



Big Hole Watershed Committee

Monthly Meeting Minutes
 August 21, 2019 – 7:00 pm
 Divide Grange – Divide, Montana

In Attendance

Tana Nulph, BHWC; Pedro Marques, BHWC; Ben LaPorte, BHWC; Betty Bowler; Tom Bowler; Craig Fager, MFWP; Paul Azevedo, DNRC; Paul Cleary, BHWC; Sean Claffey, TNC; Clint Shoop; Chris Edgington, Montana Trout Unlimited; Roy Morris, BHWC/GGTU; Randy Smith, BHWC/Rancher; Matt Norberg, DNRC; Jim Magee, USFWS; John Dillon; Matt Barnes, Morrison-Maierle, Inc.; Jarrett Payne, MFWP; and Travis Horton, MFWP.

Introductions Attendees introduced themselves.

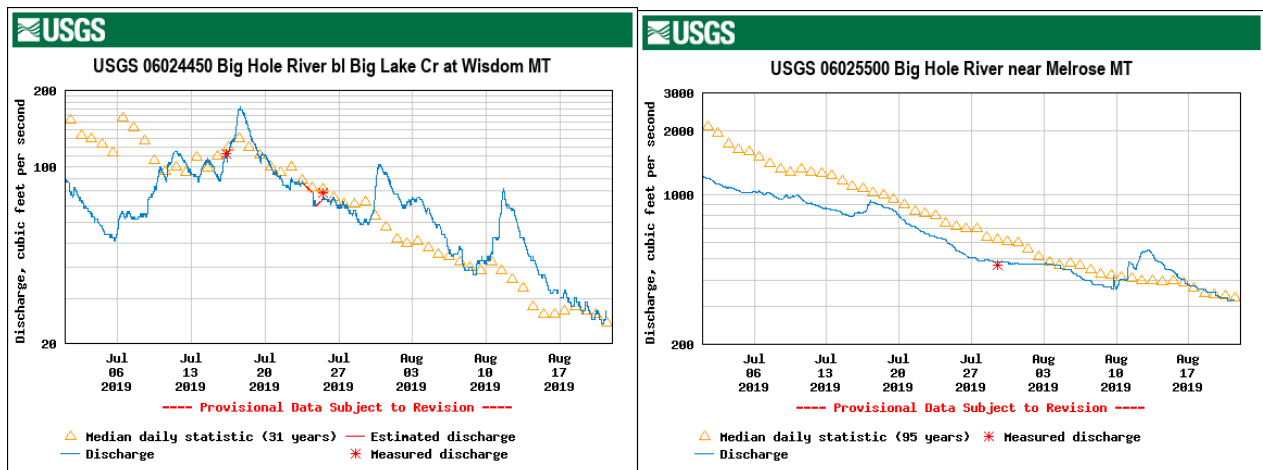
Meeting Minutes June 2019 meeting minutes were reviewed, no additions or corrections.

Reports

Streamflow/Snowpack Report – Jacqueline Knutson, High Alpine Hydrology

- Streamflows:** Upper Big Hole River flows are below average while lower river flows are right around average. Hoot Owl restrictions continue below Notch Bottom and were implemented on August 8, 2019. Conservation measures are in place with the CCAA and FWP has been working closely with landowners since the end of June to implement flow plans. Warmer temperatures and a lack of precipitation after July's stormy afternoons have allowed streamflows to continue to drop.

