



REVITALIZING THE REGENERATIVE CAPACITY OF DAMAGED ECOSYSTEMS

NEW MEXICO BEAVER COALITION Meeting Notes

Meeting Date/Time: February 8, 2024, 10:00-11:30

Next Meeting: April 4, 2024, 10:00-11:30 via Zoom

The purpose of the New Mexico Beaver Coalition is to bring together a diverse group of state, federal, tribal, non-profit, for-profit organizations, and individuals to share information, coordinate activities, and identify common interests and opportunities to work collaboratively to expand the distribution of beaver across New Mexico.

- I. Introductions (posted in the Chat, see Appendix below)
- II. Proposed Operating Principles were reviewed (from The World Café, <https://theworldcafe.com/>):
 - Create hospitable space;
 - Explore questions that matter;
 - Encourage each person's contribution;
 - Connect diverse people and ideas;
 - Listen together for patterns, insights and deeper questions;
 - Make collective knowledge visible.
- III. Common themes from kick-off meeting were reviewed:
 - Habitat restoration activities to facilitate the expansion of beaver populations;
 - Improved policies and procedures to facilitate beaver management programs, i.e. beaver relocation, habitat management plans and beaver coexistence;
 - Advancing education on the benefits of beaver;
 - Addressing conflict reduction and beaver-human coexistence strategies; and
 - Providing technical guidance to support incorporation of the consideration of beaver into projects.
- IV. Proposed Working Groups and potential objectives for each were discussed, see below:
 - a. Beaver Habitat Restoration
 - i. Documenting restoration strategies;
 - ii. Establishing habitat restoration standards of practice;
 - iii. Providing technical guidance/workshops; and
 - iv. Identifying and compiling funding opportunities.
 - v. Evaluate existing models.
 - b. Beaver Relocation and Coexistence Strategies
 - i. Identifying existing policies;
 - ii. Facilitating agency and stakeholder coordination;
 - iii. Promoting beaver distribution and habitat mapping tools; and

- iv. Evaluating approaches from neighboring states and established frameworks.
- c. Education and Outreach
 - i. Describe current approaches and best practices including sample projects;
 - ii. Identify and record benefits;
 - iii. Organize educational events; and
 - iv. Assist with preparation and cataloging of presentations.
- d. Discussion

Discussion of items listed under IV.a.:

- Leslie Hay, USFS suggested that working groups consider how work would be divided between organizations based on their mandates and roles.
- Dr. Jennifer Frey, mammalogist from NMSU introduced herself and expressed interest in partnering or assisting the group with science aspects of the work, particular concerning monitoring or science to support management priorities and documenting impact of the work and contributing to discussions.
- A need for understanding current distribution of beaver and beaver habitat on the Santa Fe NF was discussed and it was mentioned that beaver are present in all the major drainages of the Jemez Mtns. It was mentioned that Hermit's Peak Watershed Association should be contacted for information about beaver on the Pecos/Las Vegas District.
- A representative from the Upper Pecos Watershed Association listed in the chat that there are 4 known population of beaver in the Pecos Canyon area, upstream by Cowles, downstream by Monastery Lake and two downstream by the Pecos National Historical Park.
- Posts in the chat regarding beaver distribution in NM, there are some historic reports of 60,000 beaver being removed from the Sangre de Cristos in the first few years preceding US 'ownership' of the region. There are a lot of good, searchable documents that cover historic texts from the 1820's. Dr. Peter Stacey's Restoration Ecology course at UNM, he claimed that historical beaver trapping records showed that almost every stream reach in the West that met geomorphologic criteria had beaver dams.
- Existing beaver habitat modeling efforts were discussed, and a model developed by Defenders of Wildlife was linked in the chat, see Appendix. A topic was added to the list for Workgroup A to evaluate existing models (IV.a.v. added).
- Dr. Frey shared in the chat a study she and a graduate student conducted to characterize vegetation needed to support beaver dam building and indicated that it could be refined to provide a more rapid assessment of

site suitability. The study further found that areas with heavy livestock grazing would not have vegetation needed to support beaver, which informs considerations for beaver restoration.

