Big Hole Watershed Committee

Monthly Meeting Minutes

August 20, 2025 – 7:00 pm at the Divide Grange

Zoom option also provided

In Attendance

In-person: Pedro Marques, BHWC; Tana Lynch, BHWC; John Reinhardt, Rancher/BHWC; Tom Bowler, Butte Resident; Betty Bowler, Butte Resident; Dean Peterson, Rancher/BHWC; Luke Lutz, DNRC; Andy Bobst, MBMG; Mary Sutherland, MBMG; Jim Griffin, Resident (Butte); Diana Morris, Rancher; Randy Smith, Rancher/BHWC; Jane Wierzba, Resident (Wise River); Jim Keenan, BSB Water/BHWC; Ben LaPorte, Trout Unlimited; Ed Scott, Resident (Wise River); Cathy Scott, Resident (Wise River); Jim Hagenbarth, Rancher/BHWC; Katelin Killoy, MFWP; Diane Hutton, Resident (Wisdom)/BHWC; Josh Margolis, NBC Montana; Mark Raffety, Rancher/BHWC; Sean Claffey, TNC/SMSP/BHWC; and Mark Kambich, Rancher/BHWC.

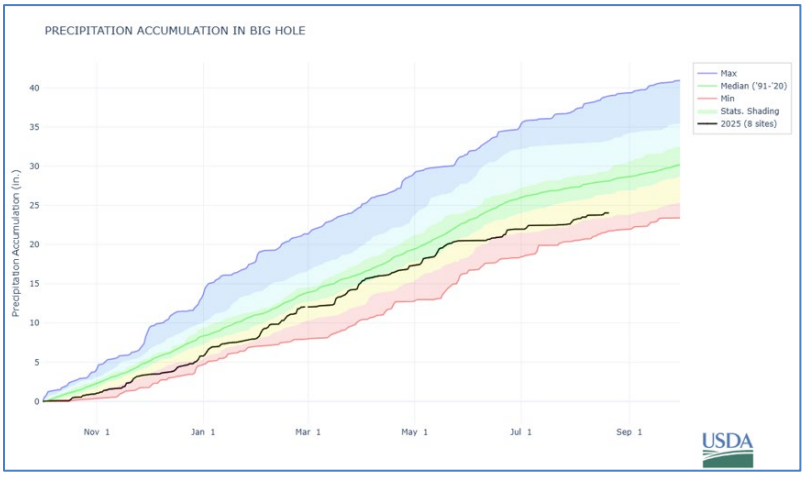
Zoom: Peter Frick, BHWC/Rancher.

Meeting Minutes

BHWC monthly meetings are held at the Divide Grange with a virtual (Zoom) option provided thanks to Southern Montana Telephone Company, who donated the internet service. Meeting minutes and recordings are available at https://bhwc.org/monthly-meetings/ (scroll down for meeting minutes archive). Printed copies are available during in-person meetings. Contact Tana Lynch, BHWC Associate Director, at tlynch@bhwc.org or (406) 267-3421 to suggest additions or corrections.

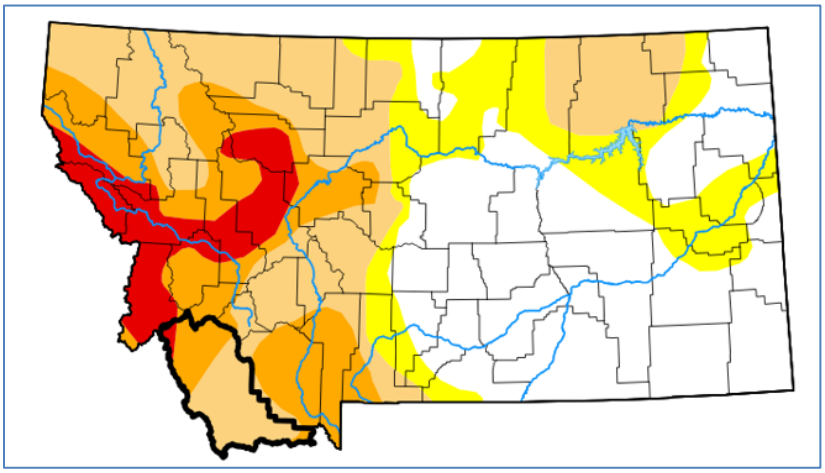
Reports

Streamflow and Snowpack Report – Luke Lutz, Montana Department of Natural Resources and Conservation

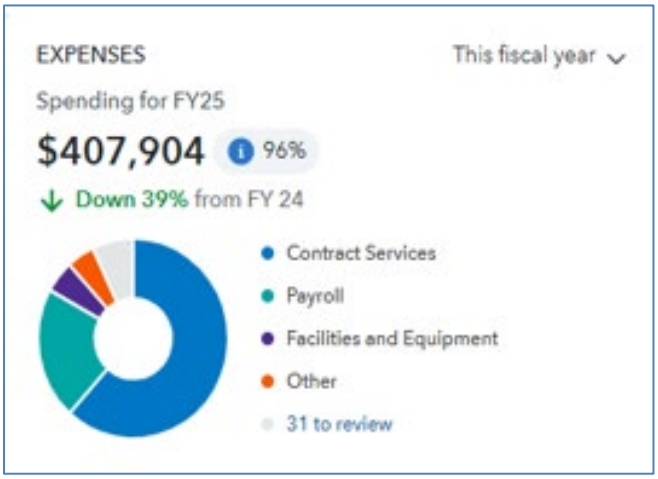


- *Streamflows: (August 20th, 2025)*
  - Wisdom (06024450): 5 cfs
  - Big Hole River near Wise River (41D 08000): 94 cfs
  - Maiden Rock (06025250): 176 cfs
  - Melrose (06025500): 158 cfs
  - Glen (06026210): 167 cfs
  - Hamilton Ditch (06026420): 48
  - Stream And Gage Explorer (StAGE): https://gis.dnrc.mt.gov/apps/stage/