06023500	Big Hole River near Jackson MT	08/21 09:15 MDT	0.83	15.3	21.0
06023800	Big Hole River ab Spring Creek nr Jackson MT	08/21 09:00 MDT	1.06	5.84	28.0
06024020	Big Hole River at Miner Creek nr Jackson MT	08/21 09:15 MDT	0.79	29.2	65.0
06024450	Big Hole River bl Big Lake Cr at Wisdom MT	08/21 08:45 MDT	1.79	26.0	24.0
06024540	Big Hole River bl Mudd Cr nr Wisdom MT	08/21 09:30 MDT	2.53	104	94.0
06024580	Big Hole River near Wise River MT	08/21 09:30 MDT	2.53	183	261
06025250	Big Hole River at Maiden Rock nr Divide MT	08/21 08:45 MDT	2.84	330	313
06025500	Big Hole River near Melrose MT	08/21 09:15 MDT	1.46	324	330
06026210	Big Hole River near Glen MT	08/21 09:30 MDT	2.22	260	233
06026420	Big Hole R bl Hamilton Ditch nr Twin Bridges, MT	08/21 09:30 MDT	0.760	158	122



Streamflow since July 1, 2019 at Wisdom and at Melrose

- *Forecast:* El Nino conditions shifted to ENSO-neutral at the end of July. Forecasters are expecting a 50-55% chance that we will stay in ENSO-neutral conditions through the fall and winter of 2019-2020. A return to ENSO-neutral does not mean that we can expect average weather conditions. Rather, it makes long term forecasting more difficult as there isn't the influence and predictability of either El Nino or La Nina conditions.
 - The three-month outlook for September through November is above average temperatures and average precipitation. Given the uncertainty of forecasting due to the lack of influence from El Nino or La Nina I would closely watch the one-month updates which currently forecast above average temperatures and average precipitation for our region as well.

Drought Management Plan – Tana Nulph, Associate Director

- We've done pretty well in terms of drought this year, but flows are dropping and temperatures are rising now. Currently, Section I is in "Conservation" status and Section V is on "Hoot Owl" Restrictions.
- 5 CCAA reaches in Section I & II; landowners have been implementing site-specific plans to increase flow, but there's not much more they can do with current conditions.
 - 20 years ago, in a summer like this, the stream would be dry at Wisdom. The landowners & CCAA staff have done an excellent job in maintaining flows this year.

Directors Report – Pedro Marques, Executive Director

- Streamlining back-office processes to save time, increase efficiency.
- Sat in on Collaborative Forest Landscape Restoration Program (CFLRP) meeting in which the USFS & BVHD-DL Working Group strategized long-term funding sources for forestry work. They will be submitting a CFLRP proposal for forestry work in the Big Hole. BHWC acting as partner in support of that group.
- Awarded BOR WaterSmart funding for French Creek project; Senator Daines announced.
- Pedro participated in low-impact, process-based restoration workshop in Lewistown.
- Pedro was invited to speak to agency directors with the CCAA regarding BHWC's role, opportunities for natural water storage & grayling restoration.
- Pedro is working with the stream gage working group that formed as a result of SB32 (which Jen Downing was instrumental in pushing through the MT Legislature). Pedro will be working with the stream gage working group to express Big Hole River stakeholder priorities and capacity needs. He will be attending a meeting in mid-September and we will be holding a drought subcommittee meeting September 16th to prepare Pedro for the stakeholders meeting.
 - *Discussion:*
 - *Is the working group comprised entirely of agency personnel?*
 - *Yes, the House remanded the working group to the Governor's Drought & Water Supply Committee and members of that committee became members of the working group. The first meeting will be next Tuesday and it will be an orientation/meet-and-greet meeting for members. One of the mandates of the group is that it includes a robust public involvement process, but the group is not sure what that will look like yet.*
 - *The Lt. Governor is the Chairman of the group?*
 - *Yes, and the group has to report out to both the Drought & Water Supply Committee and the Water Policy Interim Committee.*
 - *This is an important step to move the conversation forward.*
 - *BHWC, MWCC, Blackfoot Challenge, and Musselshell Watershed have been involved in this process and will remain in the process; although the working group includes only agency personnel, there will be opportunity for watershed group involvement.*
 - *Fall Watershed Tour – September 11-13 in the Upper Missouri Headwaters. Will showcase BHWC projects on September 11th. Free to attend just the Big Hole portion. Contact us to sign up.*

Steering Committee – Randy Smith, Chairman and Roy Morris, Secretary

- The steering committee is happy with the progress BHWC is making.