[Livestock grazing limits beaver restoration in northern New Mexico](#)

- Dr. Frey also shared a link to a very recent and important study related to beaver recovery following wolf reintroduction in Yellowstone NP, which revised the prior narrative. [Does restoring apex predators to food webs restore ecosystems? Large carnivores in Yellowstone as a model system.](#)

“This research experimentally tested the hypothesis that restoration of wolves to Yellowstone caused a trophic cascade that caused elk to decrease, causing willows to increase, causing beavers to increase, and therefore restoring the ecological system. They found this was not the case. Rather, they found that the conditions that allow beavers to occupy a site (ample tall willows), are caused by beaver damming activity itself, and that simply reducing grazing is not enough to restore stream and riparian function.

Streams that have already converted to an alternate, elk-grassland, state (e.g., many of the streams in the Gila NF, such as Little Turkey Creek and trending for Willow Creek), are resistant to going back to the beaver-willow state, unless there is total elimination of grazing by fencing, or construction of dams. I think this has very important implications for riparian/stream restoration projects in that it suggests that if you are not totally excluding grazing and are not building beaver dam analogs, you are not likely to see the system return to its original state and it is likely to perpetually remain an elk-grassland, which is not good habitat for fishes and many other species of wildlife. In cases where fencing is not feasible or desirable, beaver dam analogs seem essential for stream restoration.”

Discussion of items under IV.b.:

- There was a request to hear more about the Bandelier NP beaver reintroduction project at a future meeting.
- It was mentioned in the chat that since NMDGF manages the wildlife, it would be amazing to get a statewide consistency in how they can help with conflict resolution, especially funding for installation and the labor for maintenance of beaver deceivers and other solutions that allow for beaver to stay in place, as opposed to their removal via lethal means, whenever issues arise. This would provide for a statewide consistency that contributes to restoration success at the larger scale.
- A message in the chat recommended perusing Utah State University's Restoration Consortium...they have a lot of good tools and literature. And if you are good at GIS, all models are open source.

- A beaver habitat modeling project funded by NMED and completed in 2013 by WildEarth Guardians was discussed. Defenders of Wildlife revised the model in 2020.

Discussion of items under IV.c.:

- It was mentioned that an important need is to provide a database or set of resources for beaver information.
- The Santa Fe NF is partnering with Riversource to provide environmental educational outreach. They are helping educate school kids about the NM jumping mouse but could be an avenue to reach more students.
- There is a need for outreach and education to different audiences and the delivery methods might be different.

V. Meeting Wrap-up

- There was agreement that the next meeting will be convened on April 4th.
- There was a request for volunteers to help lead each of the 3 workgroups and several participants volunteered to help.
- This included: Chris Smith (Group B), Steven Fry (Group B), Nav Kahlsa (Group C), Toner Mitchell (Group B or C), Leslie Hay (Group A or B).
- **The next meeting will include break-out sessions for each of the groups.**

Tentative agenda items for Working Groups during the meeting on April 4th:

- Identify strategy for scheduling of meetings;
- Share and discuss Working Group objectives;
- Bring ideas and/or share operating frameworks for the group to consider;
- Consider how to best share information and documents.

VI. Appendix

10:00: From Karen Menetrey, Director of Ecological Opportunities, Rio Grande Return

10:00 From Cecil Rich, Director Of Resilient Waters, Rio Grande Return

10:00:27 From Shinya Burck : Good morning everyone! I am sitting in today for Sage Dunn at the Taos BLM field office.

10:00:51 From Karen Menetrey : Good Morning!

