



SOUTH DAKOTA FAMILY FORESTS ASSOCIATION NEWSLETTER

Spring 2023

Semi-Annual



OPEN SPACE IS NOT GUARANTEE IN THE BLACK HILLS.

We're all lucky to live in the Black Hills for its outdoor beauty. Those who enjoy driving through the Hills may not realize that in many cases the idyllic meadows, timber stands, and meandering streams on either side of the road are private land, very often designated as agricultural. Tree farms, or family owned and managed forests, comprise more than 20,000 acres in the Black Hills. This open space provides immense value to society.

Tree farms protect wildlife, by providing vital habitat. They protect water and fisheries by providing filtration for our fragile aquifers that supply water to our homes. They improve recreation like hunting, fishing, off roading, and hiking. They are vital for our timber economy, in some years 25% of the timber milled in the Hills comes from private land. Maybe most importantly, tree farms provide fire protection. A wildfire in a well managed 300-acre timber stand is much easier to stop than one burning though 900 homes in a similar wildland-urban space.

But the sad truth is the open space we all enjoy in the Black Hills is not a given for future generations. Of course, public lands are vital and should be cherished, but private land makes up a large portion of sensitive and critical habitat in our part of the country. As population booms here, pressure to develop these open spaces in and around the Hills will continue. The urban sprawl along the front range of the Rockies and associated gentrification and parcelization should be a warning for us here in the Hills. In many cases, ag producers can no longer afford to stay on the land as outsiders gobble up properties for development. In some towns in Colorado, there are few workers left, as only the ultra-wealthy can afford to live in these gorgeous areas. Our beloved communities in the Hills may soon share the same fate without protection for local landowners and agricultural property.

We prize landowner rights in our state, and someone should always be able to develop if they choose, but landowners should not be forced to develop or sell out because the tax system leaves them no other choice, unfortunately, that's happening too often today.

The 2021 state legislative session saw bills to strip many tree farmers of their ag tax status, which would have been catastrophic for the open spaces in the Black Hills, had it passed in full. This issue of expanding land values will only continue to put pressure on ag producers in coming years.

I was lucky to grow up in the Black Hills. I'm lucky to have spent much of my life here. I'm amazed at how many areas in the Hills I hiked through, or haunted through, or fished through as a kid have since been turned housing developments. Regardless of politics, I think we all want future generations to be able to enjoy the same quality of life we've been fortunate to have.

I hope we can build broad coalitions of individuals and groups in the Black Hills to advocate for protection of landowner rights, agriculture, and preservation of open spaces for many years to come.

Charles Michael Ray is a tree farmer in the Black Hills and Board Chair Elect of the South Dakota Family Forests Association, an organization advocating for family foresters across the state.

Newsletter Index

Understanding Basal Area	Pg. 2
Potential & Scheduled Events	Pg. 2
Thoughts From The Stump	Pg. 3
Advocacy (National, State, Local).....	Pg. 4
Economic Assistance Programs	Pg. 5
Non-traditional Product Idea—Biochar	Pg. 6
Thank You Sponsors!!	Pg. 7

Understanding Basal Area (ATFS Parks Brigman)

Basal area is a measurement foresters use to understand the density of a stand along with volume and growth to guide their management decisions for a stand.

Basal area can be difficult to understand because it can be thought of in two slightly different ways: of an individual tree, or of all the trees in a unit of land area. The basal area of a tree is defined as the cross-sectional area (usually in square feet) of the tree at 4.5 feet from the ground. Picture a stump from above, measuring the area of the 'circle' would be the basal area. When that measurement accounts for all trees in an area, it's expressed per unit of area (usually per acre). Very simply put, it's about how dense a stand is, or how much 'space' is taken up by the trees.

However, it's not just about how many trees there are. Accounting for the size (diameter) of the trees in using this measurement gives more detailed information about how the forest might look as opposed to simply counting all of the trees in an area. Two stands can have the same basal area but look very different - a large quantity of smaller trees compared to a stand with a small quantity of larger trees. Having an idea of how diameter and basal area measurements are used together can offer a better understanding of your forest and how it can meet your objectives.