Wildlife Report – Tana Nulph, Conservation Programs Coordinator

- Range Rider program runs July 1 – September 30. Chet has been seeing a lot of black bears in addition to mountain lion and wolf sign, but no depredation confirmed by Chet on enrolled allotments this summer as-of-yet.
- Wildlife Speaker Series Otter Event was held August 6th in Divide. It was attended by 47 people who learned all about otters from Kerry Foresman, UM. The event included a potluck dinner with main course provided by Liz Jones of the Rafter Ranch, Wise River. Thank you Liz and Kerry for contributing your time, expertise, and of course food!

Restoration Report – Ben LaPorte, Program Manager

- Working with Montana Conservation Corps crews
- July 19th volunteer plastic cleanup event at French Gulch. 13 people showed up, removed a lot of temporary plastic fencing from the area. Gave out donated Patagonia gear as a thank you.
- BHWC has been invited to submit a LSR grant with the DNRC. Proposal suggests creation of a forestry incentive program similar to the Big Hole River Incentive Program, which focused on riparian restoration and sediment reduction. The forestry program will include aspen restoration, conifer treatments, etc. if selected for funding.
- Oregon Creek is in week 3 of construction.

New Business

Special Update: Arctic Grayling Recovery

Presented by: Jarrett Payne & Travis Horton, Montana Fish, Wildlife and Parks

CCAA Update:

- Jarrett has been filling the role of Arctic Grayling biologist in the Upper Big Hole for about a year now (he replaced Emma Cayer). Jarrett has the same role as Emma but his title is Riparian Ecologist rather than Grayling Recovery Biologist.
- There has been some transition in the Arctic grayling recovery team lately; Jacqueline Knutson is no longer with FWP, but Matt Norberg with DNRC will be our new hydrologist. Matt was a tech for Mike Roberts several years ago and has gone on to set up the DNRC's stream-gaging program. Matt has the technical expertise and ability to work with landowners. He expressed interest in filling in for Mike and should be a great fit for the p
- CCAA staff currently includes Jarrett and Jim Magee, United States Fish and Wildlife Service.
- Flows have been decreasing as the summer wears on; landowners have been complying with their Site Specific Plans and cutting back on water usage as much as possible.
- Jarrett has the same role as Emma but his title is Riparian Ecologist rather than Grayling Recovery Biologist.
- Will start genetic sampling for Arctic grayling recovery program in September. Will work with Jim Olsen, MFWP, to get the sampling completed.
- Jarrett met with Pedro & CCAA Agency Directors recently to address what's going on right now with grayling recovery and what the agency's commitments are to the CCAA and grayling recovery. The meeting was really helpful, and all of the agency directors expressed commitment to maintaining the CCAA program.
- CCAA priorities:
 - Working on prioritization of grayling recovery projects.
 - Strategizing long-term funding options for the CCAA program.
 - Focusing on working with key landowners to keep the program going.
- The developing Centennial CCAA will result in Jarrett serving both the Big Hole & Centennial Valleys.

- MFWP will be hiring a native fish biologist, as well, to serve the CCAA programs.
- BHWC's November monthly meeting will include a full CCAA update. That meeting will be held Wednesday, November 20, 6pm at the Divide Grange.
 - *Discussion:*
 - *How far do the grayling spawn?*
 - *Down as far as Deep Creek. Adult grayling have been found as low down as Glen, but they don't spawn that low.*

Meeting Topic: Conifer Expansion

Presented by: Sean Claffey, Southwest Montana Sagebrush Partnership

About Conifer Expansion?