- *Precipitation:* 85% of average (1991-2020)
- *Climate Outlook (NOAA)*:
    - *Outlook*: The 8-14 day outlook predicts slightly above normal temperatures and slightly above normal precipitation.
    - *Seasonal Outlook*: The seasonal outlook predicts slightly above normal temperatures and slightly below normal precipitation.
- *U.S. Seasonal Drought Outlook:* Severe drought persists in our watershed.



Director's Report – Pedro Marques, Executive Director

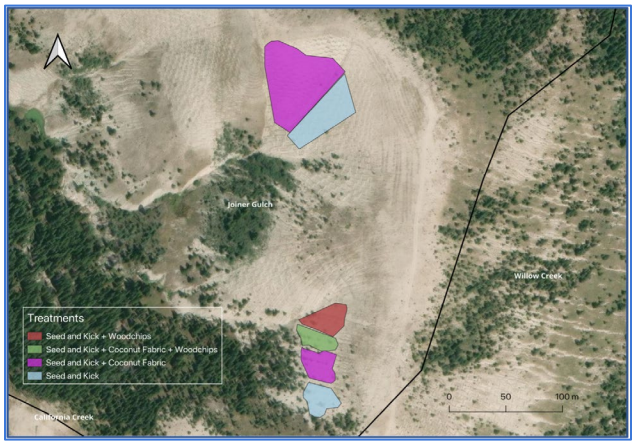


- Board and Staff THANK YOU:
    - Andy Suenram stepping down from Governing Board
    - Jon Peterson concluding summer of streamflow monitoring
    - Emma Roginski concluding second summer internship
- For Consideration:
    - Communications/Content Specialist
    - Restoration Specialist
- Funding:
    - Scoping:
        - Irrigation Project Funding: NRCS Water Management Entities Grants
        - Burma Road Sediment Project: DEQ 319 program (winter 2026)
        - Dryland gully erosion in Highlands- Pheasants Forever and MCC
    - Applied:
        - Trout and Salmon Foundation- Smith Sage Springs Reconnect Project
        - High Stakes Foundation- Communications/Content
    - Gifted:
        - Three private donors- $40,000 with $20K committed for next year
        - Guitar auction- Thank you Tim @ Wise River Club and Billy F. Gibbons!
    - Contracts:
        - $195,000 in invoices out the door
        - $130,000 in contractor bills to pay
- Army Corps of Engineers Nation-Wide Permit 27 changed starting March 1, 2026
    - Eliminates need for Costly Wetland Delineations for low-tech restorative practices in streams and wetlands
    - Eliminates double oversight by Federal entities, expanding use of Binding Landowner Agreements to BLM
- Public Comment
    - Groups sue FWP to enforce Murphy Rights

        - BHWC response with Blackfoot Challenge (TU potential)
        - 30 years of good will and partnerships- Difficult to build, easy to destroy
            - BHWC demonstrated last year the futility of calling junior rights
- Restoration Project Update
    - Projects underway:
        - High Meadow Storage Capacity – WGM Group
        - California Creek "demo area" design – W.E.T.
        - Beaverhead CD – Elkhorn Mine
        - Smith Springs ditch siphon design – Confluence Consulting
        - East Pioneers Conifer Encroachment
            - Funded by MDF, RMEF, USFS, BLM
            - 1,000 acres over half done – Star Forestry
                - 224 acres on private land North of Lost Creek
                    - Thank you, Diane!
        - Elkhorn Mine and Mill
            - Structure safety ad microbiology
    - Projects completed:
        - Rock Creek Fish Barrier – R.E. Miller
    - Next-up/Projects to-be contracted:
        - Elkhorn Preserve/Lazy S Ranch: Landowner agreement 95%
        - Kamperschroer Riparian: negotiating with contractor for reduced scope
        - California Creek Designs: Low Intensity Option under design: FY '26 Contract Signed
        - Stock Tank Projects: Support for FWP to fund 2 tanks
        - Selway and Trail Creek Meadow – MCC
    - Projects in-design, scoping, funding:
        - Wise River headgate
        - Jerry Creek headgate
        - Moose Creek headwaters: TNC, USFS
        - Burma Road: Sediment project
        - Pennington Bridge: Madison County
        - Melrose Diversion
        - Moose Creek Meadows:
            - Potential for human beaver and Montana's first beaver transplant project in 2026
            - The Nature Conservancy, USFS, BLM, Moose-Camp Stock Association
            - WGM Group to report out next month on their mapping