For more detailed reading, formulas, or even how you can measure basal area yourself with a string and penny, [check out this article from Alabama Extension](#). (Speaking from one of my own fun forestry class experiences, the same principles can apply using your thumb to measure basal area!) If you're more of an audio visual person, [check out this video from South Dakota State](#)

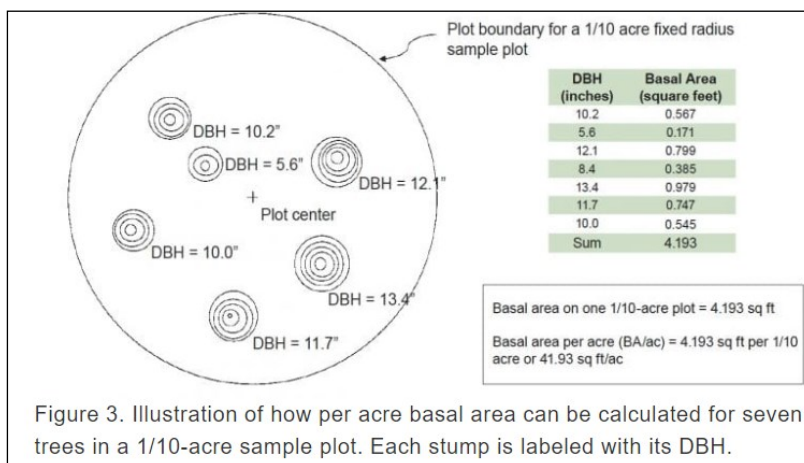


Figure 3. Illustration of how per acre basal area can be calculated for seven trees in a 1/10-acre sample plot. Each stump is labeled with its DBH.

Potential & Scheduled Events

[Whole Tree Utilization](#)—April 25;

Ornamental Tree Selection—April 12;

[Mapping in Forestry](#)—April 21;

[Spring 2023 Landowner Project Assistance Workshop](#)—May 10

Landowner Appreciation Workshop & Banquet—September 16 (Additional information in future)

Trees & Bees, Specialty Crop Blocks, Forest Health Workshops currently being planned.

Don't forget to check out the [SDDFA Facebook Page](#) for updates, interesting articles, important information, fun pictures, or to help by adding membership content.



Thoughts from the Stump

I was honored to be elected board chair at our fall meeting and I aim to serve SDDFA to the best of my abilities during my tenure.

I was lucky to grow up in the Black Hills, on Boxelder Creek just upstream from the Madison aquifer recharge area sinkholes, on a piece of land my family has been on since 1947.

The SDDFA and ATFS tree farm program has been extremely valuable in helping us manage our forest. It's also has been instrumental in allowing our family to stay on the property. Without the tree farm and associated agricultural tax break I'm afraid we'd be forced to sell-off parts or all of the land.

It's for this reason I'm passionate about the work of the SDDFA and its role in keeping open space in the Black Hills. I believe that sustainably managed private land can have immense public value by maintaining critical wildlife habitat, protecting water, reducing fire danger, along with protecting providing timber and recreation. As forest managers and tree farmers our efforts to protect open space for future generations are more important than ever.

We're fortunate to have a fantastic executive director in Mary LaHood and a dedicated volunteer board of directors with a very deep knowledge base. In the coming year we hope to continue to advocate for SDDFA and all forest landowners in the Black Hills in a myriad of ways. This spring we are planning a workshop for tax assessors, to make sure they understand the unique challenges forest landowners face and the benefits tree farmers bring. We're also planning meetings with local, state, and federal officials to make sure the concerns of SDDFA members are addressed in all levels of government, from county commissions to the state legislature to the upcoming debate over the new Farm Bill in congress.

SDDFA can play an important role in keeping families on the land and in protecting the Black Hills from the kind of runaway development rampant in other parts of the American west.

I drive Nemo Road often, I love that we still have open meadows, timber stands, and riparian areas along either side of the highway, but this is not a given for future generations and we must all work to ensure open space and sustainably managed private land is protected in the decades to come.

To achieve this we need to continue expanding our membership, the more SDDFA members, the better we can advocate for all landowners and a better future for the Black Hills. If you have neighbors or friends who are forest landowners, encourage them to join SDDFA. By uniting together, we can forge a future where sustainability managed private land is cherished and recognized for its public value.

My email is boxeldercreek@gmail.com. I welcome input and ideas at any time from any member or any forest landowner in the state. Mike Ray—Board Chair



SDFFA and ATFS Ongoing Local, State, and National Advocacy

Federal Level:

At the recent National Leadership Convention ATFS and AFF officials laid out the current and ongoing efforts to [move policy and advocate on behalf of family forest owners in Washington D.C.](#)

The 2022 Inflation Reduction Act has boosted funding for USDA Natural Resource Conservation Service (NRCS) Environment Quality Incentives Program (EQIP), NRCS Conservation Stewardship Program (CSP), conservation efforts, and helping forest owners access carbon markets. There is so much new money that federal agencies are finding difficulty keeping up. However, EQIP and CSP funding should open by the summer of 2023 for forest landowners so contact your USDA rep to get the ball rolling on any new efforts on your land.

