

## Colorado Bat Working Group Mtg

Oct 13, 2017, NPS/Ft Collins

In attendance: Kirk Navo, Toni Piaggio, Rob Schorr, Kristen Philbrook, Jenny Roberts, Jeremy Siemers, Tina Jackson, Christina Avena?, Mikele Painter, Steve Taylor, Dan Neubaum, Melissa Neubaum, Milu Karp, April Estep, Mike Sherman, Michelle Verant, Jaclyn, Marissa, Erica Crosby.

On Phone: Missy Siders.

*Italics refers to group decisions or recommendations.*

Members on the move- Roger has moved to OR w/ a new job. Katie Gillies no longer with BCI.

2017 WBWG conference/ Feedback: well accepted, accommodations good, good agenda/ variety of research updates, opportunity for follow-up during breaks. CBWG instrumental in organizing/running conference. 2019 WGWG conference will be in Tulsa, OK.

Key Work Items for CBWG: Bat Matrix needs to be updated.

**Revision of CO Bat Plan-** hoping to complete by EOY (end of year). Primary workload- decide on format (chapter authors were not consistent). Original format- use of bullets. Second option- more paragraph form. Also needed to add Energy and Disease Chapters to Plan.

Format Comments: \*Bullets are easier to read. \*Helps reader find distinct suggestions/points. \*Easier to find info quickly- likely more useful for field personnel w/ limited time. \*Much easier to use similar format for future editing.

Forest Chapter: ex. of alternate format. Original plan chapter out of date- needed new introduction to current research, especially related to CO issues/habitat.

*Group agrees format should be consistent and fit the needs/content of all chapters.*

*Most people agreed bullet format is preferred.*

Everyone should review DRAFT sections for 1) glaring errors, 2) significant missing pieces/issues.

Citations: \*Last year agreed all citations would be at end of document. \*Could also put citations at end of each chapter- makes document read much longer. \*Could put citations at end, but grouped by chapter. \*Lots of duplication of citations between chapters, could list at end w/ chapters they were used in. \*If document intends to have downloadable links for references, should be associated with the Chapter that used the literature. \*Note: chapters vary between using new references, reusing old literature, and deleting others. Some old references are difficult to find (ex. old caving magazine articles).

*CBWG Recommendation: Treat each chapter as if it is a separate stand-alone document- w//in one complete plan.*

2 New Chapters for development: Energy- (Roger- did a lot of initial work). May need help to finish this chapter. Kristen volunteered to help. Urban – In progress, not yet given to board for review. Amy working on last review. If she can't get to it- Kirk/Dan will try to wrap it up. (Note: Urban chapter received from Amy that evening!)

Photos: Should we include in plan? (i.e. bat grates, species ID., climbing pics) \*make sure illustrations/photos are clear. \*should be selective of what is included & what it represents. \*may be useful to include examples of habitat. \*ex. range section- stock tanks, ramps, fences. \*Swabbing techniques on western bats.

*Send Kirk photos/illustrations by Mid-November. Any pictures with hands must be wearing gloves. Can request photos or suggest ideas via email to whole group.*

*Decision: don't include list of partners from original plan. (minimal added value, probably incomplete, not sure of purpose/need)*

Melissa N. working as editor to clean up plan. Still planning for an EOY release.

Species Profiles: Some species completed, waiting on 8 remaining species profiles.

Consistent Formatting discussion- Originally followed format/content from WBWG plan. In some cases, the heading/content has changed. Ex. Status: should focus on CO (not national or rangewide perspective- also easier not to track other states' info.)

May have to review/tweak each section and content for better flow- editor will help make it one voice. Milu followed Armstrong format and content seemed to flow better. Jeremy will take first stab at reorganizing existing species profiles into consistent format, Melissa will conduct final reviews for consistency. Tina also willing to help.