Emma's Summer on Mount Haggin – Emma Roginski, Summer Intern

- Low-Tech Restoration: Beaver Dam Analogues and Gully Check Dams (photos above)
    - 3 crews, 4 drainages
    - 94 in-stream beaver dam analogues
    - 25 gully erosion control structures
- BDAs in Upper Joyner Gulch
    - 43 structures built in 3 days!
- Lupine Seeding in West Joyner Gulch
    - Almost 2 acres seeded in total!
    - 4 Treatments:
        1. Seed and Kick
        2. Seed and Kick + Coconut Fabric
        3. Seed and Kick + Woodchips
        4. Seed and Kick + Coconut Fabric + Woodchips



Steering Committee Report – Jim Hagenbarth, Chairman; Dean Peterson, Vice-Chairman; Roy Morris, Secretary

- The steering committee met in July and plan to meet again in early September.
- Randy Smith was awarded a photo taken and printed on aluminum by Steve Luebeck to commemorate his nearly 30 years of service as the Chairman of BHWC's board. Randy stepped down from the steering committee earlier this year, although he continues to serve on BHWC's board. Board, staff, and meeting attendees expressed gratitude to Randy and his family for stewarding the land and leading BHWC over the years, always putting the resource first. Thanks, again, Randy!

Communications and Wildlife Report – Tana Lynch, Associate Director

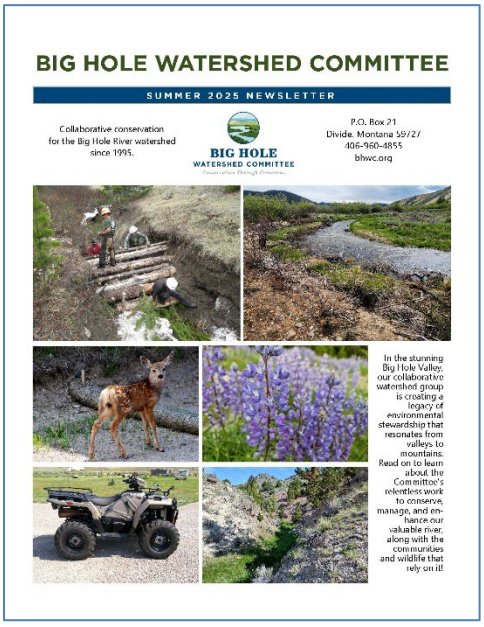
- Communications:
    - Karly Noetzel, Content Creator:
        - Filmed:
            - at Raffety ranch
            - at ABCW ranch (w/ Jon performing stream measurements)
            - with FWP (grayling spawning & hatching, upcoming release)
            - at Moose Creek (investigating potential of high alpine meadows as beaver habitats)
        - See more of Karly's work at karlynoetzel.com
        - Set up Shopify Store:

- Branded BHWC gear
- To be made available via our website bhwc.org
- Sales will support Big Hole Conservation Fund

  - Tim Montana Guitar Auction:
    - Donated Brazilian barnwood guitar
      - Signed by Billy Gibbons of ZZ Top
      - Auctioned late June – mid-July
        - Highest Bid: $9,500!!
          - Donation to BHWC
            - Supports Big Hole Conservation Fund

- Events:
  - Montana Folk Festival
    - July 11-13
    - Butte
    - BHWC had a display & water bottle filling station in cooperation with BSB Water
  - Wildlife Speaker Series
    - July 16th
    - Trapper Creek Ranch, Melrose
    - Sandhill Cranes, Patrick Donnelly with Ducks Unlimited presented
    - JM donated meat for the event an we had a wonderful potluck dinner.
    - We owe a huge THANK YOU to JM Peck for hosting and to Patrick Donnelly for presenting!!!

- Publications:
  - By BHWC:
    - Read BHWC's Summer Newsletter here!
  - About (or relevant to) the Big Hole:
    - Missoula Current (8/14): Groups Sue To Force FWP To Enforce River Flow Minimums
    - MFWP (8/6): 'Hoot Owl' Closures Provide Stressed Trout A Break During Montana's Increasingly Hot Summers
    - MT Standard (8/2): Citizen-Led Science Plays A Critical Role In Protecting Wild Trout Fisheries
    - WLA On Land (7/25): Irrigation Efficiency is Something All Producers Should Strive for, Right? Or Wrong?
    - MT Standard (7/23): Can cloud seeding ease the Big Hole drought? Researchers say the technology is worth a try


BIG HOLE WATERSHED COMMITTEE

SUMMER 2025 NEWSLETTER

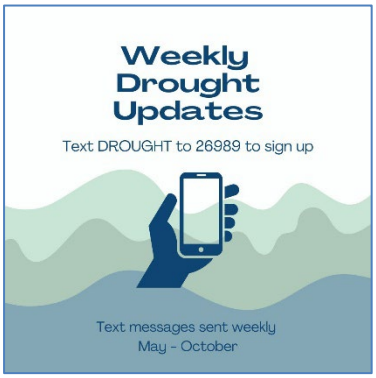
Collaborative conservation for the Big Hole River watershed since 1995.

BIG HOLE WATERSHED COMMITTEE

P.O. Box 21
Divide, Montana 59727
406-960-4855
bhwc.org

In the stunning Big Hole Valley, our collaborative watershed group is creating a legacy of environmental stewardship that resonates from valleys to mountains. Read on to learn about the Committee's relentless work to conserve, manage, and enhance our valuable river, along with the communities and wildlife that rely on it!