- Southwest Montana Sagebrush Partnership
 - USFWS, USFS, BLM, NRCS
 - FWP, DNRC
 - TNC
 - BHWC, Beaverhead Watershed Council, Centennial Valley Association, Ruby Watershed Council
- Grass is arguably our 2nd most valuable resource in Beaverhead & Madison Counties next to water.
- Southwest Montana sagebrush habitats are distinct from other sagebrush in Montana and much of the Great Basin. Our high elevation intermountain valleys support a montane sagebrush plant and wildlife community.
- Largescale threats:
 - Conifer expansion across all habitat types
 - Degradation of riparian and mesic habitats
 - Invasive annual grasses
 - Fences and other grazing structure that need modification/removal
- What is conifer expansion?
 - Two types:
 - Conifer infill of persistent woodlands (increased density within stands; elimination of gaps, openings, and parks)
 - Expansion into ecosystems that historically supported other habitat types
 - Mountain Mahogany, cottonwood/aspens, sagebrush habitats
- Extent of expansion:
 - In the past 150 years, the Great Basin has seen an increase in Juniper of over 600%.
 - 90% of tree expansion is estimated to have occurred in sagebrush ecosystems (Miller et al. 2011)
 - 75% of affected shrublands in the Great Basin expected to transition to woodlands in the next 30-50 years (Miller et al. 2008)
- Study: Conifer Expansion in the Missouri Headwaters Ecosystems of Montana: 1947 to 2013
 - Used 1947, 1953, 1954 Imagery to map historic conifer cover.
 - Broke into classes
 - Compared to modern cover model created by SGI using 2013 imagery.
https://map.sagegrouseinitiative.com/ecosystem/tree-cover?ll=45.2778,-112.5679&overlay=tree_cover&opacity=0.80&z=10&basemap=roadmap
 - Comparison limited to SGI current cover data = suitable sage-grouse habitat.
 - Therefore, results are not an estimate across all ecosystem types.
 - Does not include expansion prior to 1947, 1953.
 - Preliminary results show 183,000 acres have crossed the 4% conifer cover threshold since the 1950s. This is an important number, because sage grouse will not nest in greater than 4% conifer cover.
- In the Big Hole:
 - New analysis: 145,000 acres with increased conifer cover since the 1950s.
- Why are conifers expanding?

- Mild and wet conditions in the late 1800s and early 1900s.
 - Mid-1850s, land use started to change dramatically.
 - Treaties signed and Native Americans restricted to reservations
 - Discovery of placer gold
 - Introduction of domestic livestock
(Fleecer Mountain Study – Heyendahl et al, 2006)
- Reduction in Fire
 - Historic grazing reduced fine fuel loads to carry fire
 - Intense wildlife management/suppression. Lack of aboriginal fire starts.
 - Juniper does not tolerate fire. Historically limited to sites isolated from historic fire return intervals –relatively unproductive, shallow soils.
 - https://youtu.be/9bESTKDRDpc?list=PLbQnrJD6rX91-0i_6bbY7Sr8qPAjJeots&t=875
- Studies:
 - Tree Shearing to Control Conifer Encroachment on Foothill Grasslands – Jeff Mosley, MSU Extension Range Management Specialist
 - Methods: Herbaceous Forage Response
 - All 25 plots fenced immediately after tree shearing to exclude cattle, sheep, mule deer, and elk.
 - Forage response sampled in July, 1 and 2 years after tree shearing
 - Summary:
 - Low density encroachment did not reduce forage production compared with control (un-invaded) sites.
 - Moderate density encroachment reduced forage production 55%. Forage production equaled uninvaded sites 2 years after tree shearing.
 - High density encroachment reduced forage production 93%. Forage production equaled uninvaded sites 2 years after tree shearing, but forage composition did not equal uninvaded sites 2 years after tree shearing.
- Aspen:
 - Across 8 western states (AZ, ID, UT, WY, CO, NV, NM, MT) aspen only occupy about 40% of their estimated historic range (Stam et al. 2008). They've been replaced by conifers.
 - That number here is between 6-20%.
 - Aspen stands are the most biodiverse and are among the most prolific producers of forage for native ungulates and livestock in the west.
 - Understory of forbs, grasses, shrubs, young aspen begins to decline at only 10-20% conifer encroachment.
 - High Divide Collaborative has an aspen working group that is looking into aspen recovery.
- Big Game:
 - As conifer cover increases, big game forage decreases in availability.
 - It gets down to habitat diversity – we need diverse habitats for big game & other wildlife to thrive.
- Sage grouse:
 - Avoid conifer cover during all life stages
 - Low cover may function as ecological traps (higher predation)
 - Abandon breeding grounds with as little as 4% cover.
 - Oregon study concluded 12% increase in population growth post juniper removal.
- Building water resources resiliency: Transpiration, streamflow, natural water storage, evaporation
 - As conifers increase, ground cover (grasses) are lost and water flow paths become more concentrated, causing sediment runoff and transport of water off the landscape more quickly (reduced natural water storage).
 - Recovery time is immediate with prescribed fire.
 - Hydrologic effects:
 - Paired watershed study near Prineville, OR

