment being omitted, that would be a problem in IMBCR; if those kind of criteria need to be implemented it works better as an overlay; it just isn't integrated into the stratification layer. Jenny asked if one of the pros is that effort already funded and in place? Could we use data collected for the forests purpose, so we don't have to pay for those control cells separately. Rick thinks there would be some on both forests (control cells) but these data roll up into the forest service and statewide estimates. Rick explained the sites with the less than 50% of the treated areas dropped, he thought maybe we could say cells 0-30% would be considered control, 31+% treated not controlled. RMBO said if we do 50/50 rule and there was a non-IMBCR system we could more accurately assign the points to the grid. There also could be a range: let's have those boundaries be dealt with by grids. Would have to verify that with Jennifer. If they are on the boundary go to next best grid. They would have to look at existing stratification on the AR. Lynne asked how we need to figure out how the AR is stratified? Do they look at that? Yes. David can look into that. Jenny would like RMBO's opinion on how we know some areas are treated, and can we have a sub-strata saying some of our treatment cells have been treated, others are slated to be treated. What if things change? RMBO said as these projects become accomplished, how do we make sure we're sampling them? It's a difficult question. Jenny suggested we consider building it in to the planning. RMBO hypotheses – we could re-stratify every year into known and potential treated areas. So within treatment strata there are 2 categories, and strata changes from year to year. It's expensive to do that every year. Other way would be every subset is a spatially balanced sample. Sample X # (say 40) every year. You would still have to redraw, as projects come on. That would mean some sites that you sample one year may not get sampled the next year. Steve thought we are looking for simultaneous treated/untreated areas. If we miss treatment unit then they are not controls then they're not treated data either. RMBO has been thinking we have polygons treated areas. Normal way to do that if you want to make inference to the project boundary with areas with treatments, and areas with eventual treatment. Sample areas that have been treated and sample areas that may be treated at a lower level. But you don't want inference to that polygon; there's a space associated with each area. Need to find a defined area. Rick said let's not get too in the weeds now, thinking more simply on treating same areas over time. Jenny's concern is after 10 years of hard work maybe only 11% of sites in treatment category were treated, and then 79% sites that were never treated. It would be harder to compare. RMBO will think about that. We may need to think about reassessing every year or every three years on where we are. Lynne brought up that habitat stratification could be an issue. But what about method for identifying dominant v co-dominant species in a stand. Do they have a criteria for that? No, in work they've done they present these associations at a few different scales. Can customize that based on vegetation classification. But you can build up those

associations in Landfire to have a vegetation feature that encapsulates what you want. Janlle confirmed that FS has vegetation layers that are much more refined than they could share with RMBO. Rick asks Janelle to eliminate sites that are reservoirs and our other categories.

3. When can RMBO have that done for their planning? Set up a working session with RMBO. When do they need samples drawn? Private landowner work; 80% forests; push to have samples by mid-April. He will have their GIS specialist make sure we have the slot for second week of April. Steve asked when we need to start getting bird surveys. RMBO said two time periods for each area; training early May – grasslands mid-May; then start to move up in altitude. Lower montane late May/early June. They found out AR and Pikes are not stratified. Steve asked if they will have recommendations on how many visits per plot? Their protocol is a single visit to the plot. Works nicely for distance sampling. You don't need a second visit. They get power from using data to establish detection function; for occupancy they work with folks at CSU and University of Montana; minute intervals. They can send that paper around. Pat Lakey 2012. Help from Jerry White and Paul Lucas. RMBO to email it to Rick or Lynne.
4. Tree squirrels can be detected. Abert's squirrel – sign survey. Tell us how we would survey Abert's. RMBO we haven't tried this approach yet. Has some merit; could succeed. Background – have done squirrel surveys by collecting the cues of a current between the point. Not a favored approach. He's thinking a cue survey around 16 points in a grid; an area search. Will still take away from the number – as they leave the point – time taken away from # of bird counts they could do. He's thinking how to get detection data would do an area search around the point; use a removal model. If no detection, redo that plot. If they find sign, they'd be finished and move on to next site; wouldn't have to redo it. If no detection, then redo it. They designed it so there are enough points that they were maximizing work done in a single morning. But in mountainous areas you can't always get to 16 points. In difficult terrain may be just 12. Jenny asked what size area would they consider. TBD a bigger site will increase the detection rate, but take more time. Also potential that all points do not need to be surveyed. Rick thinks we will try to integrate some of this knowing it may compromise some of the bird data. If we can get both tree squirrels with this protocol. RMBO will talk with Jake Ivan with RMNP. Great opportunity to explore some of these Abert's techniques.

#### 4) USGS Involvement

1. Refine our expectations. Rick wasn't thinking Tier 2 things. Steve explained he and Jenny would have some level of interest in USGS doing some of the monitoring that RMBO is not going to do. Steve thought USGS would have to find a new funding source to be a participant. Jenny talked about options: 1) new money in a contract from FS to USGS (maybe a student who would do the bulk of the work). 2) We all get a grant collectively. 3) Align proposed role with stuff USGS already does as part of its mission, so their time would be a "match." Rick wrote out the Core needs:
  - 1) Data stewards and analysts;
  - 2) Tier 1, non-RMBO monitoring,
  - 3) Tier 2 monitoring.

Jenny wonders if we should get an external grant. Not for #1 Rick said, but for 2 and 3. Lynne recalled that we agreed to put \$50k to RMBO sampling. Where are we going to get the money for #'s 2 and 3? Rick said year 1 it's all RMBO because we get points. Year 2, they don't do temporal analysis, etc.

2. They need to meet with veg folks and RMBO – should we change our next meeting date to April 22?
3. Lynne – we need to think about what if on the AR we are treating lodgepole, etc.

## Next Steps

1. **Felix** – Need more input from Jeff Underhill – Lynne said we need to talk to these folks and let us know how much of a cell is likely to be treated. He could refine some of these areas. Also include some collective discussion. By next meeting for sure!
2. **Janelle** –
  - Exclude cells with reservoirs. Look at FS veg spatial, look at primary and secondary veg type so we know. For all of the cells.
  - Exclude fire from past 15 years.
3. **Lynne** – Set up meeting with Rick, Lynne, Mark, Dick, Jeff – before meeting with RMBO (early April).
4. **Felix and Lynne** - Ask Jeff are they treating Waldo and High Park as “treated areas.”
5. **Rick and Lynne**
  - Set up meeting with RMBO in Fort Collins or Denver (mid April).
  - Remind RMBO to send Pat Lakey’s paper from 2012.
  - Get final cut SPA once they know final # from their leadership. Within probably 3-4 weeks to RMBO.
6. **Terra** – change April meeting to April 22.
7. **Jenny** – check to see if April 22 is available at her building for our meeting.
8. **Steve** – Look at Information Services at the USGS.
9. **RMBO** – send Pat Lakey’s paper.

## Next meeting

1. USGS involvement (Information Services – Steve to look at)
2. April meeting – if we get additional funds, talk about supplemental
3. Future meetings – how do we incorporate the need for data steward and analysis in addition to the monitoring
4. Work on Work Plan through 2015.