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THE FRONT PAGE

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BOULDER VALLEY AND LONGMONT CONSERVATION DISTRICTS' NEWSLETTER
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Pretty Trees That Resist Fire? Hello, Aspen!

By Ron Gosnell

Oh, that wonderful quaking aspen, *Populus tremuloides*. Aspen beauty is renowned. Hordes of people flock to the mountains to see fall color. There are brilliant golden yellow, orange, and even red root-clone sourced color varieties. Aspen trees break up the monotony of the green pine and fir that now cover, largely uninterrupted, a solid blanket of conifer fuel across mountain landscapes.

Private landowners cherish aspen on their land and wildlife benefit, too. There is a neat leaf flutter sound in a breeze, white pretty bark, and aspen groves emit a distinctive and pleasant earthy smell. There is something else important about aspen, however! That "something" may become the most important aspen feature yet to learn about.

More aspen are located in the upper Montane where it can counter dangerous forest fire danger. Aspen groves can break up the fuel continuity of conifer forest and disrupt a crown fire's advance. Aspen has the remarkable quality to resist ignition. Why is that?

First, think about aspen trees' thin bark. Aspen bark is smooth and somewhat cool to the touch. The bark contains green chlorophyll, which adds to what food aspen leaves produce through photosynthesis. This remarkable process that sustains life on earth requires moisture, and aspen trees' physiology ensures that aspen bark receives and holds cooling moisture.

The smooth surfaces of aspen trunks and branches do not capture windblown burning embers of an approaching wildfire, as do pine and fir trees with their rough bark ridges and dead and dry exfoliated bark flakes. Thin fluttering "food-factory" aspen leaves likewise shed burning embers, unlike conifer needles' tight arrangement. Aspen becomes leafless for half the year thus opening more clear space between branches.

All evergreen needles are highly flammable from chemicals they contain. These chemicals become aerosol vapors when heated, which is how whole sections of forest explode in flame during an advancing big forest fire. Not so aspen. Aspen trees' wood and leaves can burn, but do not spontaneously combust as do conifers.

With its fire-resistant quality, aspen that surrounds homes at a distance can help create a fuel break of sorts, adding fire defense space. Aspen can quickly regenerate, sprouting from existing root clones when dominant highly flammable conifers are sufficiently removed. Quick growing-season regeneration and fast aspen growth effectively shortens recovery time back to beautiful forest.

Soon, with greater understanding of forest dynamics and aspen's im-

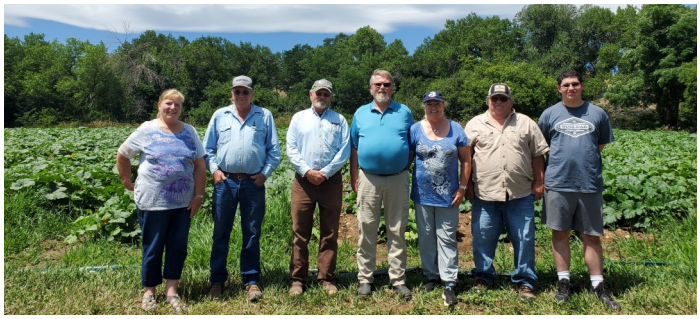
Continued on page 6

Longmont Conservationist District names the Loukonen Family 2023 Conservationists of the Year

Kenny. John. Kathy. Dean. Cindy. Mike.

Farmers. Ranchers. Business Owners. Siblings. Dedicated Conservationists.

The six Loukonen siblings from Boulder County hail from a long and proud line of Finnish ancestors. They are the fourth generation of Loukonens to call the foothills and valleys south of Lyons their home. They work together, play together, run businesses together, and lovingly steward their agricultural operations together. While each has taken a slightly different path through adulthood, the family remains a tight knit unit.



The six Loukonen Siblings and Grandson D.J.

Many around the area might recognize the Loukonen name from the Loukonen Bros. stone yard in Lyons or the Loukonen Farm pumpkin patch adorning Hwy 36 south of Lyons every fall for the last 35 years. But there is much more to their rich history and enduring spirit.

All six of the Loukenen siblings give credit to their parents, Leonard and Dorothy, for their conservation values, work ethic, and love of the land. Prior to Leonard, his grandparents John and Susanna Loukonen emigrated to Lyons, through Minnesota, from Finland in 1890. They had heard about the stone quarries and came west for work. In 1892, they purchased the stone quarry for $10,000. At the time, Lyons area was virtually a city, much more modern than Denver at the time, with its own narrow-gauge railroad, steam generator, and even its own brothel!