- Side by side watersheds, ~250 acres each, similar in elevation, precip, geology, study covered 11 years.
 - Treated watershed:
 - High points flattened out as water takes longer to leave
 - Days dry reduced. Average 431 more days of water recorded
 - Well 6 never dry after treatment.
 - Juniper vs. Sage in Southern Idaho
 - Results: large drifts take longer to melt prolonging available runoff
- What are we doing in Montana?
 - Contracted saw-groups removing conifer material from sagebrush ecosystems
 - Prescribed fire
 - Big Picture:
 - BLM:
 - 40,000 acres Rx fire through NEPA
 - Programmatically cleared all riparian and aquatic restoration across the whole Dillon Field Office.
 - DNRC:
 - 10,000 acres cleared through MEPA for mechanical conifer removal.
 - NRCS:
 - TIP strategy will likely cut ~3,000 acres on private for next 3-5 years.
 - BVHD-DL National Forest (USFS):
 - Has programmatic NEPA done for conifer removal in Aspen habitats.
 - Maybe new CE authorities coming?
 - In 2019, the Southwest Montana Sagebrush Partnership is scheduled to complete over 5,000 acres of work across all ownerships.
 - Sean can help with project proposals for conifer reduction.
- Cross-Boundary Projects:
 - Medicine Lodge:
 - Ownership: BLM, State, Private
 - Complete: 3,950 acres
 - Funding partners: BLM, NRCS, FWS-Partners, FWS- Red Rock Lakes NWR (monitoring), Beaverhead Watershed Committee
 - In addition, mesic restoration and stabilization; 294 “Zeedyk” structures to stabilize and maintain 1.9 miles, 23 acres of mesic meadows
 - Greenhorns Face Project Area:
 - Ownership: BLM, USFS, DNRC, Private
 - Total expansion identified: ~30,000 acres
 - Completed: 5 miles riparian, 180 acres sagebrush steppe
 - Planned 2019: ~3,000acrese sagebrush steppe (BLM, private); ~3 miles riparian (DNRC, private)
 - Target 2020: 2,500+ acres (Private, DNRC, USFS?)
 - Funding partners: BLM, NFWF, Turner Enterprises, Ruby Watershed Council, NRCS
 - Future Partners?? RMEF, Mule Deer Foundation, Wild Sheep Foundation
- Discussion:
 - *Do you know if anyone is looking at whether conifer treatments increase sage grouse populations?*
 - *FWP monitors sage grouse annually; it's hard to partition these projects by species because there is so much overlap, but studies in other states have shown that sage grouse usage of an area will decrease as conifer cover exceeds 3-4%.*
 - *What is your take on appetite for prescribed burning?*
 - *The only agency that doesn't allow prescribed burning in sagebrush habitat is DNRC. NRCS doesn't currently burn sagebrush habitat in Montana. Sean hasn't heard a lot against prescribed burning among private landowners.*