- Weekly Drought Updates:
  - Current streamflow
  - Previous day's maximum water temperature
  - River status by section (Conservation, Hoot Owl Restrictions, Closures, etc.)
  - Long-term average streamflows
  - Text DROUGHT to 26989 & register
    - Make sure to allow text messages
  - Also sent via email
    - Subscribe to our emails at bhwc.org



- Wildlife:
  - Carcass removal
    - 2025: 32 carcasses from 6 participants
  - Range Rider
    - Season starts July 1st
    - Purchased used 4-wheeler to purchase
      - Accepting donations to offset cost of 4-wheeler ($8,000) as grants won't cover it!
        - Mail us a check to PO Box 21, Divide, MT 59727 or donate online here: bhwc.org/#donate

  - Funding:
    - 2026 Livestock Loss Board
      - Awarded $8,500

New Business

- Big Hole GWIP projects update – Andy Bobst and Mary Sutherland, Montana Bureau of Mines and Geology

Break – 10 minutes

Meeting Topic:

Conifer Encroachment in the Eastern Pioneers

Presented by: Sean Claffey, The Nature Conservancy/Southwest Montana Sagebrush Partnership

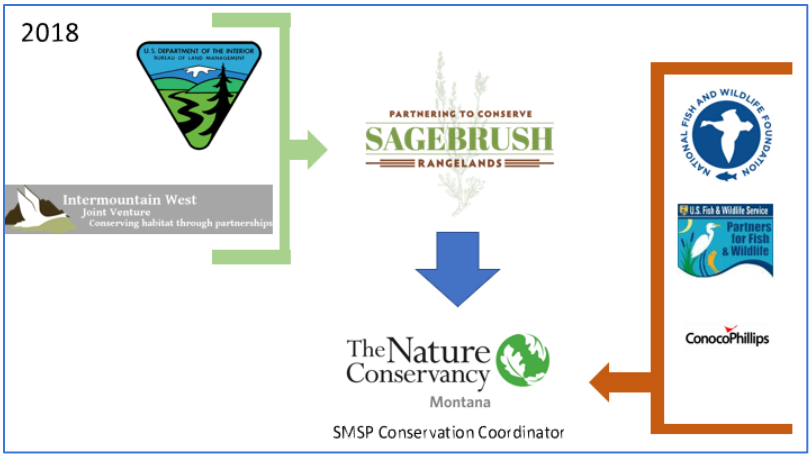
<u>Southwest Montana Sagebrush Partnership (SMSP)</u>

- The Southwest Montana Sagebrush Partnership is a network of partners—including federal and state land managers, nonprofits, local businesses, and landowners—dedicated to the responsible stewardship of southwestern Montana's sagebrush sea.
  - BLM
  - NRCS
  - FWS Partners for Fish and Wildlife
  - USFWS Red Rock Lakes NWR

SOUTHWEST MONTANA SAGEBRUSH PARTNERSHIP

- MT FWP
- DNRC
- USFS Beaverhead Deerlodge Forest
- The Nature Conservancy
- Heart of the Rockies Initiative
- Beaverhead Watershed Committee
- Big Hole Watershed Committee
- Ruby Watershed Council
- Centennial Valley Assoc.
- University of Montana Western

- The partnership formally began in 2017 with a realization among local land managers that the scope and scale of the threats to the sagebrush steppe ecosystem warranted a deliberate and equal scaling up of efforts and coordination to address these threats. Since then, the partnership has accelerated the pace and scale of science-based restoration work in our region and continues to find ways to further engage and support our rural communities. The Southwest Montana Sagebrush Partnership is not a new entity doing new work, but rather a name given to a philosophy and collaborative spirit that has existed in southwest Montana for many years.
- Primary Threats to Sagebrush:
  - Conifer expansion
  - Riparian and wet meadow degradation
  - Barriers to wildlife
  - Invasive annual grasses
- SMSP Goals and Objectives:
  - Increase pace and scale of stewardship work to address threats, maintain biodiversity
  - Increase community connection to conservation
  - Better coordination among partners.
  - More efficient with limited resources.
  - More collaborative, cross-boundary management to address threats.
- In 2018, Sean was hired as SMSP Conservation Coordinator
  - Communications (internal and external)
  - Science (attract and facilitate)
  - Projects (coordinate and facilitate)
- SMSP Capacity Growth:
  - 2018:
    - 1 Full time shared staff
      - Conservation Coordinator
  - 2025:
    - 6 full time staff:
      - Conservation Coordinator (TNC)
      - Riparian Restoration Project Manager (TNC)



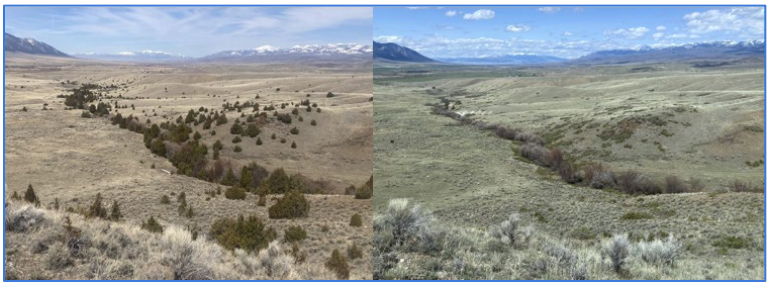
- Restoration Practitioner (1/4 time SMSP - 3/4 time CCAA) - TNC
- Wildlife Project Coordinator (fences) - NWF
- Invasive Annual Grass Coordinator – Conservation District
- Monitoring Coordinator (MSU-Bozeman)