*Each Chapter/Species profile should list: 'as of date'. Species profile should also include SWAP ranking, CNHP ranking, FS/BLM sensitive species status, FWS ESA ranking.*

*Species Profiles will be posted on CPW & CBWG Bat websites. Paragraph will be developed for species profile/s discussing process, author, limitations of data, date. Will also direct readers to WBWG website for additional info and broader perspective.*

Option to format CO Bat website so user can send email w/ substantial comments to webmaster. Current species info on CO Bat website will be replaced by species profiles and will include photos to aid in species i.d. Milu's ex. format write-up will be sent to assigned species leads for use in pending profiles. If individuals can't finish the species profile, let Kirk know. Kirk will collect work done to date. Rob & Milu have volunteered to help with unfinished products. Spp still to be completed: LANO, PESU, MYLU, IDPH, TABR, EPFU, MYCI, MYCA. Option to add species profiles to plan as appendix. But focus is to keep plan separate and post profiles on website/s. Should be easier to meet Plan deadline of EOY.

Authorship & Status Fields: Use format below:

Prepared by: original authors (date)

Updated by: author (date)

If completely new write-up, only use new authors.

**Maintain CBWG board:** Original purpose of board was to update plan. Generally, CBWG has a chair and secretary. No mission statement. Board would need unifying goal to work on. Helpful to have multiple people to assist w/ any workloads. General CBWG efforts: 1) Create products to facilitate CO Bat Conservation, 2) Professional opportunity to meet and discuss issues/ management, 3) aligned with WBWG.

*Board will develop a unified mission/goal for CBWG (separate mtg), and formalize membership & mailing lists. Kirk will provide list of board members (intent to represent multiple agencies /organizations).*

WNS update: Presentation by Michelle/NPS.

WNS Nat'l Plan includes: \*Disease Mgmt. \*WNS Surveillance. \*Funding.

\*NPS- Nat'l Bat Week Strategy/Social Media Effort, bat webinars well received.

\*Map of WNS Status- includes 1 county in WA (additional reports from rabies lab this spring) & eastern NE, TX. \*More species in west share characteristics of eastern bat species. Plan for worst case scenario- if WNS documented. Currently 9 spp confirmed w/ WNS – 2 added this spring. 5 spp detected w/ Pd. Historically, when Pd found in eastern cave- WNS/bat loss is detected w/in 2 winters. Anticipated progression may depend on similarity of cave sites/microclimate.

\*WNS response for Federal/State/Tribes (Nat'l Plan)- integrates with response from state, regional and Canada strategies. Sets up working groups – communication, technical information exchange, diagnostics, disease surveillance/mgmt., conservation recovery etc. (all are open groups – looking for more western representation)

WNS.org (FWS coordinated)- more products available on this site. Site is difficult to navigate-working to make it more user friendly.

Strategic Approach to disease mgmt.: \*Lays out specific regional strategies, why some species persisted; where disease occurs; preventative actions. \*Key assumptions for WNS mgmt. WNS requires a species/location specific response, difference between western/eastern spp- expect similar impact, can't treat every bat affected. \* Mgmt focus on limited spread: Decontamination protocol/cave access, transportation agency guidance, rehab guidance, antifungals, vaccine, habitat manipulations, genetic manipulations (worry about effects to other micro- organisms)

Decision Analysis – USGS working with FWS

Vaccine similar to SPV efforts. Research in 2 spp captive bats- difficult to interpret results. Field trials are difficult to conduct (treated bats 'escape' mine locations).

Decontamination: hot water immersion, hydrogen peroxide, isopropyl alcohol. Subterranean vs terrestrial equipment. Modified Decontamination (WA state)- atypical bat roosts (talus, bridges, bldgs.)- based on exposure risk. Abbey Tomin ? is contact.

Show Cave guidance: in prep. Guidance & tool kit for show caves & mine managers.

NPS- Lava Beds- educational sign/decon footwear (hydro peroxide- walk thru)

*Board should reach out to Show Caves in CO- use relationships to share WNS info. Recommend combining decontamination platform costs for all show caves into one small grant – Boot brush w/ walkover mat and educational sign could be cheaper option- especially for walk-thru cave.*

Pd is wimpy- does not survive in daylight. <5 caves exist in CO (i.e Cave of the Winds).

Discuss with cave managers – low/no cost options & need.

Surveillance Methods: WBWG conf call- lengthy discussion about researchers wanting to come in to caves- efforts/access not well coordinated. (Julie Reeves also brought up on regional monthly WNS call) States more lenient on WNS protocol- attract more researchers. TX/MT bat researchers don't realize western bat issues- is it worth disturbing a sensitive bat spp in winter hibernacula when the fungus/disease has not been detected in area yet? TX representative is trying to establish a rule set for coordinating research activities. Monitoring and research should be done together to reduce site visits. Also need to coordinate with CPW & land administrator.