10:02:11 From Andrew Ellis, USFS (he/him) : Andrew Ellis (he/him)
 USFS, Wildlife Biologist for Sandia and Mountainair RD
 10:02:14 From Nav Khalsa : Nav Khalsa (she, hers) Santa Fe County,
 10:02:20 From Toner Mitchell : Toner Mitchell Trout Unlimited
 10:02:20 From Reid Whittlesey : Reid Whittlesey, Rio Grande Return
 10:02:21 From Sarah Milligan : Sarah Milligan, Natural Resource
 Program Manager at Bandelier National Monument. Good morning!
 10:02:22 From WildEarth Guardians, Wildlife Program : Chris Smith,
 WildEarth Guardians
 10:02:29 From Jaclyn Behringer : Jaclyn Behringer, Santa Fe Watershed
 Association
 10:02:35 From Jack Marchetti : Jack Marchetti - NM DGF
 10:02:36 From Steven Fry - Amigos Bravos : Steven Fry - Amigos Bravos
 10:02:38 From crystalpitcher : Crystal Pitcher Carson NF
 10:02:42 From Michael Dax : Michael Dax, Wildlands Network
 10:02:43 From Katie Sickmann, National Forest Foundation : Katie
 Sickmann, National Forest Foundation
 10:02:45 From Aidan Manning (They/Them) : Aidan Manning, New Mexico
 Wild
 10:02:46 From Monica Harmon : Monica Harmon (she/her) Santa Fe County
 Open Space
 10:02:49 From Cody Dems (he/him) : Cody Dems - Forest Stewards Guild
 10:02:54 From Martha Cooper : Martha Cooper, TNC
 10:03:02 From BradleyAllen : Brad Allen, Wildlife and Fisheries
 Technician,
 10:03:02 From thomastorres : Thomas Torres, USFS, Santa Fe NF,
 Wildlife Biologist
 10:03:14 From Becky Kirby, USFS : Becky Kirby, USFS R3, Regional
 Wildlife Ecologist
 10:03:15 From Stephanie Siemek : Stephanie Siemek (She/her) -USFWS
 Division of Water Resources, Hydrologist
 10:03:16 From BradleyAllen : Smokey Bear RD, Lincoln NF
 10:03:22 From Nina Eydelman - Animal Protection New Mexico : Nina
 Eydelman, Animal Protection New Mexico
 10:03:22 From JoshuaBrunk : Josh Brunk USFS, Assistant wildlife bio
 for Sandia and Mountainair RD
 10:03:33 From Diana Meza : Diana Meza - Santa Fe NF - Wildlife bio
 10:04:14 From Esther Nelson : Esther Nelson-USFS Regional T&E Aquatics
 Biologist
 10:05:16 From Ron Loehman : Ron Loehman
 10:05:32 From Ron Loehman : Ron Loehman
 10:06:07 From Upper Pecos Watershed Association : Magda Matecka, Upper
 Pecos Watershed Association
 10:06:09 From Ron Loehman : Ron Loehman, Conservation Chairman. New
 Mexico Trout
 10:14:32 From Jennifer Frey : I am interested in assisting with any of
 the science aspects (including monitoring) of beaver restoration,
 including assisting with study design, implementation, and interpretation
 to help make sure there is scientifically robust data that continues to
 inform best management practice.
 10:15:42 From Andrew Ellis, USFS (he/him) : Reacted to "I am
 interested in..." with ,ù\$Ô[]è
 10:17:11 From Monica Harmon : Jennifer could you introduce yourself?

10:17:21 From Diana Meza : Reacted to "I am interested in a..." with ☹️

10:18:01 From BradleyAllen : Reacted to "I am interested in a..." with ☹️

10:18:14 From Andrew Ellis, USFS (he/him) : Reacted to "I am interested in..." with ☹️

10:18:15 From Andrew Ellis, USFS (he/him) : Removed a ☹️ from "I am interested in..."

10:22:25 From Diana Meza : oops sorry!

10:22:32 From Michael Dax :
<https://www.arcgis.com/apps/webappviewer/index.html?id=d77ed2b5d1754cc58ef8b660087dd969&extent=-12622333.3839%2C3728743.8311%2C-11056903.0446%2C4474769.2272%2C102100>

10:23:14 From Jennifer Frey : <https://www.ecotoneinc.com/wp-content/uploads/2020/12/small-et-al-2016-restoration-ecology.pdf>

10:23:21 From Andrew Ellis, USFS (he/him) : Nice! Was about to drop that in the chat!

10:23:39 From BradleyAllen : Reacted to "<https://www.ecotonei...>" with ☹️

10:23:46 From thomastorres : Reacted to "Nice! Was about to d..." with ☹️

10:23:51 From thomastorres : Reacted to "<https://www.ecotonei...>" with ☹️

10:23:55 From Monica Harmon : Reacted to "<https://www.arcgis.c...>" with ☹️

10:25:32 From Andrew Ellis, USFS (he/him) : Reacted to "<https://www.ecoton...>" with ☹️

10:25:33 From Leslie Hay, USFS : Good question Thomas!

10:25:34 From Andrew Ellis, USFS (he/him) : Reacted to "<https://www.arcgis...>" with ☹️

10:29:56 From Karen Menetrey : Reacted to "Good question Thomas..." with ☹️

10:30:00 From Karen Menetrey : Reacted to "<https://www.ecotonei...>" with ☹️

10:30:07 From Karen Menetrey : Reacted to "<https://www.arcgis.c...>" with ☹️

10:30:32 From Upper Pecos Watershed Association : For some reason I cannot unmute, but to address question Thomas raised. There are 4 known population of beaver in the Pecos Canyon area, upstream by Cowles, downstream by the Monastery lake and two down the stream by the Pecos National Historical Park.