ATFS is also piloting a new program for [carbon sequestration](#) in eastern states. The program will expand to the American west in the years to come. ATFS is also working with policy makers so see that active management of family forest owned lands that maximize carbon storage [can be marketed](#) in a way that provides a new source of income for tree farmers and help keep them on the land.

ATFS is working on the [advocacy for the Farm Bill](#). It's not likely to come in 2023 given the current political environment. The huge allocations in 2022 also mean it's not likely we will see more resources for family forest owners in the next Farm Bill. However, we need to make sure the provisions that serve forest landowners are not rolled back. ATFS will host a fly in for tree farmers who want to come to DC and speak with congressional leaders as soon as this summer. We will share more information as this comes together. SDFFA is also considering an invite for our own South Dakota congressional leaders, so they hear our concerns and Farm Bill needs. [ATFS needs more Advocacy Leaders](#) and in a small state like South Dakota we can each have a real impact.

Statewide:

We attended AgFest 2023 in Pierre on Feb. 6 and spoke with many lawmakers about the need to keep ag property tax status on tree farms in the Black Hills. We explained the proper agricultural tax policy is vital to maintain open space in our state and all the benefits it brings. We will continue to watch the legislative process and work to ward off any of the type of state legislation similar to the bill proposed in 2021 that would have devastated many private landowners in the Black Hills.

Local:

We are planning a late spring / early summer workshop for county equalizers and assessors. The workshop will highlight two working tree farms, show how they meet ag status, and show the huge benefits tree farms bring to our state environment and economy.



Economic Assistance Opportunities

South Dakota Division of Wildland Fire is offering reimbursement programs for fuels reductions treatments around homes:

80% Cost Share up to 10 acres.

Up to \$1,200/acre

Eligible Counties: Lawrence, Pennington, Custer, Fall River

50% Cost Share up to 10 acres.

Up to \$1,000/acre

Eligible Counties: Meade



United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) has 2 main programs that are helpful for timbered landowners in South Dakota:

Environmental Qualities Incentives Program (NRCS) is a flat rate reimbursement cost-share for landowners completing practices such as precommercial thinning, brush management, fuel breaks, woody debris management and others.

Conservation Implementation Strategy (CIS) projects are EQIP projects for a defined project area with more environmental factors addressed at one time.

South Dakota Conservation Districts has reimbursement programs for forest resiliency practices on rural/agricultural property:

50% Cost Share (Minimum of 10 Acres, Maximum Acreage Depending on Area)

Up to \$650/acre

Eligible Counties: Custer, Fall River, Lawrence, Meade, Pennington



Want to know more?

Virtual Workshop May 10th covering this and more.

WELCOME NEW MEMBERS!!

A-Crew Properties LLC - Ryan Swenson

Dale Gadbois

Membership 131

Lori Lieberman

Rita Stuen

Acreage 24,722

3L LLC - Pete Lien

Eric Gonzalez

Snyder Land Holdings - Ken Snyder

Non-Traditional Agricultural Product Idea—Biochar

What is Biochar? Biochar is actually just charcoal or black carbon, made from the incomplete combustion of wood or other products. With growing interests in “green” and “carbon-negative” materials, biochar commonly refers to charcoal made from organic wastes such as branches, scrap wood, tree trimmings, and other plant material. Since burning wood does not add fossil carbon to the atmosphere, burning wood or making biochar is a carbon-negative process.

Biochar is porous and sponge-like which makes it useful for many things such as the production of carbon filters used to purify water. Industrial production of biochar employs pyrolysis; the combustion without much air or oxygen and is more efficient with little ash. Biochar can be made at home from a homemade burner or purchased.

Traditional Biochar Uses:

UNDERSTANDING BIOCHAR

- **Biochar** – a form of charcoal that is produced by exposing organic material to heat in a low oxygen environment and is not used for cooking
- **Pyrolysis** – a chemical change brought about by the action of heat
- **Gasification** – conversion of an organic material into gas

It is an ancient technology for improving soil fertility for agriculture dating back as far as 8,000 years ago in South American. Ancient Amazonian civilizations used biochar to transform the poor quality soil into rich black fertile soil. Wood ash/biochar is particularly useful in reducing soil acidity and adding depleted nutrients

such as calcium, potassium and magnesium to mineral-poor soils.