*Board/CBWG REVIEW CO's next steps IF/WHEN WNS is documented in/near state.*

If anyone finds an 'unusual' bat – send to Tina/CPW- do not send directly to a Nat'l lab for testing. Will shorten process and CPW needs to track all lab samples/specimens. Don't want to be blindsided by Press Release of first WNS detection. Also, will coordinate w/ affected agency administrator. CPW wants to create a database with all samples/swabs/bats-(positive/negative/ location/spp etc.) Everyone handling a bat should follow the species collection permit protocol. Rehabers & State Rabies lab also need to report specimens to Tina ASAP- for WNS & specimen reports. Tina will reach out to both as a reminder. CBWG & CPW can assist WBWG (as lead for WNS surveillance coordination efforts) – Tina will touch base with Julie Reeves.

Nat'l WNS Surveillance Plan- focuses on eastern states (priority of winter surveys, priority roost sites) – all could be impactful to sensitive species in west. Hierarchy based on NWHC survey data (largely east where WNS detected). Better options in west might include Environmental Sampling/ maternity roost sampling/ post winter hibernaculum. All are options in Eastern plan- but not priority. All would require sampling permit and Tina will match criteria to concerns with local spp/conditions.

Current Hierarchy: \*Where WNS detected \* Hibernacula \*spring emergence and hibernacula \*maternity colonies (early spring) \*Capture locations (early spring) \*environmental sampling \*passive surveillance

Winter Hibernacula sampling – disturbance concerns in west (disturbance of sensitive spp in winter), not reflected in Nat'l preferred protocol.

*Consider all surveillance options in Nat'l WNS Strategy- however, CO/CPW will tailor surveillance methodology most appropriate for spp/location & threat in criteria in the state collection permit. Encourage biologists/researchers to seek assistance from local CPW & Tina to identify appropriate methods. Website will direct researchers to email agency for guidance.*

Other questions: Is it more effective to trap in winter and reach multiple spp- then to avoid winter hibernacula to avoid disturbing Townsends? Trade-off: is early detection more imp't than conserving local spp, when there is no known cure & no known occurrence?

Surveillance is guidance- we have flexibility to adjust thru the collection permit. Also have CO guidance in WNS state strategy & monitoring guidance. Tina is updating CO doc's w/ new info. State bio's not swabbing a lot of bats- no reason at this point to impact the bats. How do we get word out to agencies/researchers to recognize different state strategy (proactive vs reactive)?

Note: ability to detect fungus from swab in summer is low?

This discussion (surveillance methods/hierarchy) could affect funding options for projects/research.

*Board will consider/recommend surveillance strategy specific to CO.*

Remaining agenda Items: Tina & Dan plan to write-up CPW winter acoustic monitoring report/results.

Ft Lewis College Project: update from Kirk. Detected cold loving fungi for big brown bats in summer. Poster/paper will be sent out to group.

WBWG started collecting dues in 2017. Primary benefit is support of bat conservation & vetting status. How should we manage paid vs non-paid members? Currently maintain separate email lists. Milu will follow-up with Katie on how to track CBWG paid members (WBWG responsibility).

New chair for CBWG: Kirk has been chair/co- chair for 14 years- time to pass the torch. Dan Neubaum has been recruited and is willing to step in after Jan 1<sup>st</sup>. Kirk & Dan will transition, board can establish a formal process for future.

Agency Updates: DRMS (Erica Crosby)- part of DNR, closes mines on fed/state/pvt in CO. ~300 mine closures/year. ~23,000 abandoned mines in state (1970's – working inventory). Developed better tracking of existing bat grates- doors only installed if further monitoring is desired. 2015/16 – 116 bat grates (~1/3 of closures on audits) were installed. Different closure types for shafts. Much of the data/recommendations were assessed by Kirk or Jason Corbin (BCI). Uranium mine site visits are tied to DOE – may identify additional grate closures. Contract in place thru 2022. Are seeing some vandalism issues/cut bars. Need permission from land owner to install & land manager should be maintaining sites- but DRMS will maintain if find an issue. Follow protocol for WNS to install grates. Also conduct a TE/other spp evaluation- ex. no closures during bear hibernation. If no bat grate is installed- the mine is sealed. Try to leave small opening for critters to escape.