- 2 seasonal staff:
  - Fuels Tech - TNC seasonal
  - Range Tech - TNC seasonal
- PLUS:
  - Youth Employment Program – 2 full time staff
  - 2024 – 30 employees over summer
  - 2025 – 18 staff
  - DNRC – Forest Action Plan Forester
  - Pheasants Forever – BLM Restoration Landscape

<u>Why Sagebrush?</u>

- Steppe is grasslands. Most valuable resource second to water.
- SW 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.
- In physical geography, a **steppe** is an ecoregion, in the montane grasslands and shrublands and temperate grasslands, savannas and shrublands biomes, characterized by grassland plains without trees apart from those near rivers and lakes. The prairie of North America (especially the shortgrass and mixed prairie) is an example of a steppe, though it is not usually called such. A steppe may be semi-arid or covered with grass or shrubs or both, depending on the season and latitude

<u>Conifer Expansion</u>



- Infill of woodlands:
  - Increased density within stands
  - Elimination of gaps, opening, parks
  - Expansion into other habitats
- Phase 1:
  - Historic vegetation (e.g. shrubs and herbaceous, aspen, willow) remain dominant
  - Active tree recruitment
  - Low cone production
- Phase 2:
  - Conifer and shrub and herbaceous are co-dominant
  - Active tree recruitment

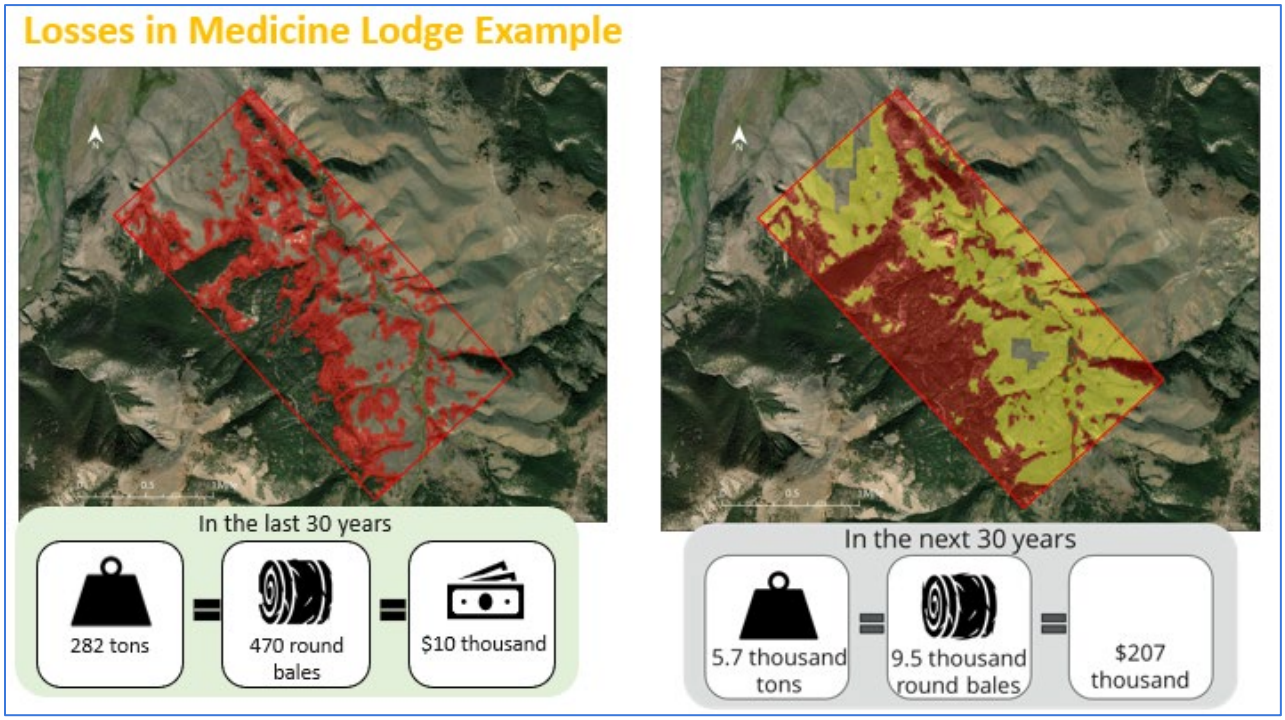
- Cone production moderate to high
- Shrubs intact to thinning, showing signs of stress

- Phase 3: Conversion to Forest
  - Conifers dominant
  - Shrubs and grasses <75% canopy cover or absent
  - Increased density within tree stands
  - Elimination of parks and gaps in existing forests
- Since 1950, conifer cover has increased on over 1,000,000 acres
  - ~500,000 of these acres are in currently occupied sage grouse habitat
  - But it started long before 1950.

