



URBAN AND WILDLAND FORESTS and OPEN LANDS

We envision that our surrounding forests and open lands, together with our urban forests, are healthy and adapted to local climate conditions, contribute to climate mitigation, and are supported by a broad sector of the community.

Our Community will work together to enhance forests and local habitats that are resilient and adapted to changing climate conditions so they can provide a broad array of goods and services including: shade and cool temperatures, carbon capture and storage, clean and abundant water, diverse wildlife habitat, and renewable wood products.

Snapshot: Change in our forest systems is a constant. Fire, beetles and other disturbance are change agents that are part of the ecological backdrop upon which we now add increasingly rapid climate change. The combined impacts of increased temperatures, changes in streamflow and spring runoff, increased wildfire, and shifts in aquatic and terrestrial species have begun to shift forest landscapes and the overall composition of ecosystems. Modelled projections and recent experience indicates that some components have and will change at an unprecedented rate with negative consequences, such as longer wildfire seasons resulting in more smoke and more severe wildfires. Yet other changes may not happen very fast nor be detrimental and some may be advantageous.

Due to complex land ownership and management systems, collaboration between public agencies, local government, and private landowners is absolutely essential when devising new adaptation, mitigation, and restoration projects that could both minimize detrimental impacts to forest ecosystems and encourage our forests to be a major part of the climate solution. Missoula community remains an excellent place to tackle these issues. We have a tremendous set of intellectual and experiential capacity for conservation and forestry, between agencies, the University of Montana, and non-profit groups, , both national and local addressing these topics and trying to work across boundaries.

KEY STRATEGIES:

1. Support and enhance our urban forestry

Goal: Increase urban forest canopy cover as a carbon collection and storage system that also provides cooling shade, reduces energy consumption, and increases community well-being.

Activities:

- A. Work with City's Parks and Recreation Department and Urban Forestry Division, Missoula County, Montana Dept. of Natural Resources and Conservation (DNRC) to identify funding, education, and project opportunities to enhance our urban forest; link to climate change. Use City's Urban Forestry Plan as starting point.
- B. Partner with treesformissoula.org and add carbon benefits, and help advertise this site.
- C. Create a carbon offset program to help finance implementation of a strong Urban Forestry program.
- D. Develop and advocate for local and state policy changes which can incentivize urban forests and greenscapes.



- E. Work with local government and developers to ensure all socio-economic groups have access to trees and nature.

Metrics and Timetable

- a. Meeting of interested parties convened (2015)
- b. Initiate outreach for and with treesformissoula.org (2015)
- c. Urban forestry offset program developed and known in the community (2016).
- d. Initiate policy discussion (2016), encourage action at next legislative session (2017).
- e. Ongoing.

2. Re-plant and restore open space and public and private lands

Goal: Re-see, re-plant and restore forests and other key habitats to a resilient condition that can store carbon and reduce carbon released by wildfires and post-fire decay. Reduce carbon released from forest management.

Activities:

- A. Educate about and incentivize native plantings, bring costs down, and make it easy for community members and businesses.
- B. Work closely with the Five Valleys High Performance Building Collaborative (FVHPBC) and Green Building Bucket to tie forest management and sustainable construction together. Specifically expand the use of wood in construction in place of energy intensive materials. Explore use of local woody residuals for right-sized energy projects.
- C. Develop a Missoula County Connectivity Project. This would identify reforestation needs, promote landscape connectivity to facilitate movement of species, and connect groups and programs with a shared vision. Detailed project scope needs to be defined.
- D. Evaluate feasibility of a carbon offset funding program that is more expansive than urban forests.
- E. Plan for and use appropriate prescribed fire in roadless and small wilderness areas (e.g., Welcome Creek and Rattlesnake NRA). Include education and outreach
- F. Plan for and use appropriate timber harvest, typically in conjunction with fire, to create resilient forests, emphasizing Wildland Urban Interface (WUI).
- G. Develop and advocate for local and state policy changes which can support or incentivize xeriscaping.

Metrics and Timetable

- a. Education outreach through Climate Smart (2015)
- b. Engage with FVHPBC and develop plan of action (2016-17).
- c. Missoula Connectivity Project established and scope defined (2016).
- d. Assess number of acres in need of appropriate treatment over long-term (e.g., 500,000 acres in County by 2025).