10:30:52 From Jaclyn Behringer : Reacted to "For some reason I ..." with ☹️

10:31:07 From Karen Menetrey : Thanks UPWA!

10:31:20 From thomastorres : Reacted to "For some reason I ca..." with ☹️

10:31:33 From Diana Meza : Reacted to "For some reason I ca..." with ☹️

10:32:25 From Jennifer Frey :
<https://esajournals.onlinelibrary.wiley.com/doi/10.1002/ecm.1598?fbclid=IwAR3j5wjhlfc-7bN7E5oJeHt58QoMnziepHFNeXCxclv8acy7VzpURsfZDq4>

10:33:53 From Jennifer Frey : I wanted to share a new paper that has important implications for stream restoration (link above) This research experimentally tested the hypothesis that restoration of wolves to

Yellowstone caused a trophic cascade that caused elk to decrease, causing willows to increase, causing beavers to increase, and therefore restoring the ecological system. They found this was not the case. Rather, they found that the conditions that allow beavers to occupy a site (ample tall willows), are caused by beaver damming activity itself, and that simply reducing grazing is not be enough to restore stream and riparian function.

10:34:11 From Jennifer Frey : Streams that have already converted to an alternate ,élk-grassland,À state (e.g., many of the streams in the Gila NF, such as Little Turkey Creek and trending for Willow Creek), are resistant to going back to the beaver-willow state, unless there is total elimination of grazing by fencing, or construction of dams. I think this has very important implications for riparian/stream restoration projects in that it suggests that if you are not totally excluding grazing and are not building beaver dam analogs, you are not likely to see the system return to its original state and it is likely to perpetually remain an ,elk-grassland, which is not good habitat for fishes and many other species of wildlife. In cases where fencing is not feasible or desirable, beaver dam analogs seem essential for stream restoration.

10:38:40 From Ron Loehman : Jennifer: Can you give us the literature citation?

10:39:38 From Nav Khalsa : Agreed Jennifer, this is why we need standards!

10:41:38 From Adam Burnett, Beaver Institute : Sorry! Unmuted accidentally and was talking to my cat!

10:41:51 From Karen Menetrey : It happens.

10:42:00 From Leslie Hay, USFS : Reacted to "Sorry! Unmuted accid..." with ,ù\$Ô[]è

10:42:17 From Leslie Hay, USFS : Reacted to "I wanted to share a ..." with □üëç

10:46:21 From Karen Menetrey : nmbeaverproject.org

10:46:29 From Cecil Rich : NMbeaverproject.org

10:47:07 From Andrew Ellis, USFS (he/him) : Reacted to "Agreed Jennifer, t..."

10:48:28 From Sarah Milligan : My audio doesn't seem to be working...

10:48:38 From Sarah Milligan : Sorry!

10:50:01 From Sarah Milligan : I'm happy to chat with anyone if they are interested - sarah_milligan@nps.gov is the easiest way to get ahold of me

10:52:39 From Leslie Hay, USFS : It would be great to learn more about the Bandalier beaver project at a future meeting.

10:52:49 From Jack Marchetti : I'll ask around at DGF to see whether HSP funds can go towards beaver coexistence

10:52:58 From Karen Menetrey : Reacted to "I'll ask around at D..." with □üëç

10:53:11 From Karen Menetrey : Reacted to "It would be great to..." with □üëç

10:53:19 From Karen Menetrey : Reacted to "I'm happy to chat wi..." with □üëç

10:53:31 From Diana Meza : Reacted to "It would be great to..." with □üëç

10:53:45 From Monica Harmon : Reacted to "It would be great to..." with □üëç

10:54:21 From Andrew Ellis, USFS (he/him) : Basically - since NMDGF manages the wildlife, would be amazing to get a statewide consistency in

how they can help with conflict resolution, especially \$ for installation and the labor for maintenance of beaver deceivers and other solutions that allow for beaver to stay in place, as opposed to their removal via lethal means, whenever issues arise. This would provide for a statewide consistency that contributes to restoration success at the larger scale.