Landownership	Expansion Estimate
United States Forest Service	452,276
Private	355,341
Bureau of Land Management	267,858
Montana State Trust Land & FWP	99,344
US Fish and Wildlife Service	1,438
Total	**1,176,256**

Impacts of Expansion:

- Changes in vegetation:
  - As conifer #s increase, big game and livestock forage decrease and invasive annual grasses move in.
- Wildlife:
  - Sage grouse and Brewers Sparrow
    - Avoid conifer cover during all life stages.
    - Low cover may function as ecological traps (higher predation).
    - Abandon breeding grounds with as little as 3-4% cover.
    - Oregon study concluded 12% increase in population growth post juniper removal.
  - To maximize sage grouse population benefits, the recommendation is to reduce pinyon-juniper cover as low as 1.5% and prioritize thorough treatment of early-phase woodlands (e.g., Phase I), particularly in productive areas.
- Forage for Livestock:
  - Perennial herbaceous cover in sagebrush grasslands can be cut in half when conifer cover exceeds 40% (Roundy et al. 2014)



- Livestock ranching income can be cut by one-third as sagebrush grasslands are converted to woodland (McLain 2013)
- Across all western rangelands, tree encroachment since 1990 has resulted in lost grazing land production valued at $4.1–$5.6 billion (Morford et al. 2022)
- Removing conifers from sagebrush can increase the livestock carrying capacity providing added management flexibility as the forage base improves (Bates et al. 2005)
- In 2022, Montana's lost forage production equated to:
  - $11.5 million in forage value
  - 697,000+ round hay bales
  - Since the 1950s, trees have moved into more than 7.4 million acres of Montana's rangelands

- Water availability:
  - Influences snow accumulation/distribution, timing of snowmelt and streamflow (Kormos et al. 2017)
    - Even distribution of snow as trees provide uniform wind break.
    - Large drifts take longer to melt prolonging available run-off
    - Topography dictates distribution as drifts accumulate.
    - Snowmelt was delayed by an average of nine days.
  - As conifers increase:
    - Can result in reduced understory vegetation, increased connectivity of bare ground, and amplified runoff and soil loss
    - As we start losing ground cover, concentrated flow paths develop.
    - Canopy interception

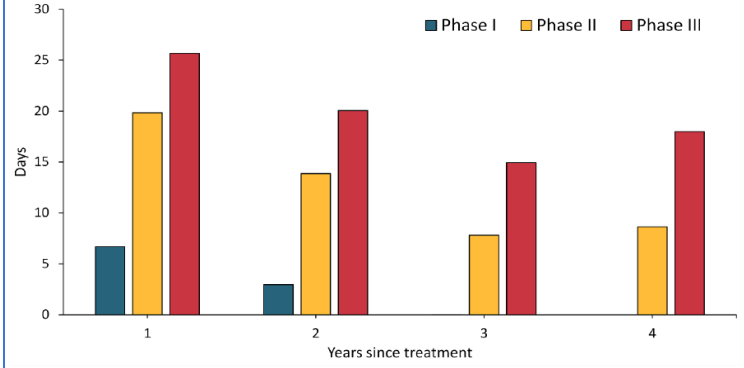


Figure 12.10. Additional days of soil water availability following removal of encroaching conifer in phase I, II, or III of conifer expansion. Tree removal decreases canopy interception of precipitation and tree water use, which results in additional days of soil water availability compared to untreated areas (Roundy and others, 2014b; figure adapted from Maestas and others, 2016).

  - Conifer removal extends growing season by keeping soils wetter longer
    - Can extend duration of soil water availability by almost a month (Roundy et al. 2014)
    - Watershed-scale impacts on groundwater and streamflow less well understood
      - Hydrologic effects:
  - Paired watershed study near Prineville, Oregon
    - Methods:
      - Side by Side watersheds ~250 acres each.
        - Elevations, precip, geology, topography, vegetation all virtually the same.

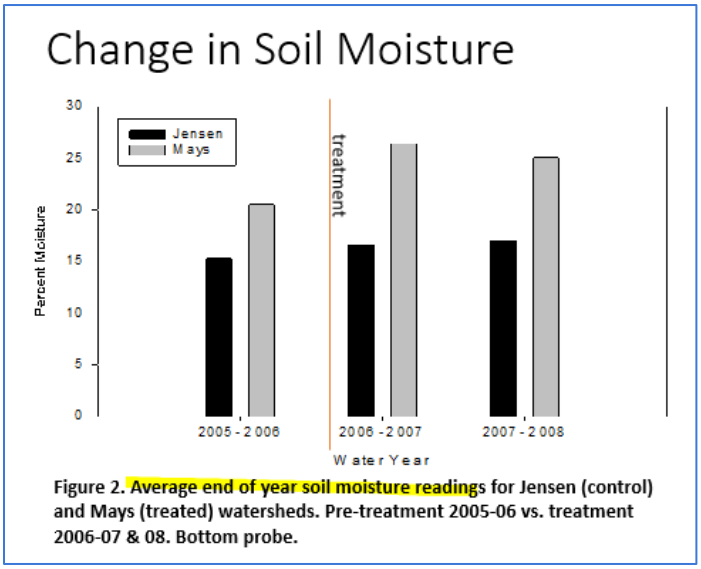


Figure 2. Average end of year soil moisture readings for Jensen (control) and Mays (treated) watersheds. Pre-treatment 2005-06 vs. treatment 2006-07 & 08. Bottom probe.