3. Connect forests and water.



Goal: Develop a partnership among landowner, managers, and other professionals to help adapt our forest management techniques to provide water flow benefits. Work with the Water Bucket.

Activities:

1. Develop Forest and Water “Best Management Practices” that will blend the desire for water quality with increased water yield and timing.
 - Convene watershed working group to determine best practices (Clark Fork Coalition, Montana DNRC, Montana Fish Wildlife and Parks, US Forest Service, University of Montana, and others). Determine progress made with Lolo National Forest and Clark Fork Coalition (and others) with a Watershed Vulnerability Assessment.
 - Use output strategies and tactics (e.g., from Northern Rockies Adaptation Partnership workshops)
 - Conduct outreach to US Forest Service and their partners to learn what Missoula might adopt from Denver, Flagstaff, Santa Fe and other “[Forest to Faucet](#)” initiatives to develop payments for enhanced watershed function to benefit their users.
2. Encourage agencies to remove and/or replace under-sized culverts that make roads vulnerable to “rain on snow” or other flood events.
3. Conduct forest activities that enhance forest resilience and provide water yield benefits (see #2).

Metrics and Timetable

- a. Convene partners (2016) and develop and share BMP’s (2017)
- b. Track culverts removed or replaced (ongoing)

4. Engage in forest and climate education

Goal: Engage in and boost education and awareness of value of ecosystem goods and services and value of trees and forests for all community members, given climate change to come.

Activities:

- A. Educate about value of open forest/open space, building support to preserve and expand.
- B. Partner with local, state and federal governments and non-government organizations to offer education to private landowners about wildfires, fire use, and dynamic nature of ecosystems. Showcase research conducted by Missoula Fire Sciences Laboratory (Fire Lab).
- C. Educate and support sustainable forestry that builds resilient habitats and watersheds, with priority in the Wildland-Urban Interface (WUI).

Metrics and Timetable

- a. Education efforts are ongoing as capacity allows.

ADDITIONAL STRATEGIES:

- Research where and when it would be appropriate to utilize forest resources (e.g., trees, waste, forest management byproducts, etc.) for biomass energy. Work with University and other partners to educate public on right-sized project for this community. Implement pilot and then subsequent projects.
- Develop green living carbon offset or incentive program. Work with Green Building Bucket and housing and building groups to set this up and get word out.



- Protect native species and habitats via invasive species monitoring and removal; focus on rehabilitation of burned in the WUI and surrounding forests.
- Use forest management to address “air sheds”; clean air for all in the Missoula area and surrounding valleys.
- Help incorporate climate change into existing forest and open lands planning processes and rulemaking.
- Determine how to address climate issues within current forest and open lands regulatory process.
- Establish or support seed banks to address shifts in habitats, microclimates, bioclimatic envelopes.
- Improve support for federal and state land management activities that align with climate change considerations (risks and alterations).

A CLIMATE SMART WAY FORWARD:

Land managers, foresters, scientists, hydrologists, and watershed managers all recognize the ongoing and potential future impacts of climate change. This sector has been engaged in dynamic discussions regarding restoration and resiliency for decades, resulting in many effective public-private partnerships across the state of Montana and the creation of the cross-sector Montana Forest Restoration Committee. Yet this sector continues to face a unique challenge as relates to implementing new rules, coming to a shared understanding and acceptance regarding management decisions, and funding projects across ownership boundaries. Continued conversation and efforts to engage the full spectrum of Missoulians who care about forests and open lands are needed, and funding from agencies or others would not doubt help facilitate such efforts. Working within our “Urban Forest” can be less controversial, but funding and education are both needed to support a thriving program that the community is behind. This is a really big bucket, and efforts to make sustained progress will be ongoing for decades.

Potential Partners: Missoula’s Parks and Recreation Department and Urban Forestry Division, Missoula County, US Forest Service, Bureau of Land Management, Montana Dept. of Natural Resources and Conservation (DNRC), University of Montana’s College of Forestry and Conservation, Clark Fork Coalition, National Forest Foundation, ClearSky Climate Solutions, treesformissoula.org, Five Valleys Land Trust, local and state elected officials, individuals, and more.



Developing Urban and Wildland Forestry strategies during Summit #2