Recent [Rocky Mountain Research Station research](#) shows how biochar can enhance forest resilience and tree seedling quality. One goal of the CharBoss development is to recover or offset costs of land treatments to reduce non-merchantable vegetation by producing a product that has value for augmenting and restoring degraded soils. The CharBoss team [recorded the demonstration and it is available online](#).

The mobile CharBoss system provides a landscape management opportunity and offers a value-added product for vegetation management activity that previously had none. Page-Dumroese says, “Using mobile processing helps rural economies by providing a way to get people into the woods doing forest restoration, applying biochar to forest soils or using it to reclaim local abandoned mine sites.” This new mobile biochar technology provides forest managers with opportunities not only to remove unwanted biomass, but to benefit from the biochar created in the process.

References for this article include:

- Steiner, Christoph “[Biochar in agriculture and forestry application in: Biochar from Agricultural and Forestry Residues—A Complimentary use of “Waste” Biomass](#),” 2010.
- Nebraska Forest Service, University of Nebraska-Lincoln “[Combined Heat and BioChar](#)” 2020
- USDA USFS “[Introducing CharBoss: New mobile biochar production machine](#)”, 2020
- Page-Dumroese, Deborah, USFS “[Making biochar with waste woody biomass](#)”, 2017
- USDA USFS Rocky Mountain Research Station “[Biochar Basics: An A-to-Z Guide to Biochar Production, Use and Benefits](#)”, 2022
- Page-Dumroeses, Deborah; Tirocke, Joanne “[Restoring abandoned mine soil with organic amendments](#)”, 2017
- USDA USFS “[Technology turns waste-wood into marketable products](#)”, 2023
- Artiola, Janick, Wardell, Lois, University of Arizona College of Agriculture & Life Sciences, “[Guide to Making and Using Biochar for Gardens in Southern Arizona](#)”, 2017

IMPORTANT PROPERTIES OF BIOCHAR IN AGRICULTURE

- Creates a use for waste organic material
- Carbon-negative: it does not generate additional CO₂ emissions
- Carbon sequestration: provides long-term carbon storage
- Improves soil fertility in several ways

Table 1. Recommendations and Cautions for using biochar in home gardens.

Recommendations	CAUTIONS
Avoid mixing yard wastes when making biochar.	Biochar materials must be handled outdoors and stored in sealed bags to avoid dust exposure.
Use biochar with average sizes ¼ inch or less.	Wear a dust mask or wet biochar before handling to reduce dust.
Soak biochar overnight (then drain) several times before use to remove the concentrated salts.	Avoid disturbing garden soils when dry to limit dust exposure.
Ratio of biochar to soils can range from 1:100 to 1:10 (if pre-mixed with compost) in the garden.	Do not add biochar to top mulches.
Use biochar in soil backfills, in potting mixes or better yet, with compost mixes.	
Keep the biochar in the ground where it is not easily airborne.	



The CharBoss is an air curtain burner-style mobile biochar production machine that can consume material from most burn piles with minimal to no preparation. USDA photo by Darcy Weseman.

Thank You Sponsors!!