10:54:32 From Matt Keeling : Reacted to "It would be great to..." with ☐üëç

10:55:08 From Monica Harmon : Reacted to "Basically - since NM..." with ☐üëç

10:55:17 From Jaclyn Behringer : Reacted to "Basically - since ..." with ☐üëç

10:56:14 From BradleyAllen : Peruse USU's Restoration Consortium...they have a lot of good tools and literature. And if you are good at GIS, all of their models are open source

10:56:36 From Monica Harmon : Reacted to "Peruse USU's Restora..." with ☐üëç

10:56:56 From BradleyAllen : <https://www.usu.edu/restoration/>

10:57:08 From Toner Mitchell : Sorry, it really won't let me unmute! So frustrating.

10:57:09 From Cecil Rich : Reacted to "Peruse USU's Restora..." with ☐üëç

10:57:24 From Diana Meza : The Santa Fe NF is partnering with Riversource which is an environmental educational outreach group. We are specifically having them help us educate schools about jumping mouse but could be an avenue to reach more students.

10:57:26 From Andrew Ellis, USFS (he/him) : Follow up to my above statement - perhaps there is an opportunity to convince them to set aside a portion of their HSP funds (which they are eager to spend lately on watershed projects) for this effort.

10:57:31 From Leslie Hay, USFS : Great points Andrew. We may want to discuss that further in working groups?

10:57:55 From Andrew Ellis, USFS (he/him) : Reacted to "Great points Andre..." with ☐üëç

10:58:02 From Leslie Hay, USFS : Reacted to "The Santa Fe NF is p..." with ☐üëç

10:58:22 From Jackie Corday, Corday Natural Resources Consulting : https://www.americanrivers.org/wp-content/uploads/2024/01/LTPBR-Science-Report-Version-2.0-Jan2024_FINAL2.pdf

10:58:33 From Jaclyn Behringer : Reacted to "The Santa Fe NF is..." with ☐üëç

10:58:33 From Leslie Hay, USFS : Reacted to "Peruse USU's Restora..." with ☐üëç

11:04:30 From Leslie Hay, USFS : Good point Dan. For AZ landscapes, also a key issue

11:06:33 From Jennifer Frey : Beavers are key prey for a number of carnivores. This is one reason it is important to manage for reaches supporting beaver metapopulations, not simply single site occurrence.

11:06:46 From Monica Harmon : Reacted to "Beavers are key prey..." with ☐üëç

11:07:49 From Andrew Ellis, USFS (he/him) : Reacted to "Beavers are key pr..." with ☐üëç

11:07:59 From Nina Eydelman - Animal Protection New Mexico : I am not available April 6-9

11:08:04 From Leslie Hay, USFS : Reacted to "Beavers are key prey..." with ☐üëç

11:09:58 From Andrew Ellis, USFS (he/him) : There are some historic reports of 60,000 beaver being removed from the Sangre de Christos in the first few years preceding US 'ownership' of the region. There are a lot of good, searchable documents that cover historic texts from the 1820's

11:10:06 From Andrew Ellis, USFS (he/him) : Lol, as Dr. Frey indicated!

11:11:27 From BradleyAllen : Are there any geomorphical/soil studies to determine historical beaver presence in New Mexico?

11:11:37 From Jack Marchetti : One stat I've heard is there used to be beaver ponds every 1/4 mile or so in streams in the West. Don't quote me, though lol

11:10:11 From Leslie Hay, USFS : Reacted to "There are some histo..." with ☐üòø

11:14:11 From Andrew Ellis, USFS (he/him) : I have to hop off - thanks everyone! Looking forward to following along in the coming years.

11:14:23 From Nav Khalsa : I'd be happy to be a co-leader for "c"

11:14:40 From Sarah Milligan : Reacted to "I'd be happy to be..." with ☐üëç

11:14:48 From Ron Loehman : When I took Peter Stacey, Åôs Restoration Ecology course at UNM, he claimed that historical beaver trapping records showed that almost every stream reach in the West that met geomorphologic criteria had beaver dams.

11:15:11 From BradleyAllen : Reacted to "When I took Peter St..." with ☐üëç

11:15:41 From Toner Mitchell : I can play a role in groups b and c.

11:17:55 From Karen Menetrey : Reacted to "When I took Peter St..." with ☐üëç

11:18:00 From Karen Menetrey : Reacted to "I'd be happy to be a..." with ,ù\$ô¶è

11:18:03 From Karen Menetrey : Reacted to "I can play a role in..." with ,ù\$ô¶è

11:21:54 From Jack Marchetti : Thanks!

11:22:01 From Monica Harmon : Thank you!

11:22:02 From Stephanie Siemek : Thank you!