John and Susanna's son, John, and his wife Katri were the next generation to own and operate the stone quarry business. In the 1920's, concrete came in and almost wiped out the business. To survive, the family went into farming and tending orchards along the foothills. John and Katri's sons, Leonard and Reino Loukonen, joined forces and ran not only the stone quarry business but also an extended agricultural operation in and around Lyons, Rabbit Mountain, Hygiene, Niwot, and Longmont. In 1959 they built a state-of-the-art dairy barn, ran beef cattle, and had significant hay, corn, and grain operations. At the height of the operation, the Loukonens managed over 3,000 acres of owned and leased properties, ran 200 head of beef cattle, and operated a 100-head dairy herd.

Leonard Loukonen was a self-trained water engineer. He knew how precious water was for his crops, extended agricultural operation, and the landscape. Reino, Leonard, and Leonard's sons installed many, many irrigation water efficiency projects. They were deeply involved in the operation and maintenance of the South Ledge Ditch for decades. They installed miles of underground pipeline to service center pivot sprinklers. They engineered all their projects using gravity as the power source to the maximum extent possible.

John and Katri Loukonen, with sons Leonard and Reino

The area the Loukonens call home creates some extreme challenges for agricultural operations. In the foothills, the steep slopes make machine access difficult. On the plains, the fields are strewn with rocks. The Loukonens are removing rocks from fields to this day—they call themselves experts at farming in rocks. The Loukonens have always been extremely resourceful, making the most of what they have. One lesson Leonard drilled into his children was the care of all the properties under their management. "You take care of them all the same" was the message Leonard imparted to his children, a message they firmly believe in today. Leonard

and Reino are remembered as two of the kindest, most respected, and generous people who helped so many others in so many ways.

The original Loukonen Farmstead

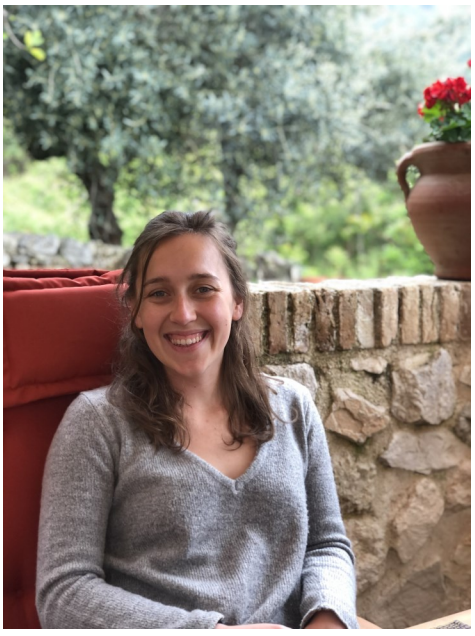
The Loukonen siblings have fond memories of what they call “the best childhood.” They fished the ponds, drove cattle down the county road (now Highway 36) to water in St. Vrain Creek, tasted ice cold milk from the new stainless steel tanks, rode to the Denver Stock Yards where their dad sold cattle with a handshake exchange, snuck tastes of molasses from the feed rations, worked in the family restaurant the Cliffside Café in Lyons, learned to be master irrigators, and lived through a blizzard called Maria in 1957 which wiped out electricity for ten days. The family has seen it all in their 133 years in Boulder County – floods, droughts, fires, two pandemics – and they are still here instilling the Loukonen family values in the 5th and 6th generations.

The Loukonens are actively involved with the Longmont Conservation District, are passionate about agricultural and conservation education, noxious weed management, and have even more irrigation efficiency projects in the works. The Longmont Conservation District is proud to name the Loukonen Family as our 2023 Conservationists of the Year.

Left: Leonard Loukonen in the hay field

Below: Loukonen team with the hay wagon

Hania Oleszak, New District Conservation Technician



Hello! I'm Hania and I recently joined BVLCD as a District Conservation Technician. Originally from New York, I began my career by completing a BS in biology from Boston College with the intention of pursuing medical school. Instead, I ended up working at a horticultural research farm and became fascinated by the interface of agriculture and the environment. Soon after, I moved to Colorado where I completed my master's degree in soil science from Colorado State University. My master's research was focused on the effects of agricultural residue management on soil health, soil structure, and soil microbiology. After completing my degree, I continued doing research on soils in agricultural lands at the USDA and also worked as a horticulture specialist for Colorado State University Extension.