Jim and Sally Scherrer Charitable Foundation

**DAKOTA EQUIPMENT RENTAL
CHAIN SAW CENTER**



Dakota Forestry LLC

Harry & Barb Ayer

Paul Van Bockern

Jim & Naomi Ann Lanctot

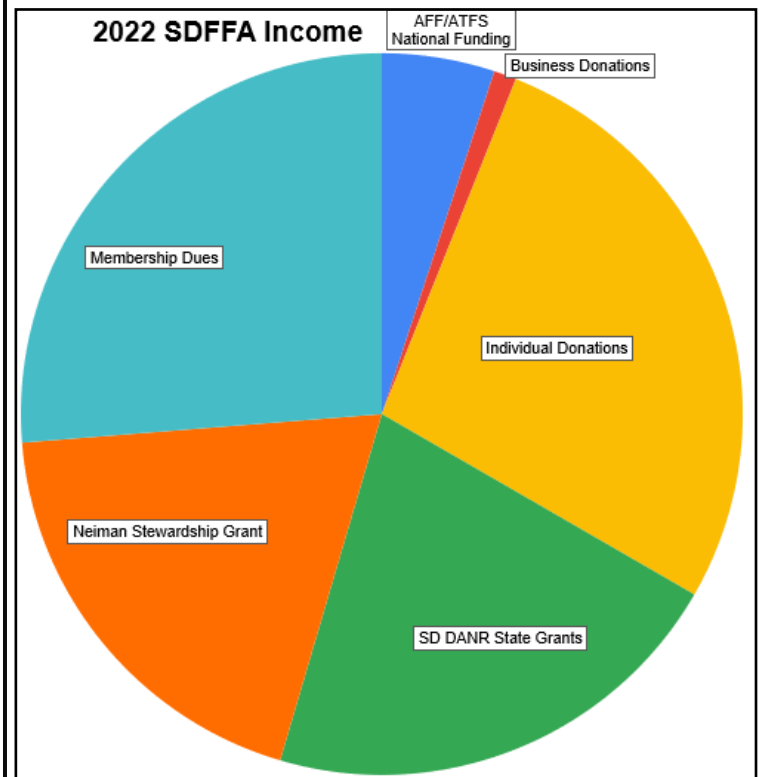
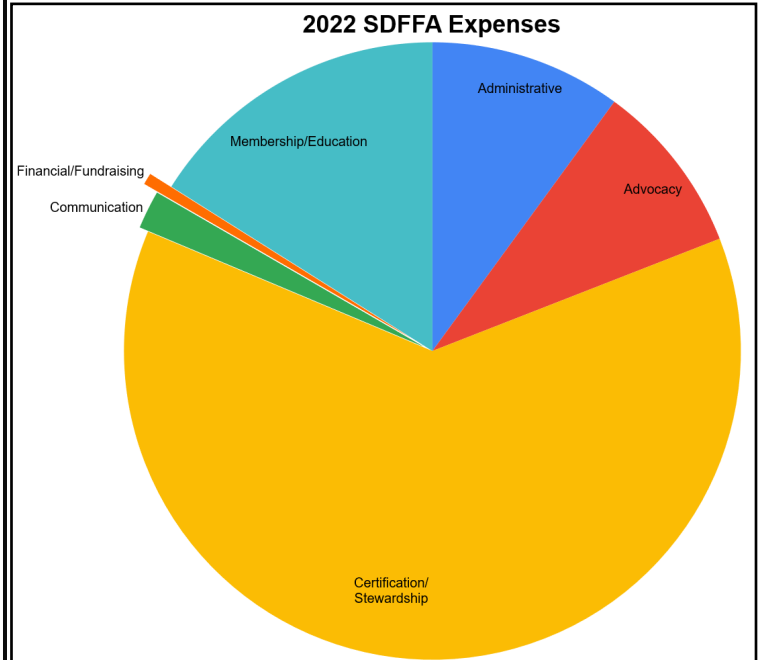
Bob Burns & Mary LaHood

Doug & Denise Miller

Paul & Julie Schipke



Financial Summary



SEND US PHOTOS OF YOUR SOUTH DAKOTA FAMILY FOREST: WOOD, WATER, WILDLIFE, RECREATION, and **YOUR** FAMILY. Email your photos to: SDtreefarm@gmail.com

South Dakota Family Forests Association Board

- Mike Ray: Chairman, Tree Farmer
- Bob Burns: Vice Chairman, Tree Farmer
- Mary LaHood: Tree Farmer
- Executive Director, Treasurer, & Tree Farmer
- Danielle Wiebers: Tree Farmer & Secretary
- Marcus Warnke: SD Department of Agriculture & Natural Resources —State Forester (CF)
- Ben Wudtke: Black Hills Forest Resource Association Executive Director
- Matthew Lottes: Spearfish Forest Products Forester
- Bill Coburn: Black Hills Forestry
Forestry Consultant (CF)
- Sid Goss: Tree Farmer
- Logan Brown: Wildland Fire Division
Urban Interface Specialist
- Lynn Kolund: Dakota Forestry LLC
Forestry Consultant

Committee Members

Communication and Public Relations

Mike Ray—Chairperson
Patricia Weyrich, Mary LaHood

Advocacy

Bob Burns - Chairperson,
Ben Wudtke, Mike Ray, Bill Coburn, Mary LaHood

Financial & Fundraising

Bill Coburn - Chairperson,
Mary LaHood, Danielle Wiebers, Sid Goss

Certification

Patricia Weyrich— Chairperson,
Logan Brown, Mary LaHood

Membership & Education

Lynn Kolund - Chairperson,
Mary LaHood



sdtreefarm@gmail.com
P.O. Box 9576
Rapid City, SD 57709