- *Are labor force and funding gaps a bottleneck limiting this kind of treatment?*
 - *Yes. Other tools include mastication (cutting & grinding conifers and leaving the material on the ground).*
 - *Also looking at finding opportunities to sell conifers to pulp mills, etc. Transportation can be a limiting factor.*
 - *Hypothetically, if you were able to treat every acre you wanted to, would you be done or is this a perpetual process?*
 - *Mountain Big Sage Brush recovery takes about 15 years, so the process would have to be repeated.*
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Upcoming Meetings

- September 18, 2019 – 7pm @ the Divide Grange. BHWC Monthly Meeting. Topic: Sage Grouse
- October 16, 2019 – 7pm @ the Divide Grange. BHWC Monthly Meeting. Topic: Western Pearlshell Mussels & Aquatic Insects
- November 20, 2019 – 6pm @ the Divide Grange. BHWC Monthly Meeting. Topic: CCAA Update

Adjourn



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Conifer Expansion in Montana's High Divide Headwaters

Conifer expansion fragments habitats and reduces the great mosaic of different native habitat types that make the High Divide Headwaters so special.



© Holly Copeland/TNC

We often think of thick stands of evergreen trees as a sign of healthy habitat. But that's not always the case. Conifers – evergreen trees such as juniper, pine, and Douglas fir – are expanding into sagebrush grassland, aspen, and streamside habitats and muscling out plants on which key wildlife depend.

WHY IS THIS HAPPENING?

Although conifers are native, across the West, they are spreading far beyond their historic borders for several reasons.

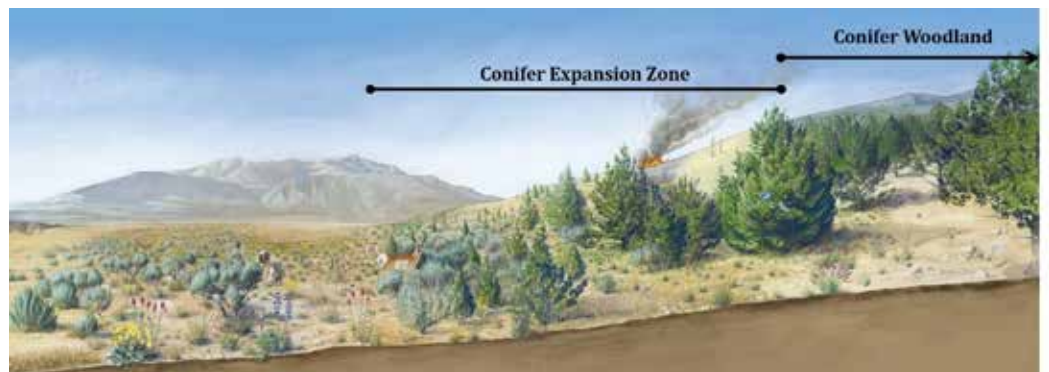
- A misunderstanding of the role of fire in maintaining healthy, diverse habitats led people to stamp out wildfire for more than a century.
- Unregulated livestock grazing in the early to mid 1900s removed grasses that helped carry fire and left little competition for conifer seedlings.
- Relatively wet conditions in the early to mid 1900s created optimum growing conditions for these trees.



© BLM



© Tom Koerner/USFWS



© TNC & Natural Resources Conservation Service

WHY DO WE CARE?

WILDLIFE, HUNTING & FISHING

As conifers become more dominant, they use more water, allowing them to outcompete grasses, and other plants and shrubs. Less of this vegetation means less forage for wildlife. The loss of plants and their root systems makes the soil less able to absorb rain and snowmelt, allowing more runoff and erosion to occur. More water for conifers and less water in our soils also means less in streams and rivers. That can lead to warm waters and rivers closed to fishing.