- Annual Precip 13”/yr, 70% snow or early spring.
- 11 years pre-work monitoring (veg, ground water, spring flow, soil moisture)
- Cut all “post European aged trees”. Age less than ~140yrs in the Mays watershed.
- Left Jensen as the Control.

▪ Results:

- High points are flattened out as water takes longer to leave.
- Days dry is reduced. Average 41 more days of water recorded.
- Well 6 never dry after treatment
- Following the cutting of the trees in Mays, Mays spring output increased 3 – 5 gallons per minute during this late season period.
- In 2007 (the drought year), the spring in Jensen went dry for the first time since the springs were developed while the flow in Mays continued at a rate higher than pre-treatment levels.

Figure 3. Depth to ground water in the untreated watershed: Jensen.

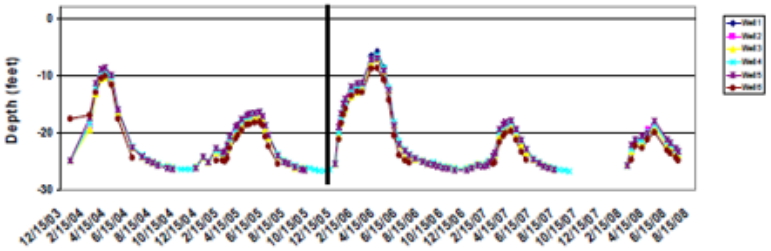
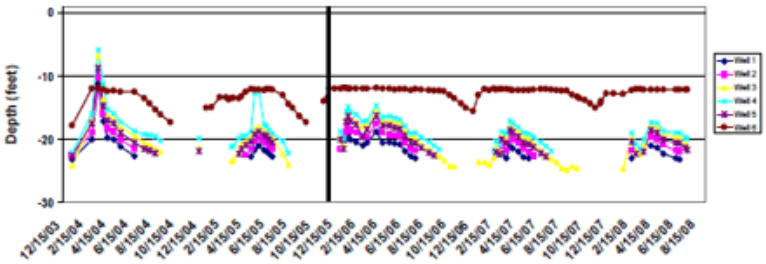
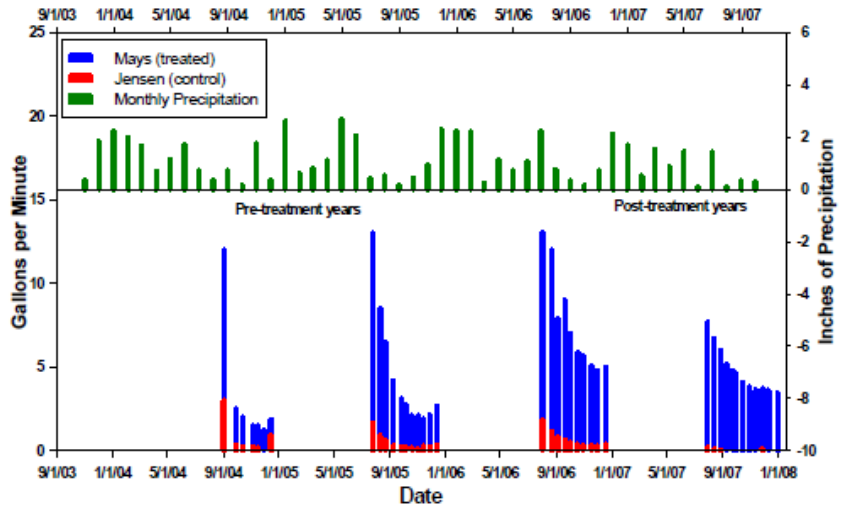


Figure 4. Depth to ground water in the treated watershed: Mays



- Changes in Fuel Loads:
  - Sagebrush to Phase 2 expansion: fuel loads **double**
  - Volatile woody fuel loads can be 6 times higher in Phase 3 woodlands than sagebrush grasslands (Stebleton and Bunting 2009)
  - Increased fuel load -> greater chance of high-severity fires and greater chance of colonization by weeds and invasive annual grasses

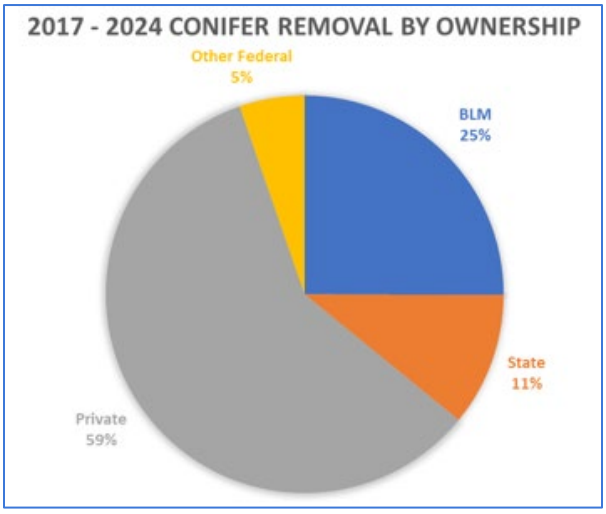
Figure 5. Late season spring flow and monthly precipitation.
Treatment applied to Mays watershed in October 2005.