BLM: (Robin Sell for Missy Siders) AML work has been completed in UFO (Uncompahgre FO), now focusing on TRFO (Tres Rios FO) in near future.

Rock Cr/Paradox Mine update: Impt winter hibernacula for Townsends. FO submitted an application to withdraw mine- but claim was filed. No active claim on site now, so FO is pursuing withdrawal. Support letter from CPW is in file. Process: if accepted/approved by Asst Secretary, area will be segregated for 2 years while full analysis is completed. Appropriate NEPA and a mineral evaluation report will be completed. The Secretary will then decide to approve the final withdrawal (only about 2 acres). If approved, the site will be withdrawn from mineral entry for 20 years. Dan mentioned the monitoring at this site has shown an increase from about 60 bats in 2011 to 92 bats in 2017, so it is being used consistently.

CRVFO (CO River Valley FO) has also been supporting bat efforts- both internal/external surveys of cave & mine sites by CPW & the caving community. Radio tracking little brown bats from known maternity sites to potential winter hibernacula. Acoustic monitoring at Anvil Points mine/ Claystone Cave. 27 internal surveys at 15 CRVFO sites were conducted between 2011-2016. IF BCI is conducting bat surveys on BLM lands- please forward reports to CPW/ Dan Neubaum to add to monitoring info. Robin sent reminder email to BLM biologists (10/14).

ALSO: Remember that in about 10 years (2026) the withdrawal of 3 mine sites on the west slope for Townsends maternity roost habitat on BLM will be back for consideration. Robin will check if the lands section will be notified when that withdrawal ends- for consideration of need/application for another withdrawal for the area.

***Update from BLM: The Lands program runs an annual report of withdrawals and expiration dates. Due to the reason for withdrawal, they will reach out to wildlife program 3-5 years BEFORE the withdrawal expiration (2026) to ask about future expectations. Since the wildlife program would like to continue to withdraw the mine sites from mineral entry to protect the bat roost sites, we will begin full analysis of the withdrawal (NEPA & current mineral evaluation) with the expectation to have it approved by the Secretary close to, but before the expiration date for another 20 year withdrawal period. It is extremely important to include 1) any monitoring reports to demonstrate bat use and need for this protection, as well as, 2) any connection to economics (hiring people to conduct bat monitoring or benefit to local communities) AND 3) connection to prevention of WNS spread into sites known to be occupied by bats (disease prevention) – in the subsequent analysis and application for a new withdrawal. May be helpful to start gathering this info now.***

CPW: (Tina, April, Mike, Dan) CPW is working with the rabies lab/rehab centers. The education section is updating Bats of CO book and asking for potential photos by 2018. Also updating species profiles (scheduled for this winter). Dan is improving potential range maps of species and will include actual shape files (based on telemetry data, observations, and historic records/journals). Also using Basinwide vegetation maps. Using contract w/ CNHP to conduct NA Bat summer bat surveys. Requested WNS funding, Ft Lewis research, NA Bat (5 yr request)

Mike – working with FS bio's in the field. Boulder Cnty interested in bat monitoring, NRCS/Aphis has high tech equipment – identified 39 Townsend's on wall using infrared binoculars w/ camera/photo capability (\$60,000).

April- 9 NA Bat routes; conducted bio blitz – 2 nets in 1 area that had water.

Dan- worked with Jeremy – track pit tags in Elephant Mtns (all spp used rock crevices for maternity sites). CDOT watchable wildlife site (bridge?) near GJ. Swarming data/models for last few years (on Flat tops). Finished work at CO Nat'l Monument – some on climbing routes. Lance is tracking 25 bats/roost sites at Castlewood Canyon State Park – big browns, and Townsends. CPW asking for any observation data to help in effort.

USFS – Committed to the success of the NA Bat program. Funding went to cave monitoring efforts on WRNF. Hubbard cave grates 3 large openings. Provides winter hibernacula in CO on FS. Caver registration program in place- small use on San Isabel NF. Counts conducted at Leadville Fish Hatchery (~300 bats) -had seen decline earlier. Near historic facility & lake. Bats were using a barn, but when reroofed- the bats moved.