SEVERE WILDFIRES

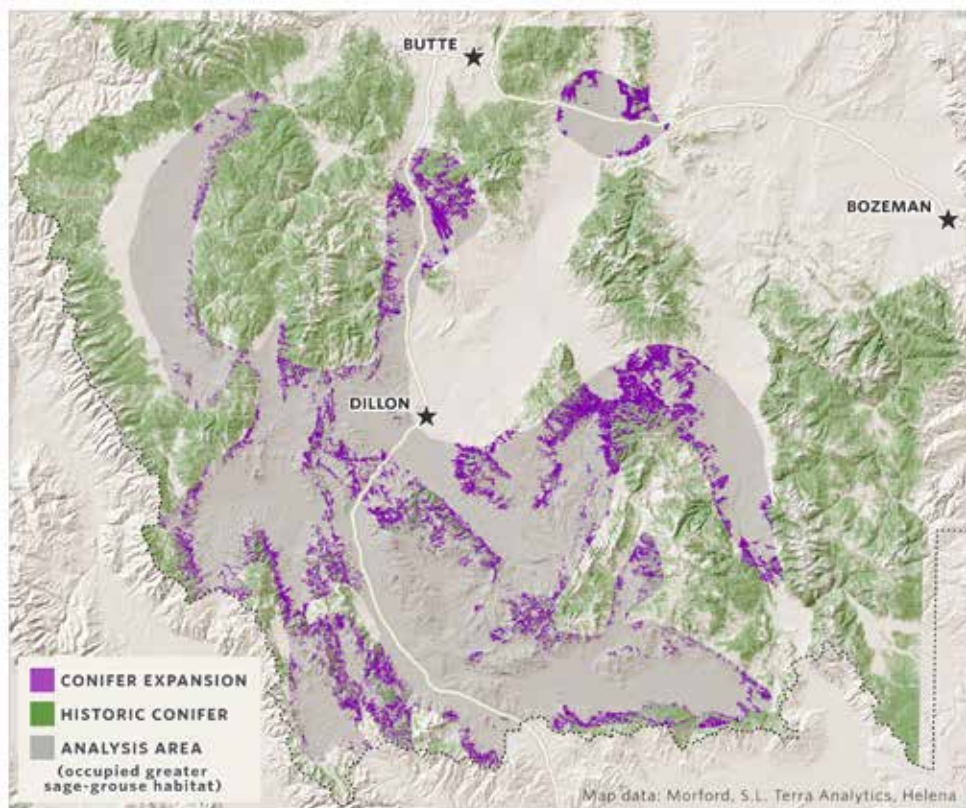
Conifer expansion also increases the risk of more severe and damaging wildfires. Typically, grassland fires move fast and are fairly low intensity, so vegetation returns relatively quickly. When fire was allowed to occur naturally, it kept fuel levels down and revitalized habitat by removing old, unproductive grasses or shrubs. But conifers are a much heavier fuel, feeding fires that burn longer and hotter than grasses, with much more time needed for post-fire recovery.

LIVESTOCK AND LIVELIHOODS

Just as conifer expansion reduces forage for wildlife, livestock are also affected by loss of grassland. One reason that Beaverhead County is number one in the state's cattle production is because of our productive sagebrush grasslands. Our local economy depends on healthy rangelands and clean, cool, and abundant waters, so we need to do everything possible to ensure they thrive for both people and nature.

Since 1953, conifers have expanded into roughly 200,000 acres of sagebrush grassland in Southwest Montana.

70-80% of historic aspen habitat in the Beaverhead-Deerlodge National Forest has been lost to conifer expansion.



FINDING SOLUTIONS

While it may seem odd to see a conservation group cutting down trees, it is the best way to restore and maintain our vital sagebrush grasslands and all of our diverse habitats. The ***Southwest Montana Sagebrush Partnership*** has launched an ambitious effort to remove conifers where they have had the greatest impact on both public and private sagebrush.

For more information, contact: Sean Claffey at 406-683-8017 or sean.claffey@tnc.org.