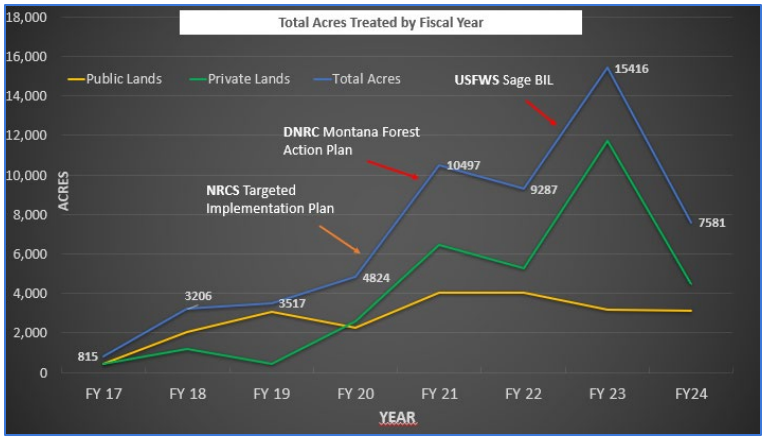


- Management Goals and objectives drive treatment design:
    - Common goals:
        - Wildlife (sage-grouse habitat, mule deer forage)
        - Fuels reduction
        - Watershed condition (hydrologic function)
        - Sagebrush ecosystem function
        - Livestock (forage)
        - Biomass Utilization
    - Funding for most treatments today comes from wildlife and fuels programs
    - *Our focus is preserving habitat diversity, land health, and therefore the resilience of our natural resources to things like drought and wildfire.*
    - We're also looking at individual trees and the soils at the site.
        - Individual pre-settlement ('old-growth') trees have different characteristics than younger trees
        - Helps us determine ecological site and design treatment Rx.
    - Treatment methods:
        - Hand crew – Lop & Scatter: cup and lop, cut & pile, cut only
        - Process-based restoration
        - Prescribed fire = controlled burning
        - Mastication, logging – Biomass utilization

Sagebrush Partnership Accomplishments (2017-2024)

- 8,690 Acres in the Big Hole
- 2,144 for East Pioneers project so far

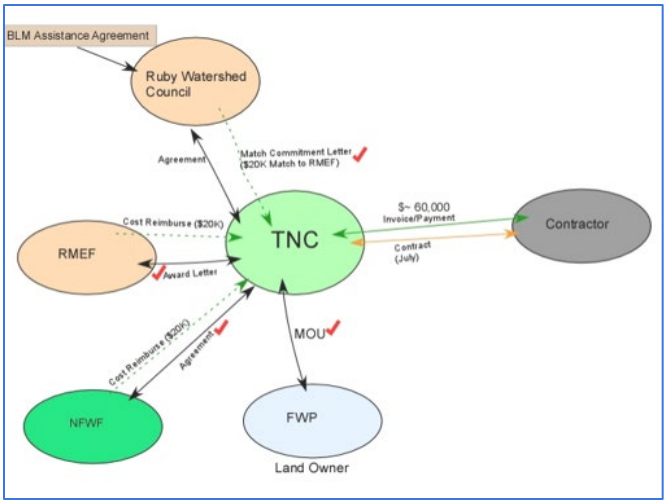




- Diverse funding sources/partners:
    - Leverage Existing Capacity & Relationships
    - Administrative
        - Grants & Agreements

- Procurement
- Technical
- Hiring
- (shared resources)

- USFS Conifer Removal through partnership agreements:
  - 2019-2021 Dillon District Supplemental Participating Agreement
  - 2022 added Wisdom/Wise projects via TNC
  - 2023 added BHWC Supplemental Participating Agreement
  - 2017-2022:
    - 50 total grants and agreements:
      - Grants: $3.13 million
      - Agreements: $2.63 million
      - Cost Share: $1.83 million
      - Total funding: ~$7.58 million
        - TNC
          Montana: ~$4.19 million (~55%)
        - Other SMSP partners, including BHWC: $~3.35 million (~45%)
          - $1.83 million direct with landowners
          - $1.52 million managed by partner organizations



Year	Total Acres		USFS	RMEF	DNRC	Project Totals	Ave $/acre
2017						$0	
2018						$0	
2019	174			$14,000		$14,000	$80.46
2020						$0	
2021	1036		$10,360	$44,000	$29,641	$84,001	$81.08
2022	585		$53,188	$4,683		$57,871	$98.92
2023	777		$46,663	$40,000		$86,663	$111.54
2024	259		$48,078			$48,078	$185.63
2025	360		$ 15,515.00	$ 30,000.00			
	Partner Totals		**$158,289**	**$102,683**	**$29,641**	**$290,613**	
			54%	**35%**	**10%**		

All accomplishments

- https://smsp.tnc.org/pages/what-we-do
- Webmap: Sagebrush Partnership Field Map (app) | Southwest Montana Sagebrush Partnership

Upcoming Meetings

- Wednesday, September 17, 2025: BHWC Monthly Meeting
  - 7:00 PM at the Divide Grange Hall - Topic: High Meadow Water Storage Capabilities

Adjourn