NPS- Project proposal at Black Canyon – working with CPW. Contact Michelle if need help in working w/ local parks on bat projects. Mike Wrigley (hoping to fill his old position/regional biologist by EOY)- nothing to add for group. Bats in NPS- species richness map/list by park. FY18 funds for WNS- allocate base funding to project proposals at parks. None are in CO. Funding is available. Rocky Mtn NP – needs/encourages bat surveys, but don't have staff/equipment to do themselves. Higher elevation bat studies would be worthwhile to conduct. Sand Creek would be good potential WNS study site. Front Range Community College interested in NPS study proposals due in early Jan. Michelle coordinates programs – can help guide parks.

Kirk – project with Jenny – Ft Collins Natural Areas program. Netting – not ideal sites, min. data. Good acoustic sites/data – report is in the works. Found a good roost site (treatment facility (1910 era), abandoned in 1980's – hope for protection efforts. Lit'l Bowns- sampled mid-Aug (could have missed other species). Still appears to have electrical on-site. Possible pit tag opportunity.

Jeremy- NA Bat monitoring plan (2015): General protocol- Acoustic monitoring \*national grid- 10KMx 10KM \*Spatially balanced \*2-4 detectors per 4+ nights of recording \*Stationary vs Mobile transects (no mobile transects in CO- possibility in future- post WNS or pvt land use) Mobile transects are not intended to monitor colony bats.

May focus efforts in future where anticipate impacts (i.e. proposed wind farms)

Summaries:2014-2017 (6-50 stationary transects). 2016 stationary grid cells- working thru local DWMs for access. Monitor same sites each year. Min. vandalism to date. (18 cells on BLM, 14-USFS, 16-Pvt, 11- State, 1-FWS). Analysis protocol: Batch classification- Sonobat. Manual vetting of species – produce voucher calls. Future analysis – occupancy, detection probabilities. CPW/CNHP/BLM/FWS – collected data. Local landowners appreciated summary of species on site. FS nationally embraces NA Bat- sends out funds to Region/Forests, but WO doesn't

understand how specialized these surveys are. Rick T. working on best way to spend money. Some limitations to acoustic range per acoustic equipment & potential species monitored.

May be able to eventually add grid points (for additional volunteers, bio's, others) to collect data. Would need to be simplified – even retrieving detectors in remote locations is helpful.

Rob- Steamboat Colony monitoring update: maternity colony (Lit'l Brown Bats) 2 colonies- since 2014. Pit tags - # individuals/night visiting. Peak= .150 individuals per night at 1 site, 1300 individuals tagged between 2 sites. Carpenter Ranch used later in year (Aug), Radar Ranch (used earlier- June)- about 30 mi apart. Now have continuous source to read pit tags. Pit tags are relatively permanent. Missed 2017 data collection-funding source timing issue. Goal to monitor summer roosting bats. Telemetry data: of 22 bats, 20 were repeat readers, 2 disappeared. Overall some sites are preferred (possibly due to good microclimates) Any potential winter roosts – none known. Want to trap individuals late & track to winter sites. Telemetry only good about 3 weeks.

Climbers for Bat Conservation: recruiting climbers to share info that might lead to new roost sites. Access fund: fights to acquire/maintain access for use. Now interested in bat conservation efforts- request put on website (modeled after 'access raptor closure program'). Mtn Project: website purchased by REI, wanted to do article in magazine on program. Provide some link to provide feedback/observations from their climb/hike.

Also video being done- climbing communities efforts toward bat conservation. Denver Post article (w/ Rob Schorr)- good press. Some climbing communities worried about closing routes due to bats- we must first develop a common goal. (avoid mistrust) We don't anticipate agencies forcing closures. CPW/ climbing community want to keep open lines of communication. Most climbers avoid areas with big roost sites (safety).

Bat Blitz : 2017 update- J Canyon ranch/SE part of State. Lots of cancellations- ~50,000 ac TNC lands. Nice facilities- possible return option for future. More people watching than bats located. Demonstration for school class. Lots of activity above, but poor trap sites – only caught 1 bat. Great petroglyphs. Lots of water options/ difficult to net or funnel bats.