Now, as a District Conservation Technician, I'm extremely excited to combine both my background and interests to support the local implementation of management practices that will help conserve and restore the land.

Boulder Valley Conservationist District Selects Jack DeBell as 2023 Conservationist of the Year

The Boulder Valley Conservation District is proud to select Jack DeBell as our 2023 Conservationist of the Year.

Jack and his neighbors live at the top of Eagle Ridge, just to the north of Lyons. The Eagle Ridge project is a forest restoration and wildfire mitigation project. In June 2021, a private landowner named Jack DeBell reached out to BVLCD with concerns for wildfire, and for the lack of opportunity in his neighborhood to evacuate or for firefighters to assist should an event occur. From the very beginning, Jack has been a champion for the scale of restoration needed in his local forest. While the project started with his 14 acres, he quickly rallied his three neighbors to grow the project to a total of 130 acres. Because of Jack, the project grew from his small defensible space to a landscape scale endeavor that will be completed in the fall of 2023.

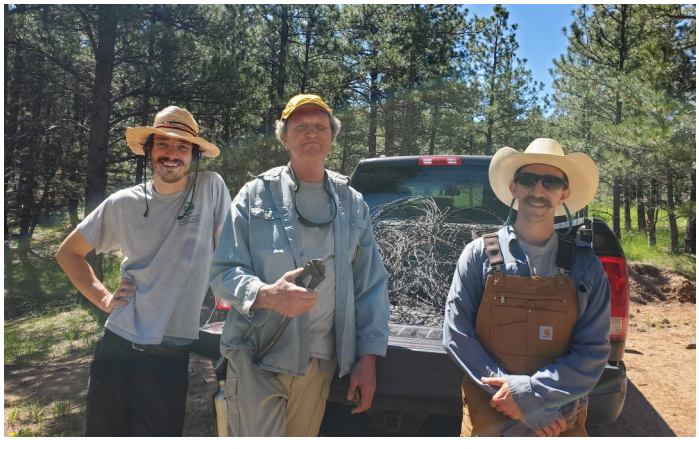
Jack's ingenuity, connections, and amicable nature didn't stop with growing the project in size. One of the most difficult aspects of a forestry project is finding an outlet for the woody biomass that has been removed; material is typically trucked long distances which increases project costs considerably. Jack established a good working relationship with a nearby quarry that is within 12 miles of the project site and is similarly interested in reclamation of the quarry, as well as river restoration. By utilizing cooperative power, Jack not only found an end-product for the woody biomass from his own project, but at the same time found source material for nearby ecosystem restoration projects.

Due to its location, this project has multiple benefits to the local area and the surrounding natural resources. It offers a strategic firebreak on top of a ridge that wildland firefighters will be able to use to great effect. The project also straddles both the St. Vrain and Big Thompson watersheds, and by making the landscape more resilient to wildfire, the post-fire risk of soil erosion and deposition into local water supplies is greatly reduced. Because of this benefit and location, Eagle Ridge was added to the St. Vrain Forest Health Partnership phase one project – a collaborative, cross-boundary forest restoration effort within the St. Vrain watershed which has gained significant public attention.

Eagle Ridge has strong evidence of a ponderosa forest ecosystem that has greatly departed from its ecological functionality. It has a very high density of trees, the majority of which are pole-sized, competition-suppressed saplings with interlocking canopies. The pre-treatment conditions could support high severity wildfire that would result in a loss of nearly all the trees, as well as burn hot enough to significantly damage the soil for years or potentially decades. These existing conditions are also insufficient for wildlife as there is little to no forest edge or forage opportunities as the understory vegetation is lacking in most places, suppressed due to the dense canopy.

After the project is finished, the forest will have a structure and species composition consistent with its historical range of variability, and one that will be resilient to wildfire and climate change. Old, fire-resistant trees will remain in groups and clumps interspersed by irregularly shaped, treeless meadows. The projected fire behavior will be greatly reduced such that conditions will facilitate surface fire instead of a high severity crown fire. Additionally, the more open structure of the forest will allow the understory vegetation to return and sustain wildlife.

Moreover, Jack has had no reservations to roll up his sleeves and contribute directly to the project. He helped remove extensive lengths of barbed wire on his neighbor's land to help facilitate the implementation of the project. Jack is a familiar face at the local community meetings, where he is an advocate for ecological stewardship. Jack DeBell has been a force of nature in seeing the project through at all stages.



Small Acreage Pastures in the Front Range

By Karla Melgar Velis, Small Acreage Management Regional Specialist

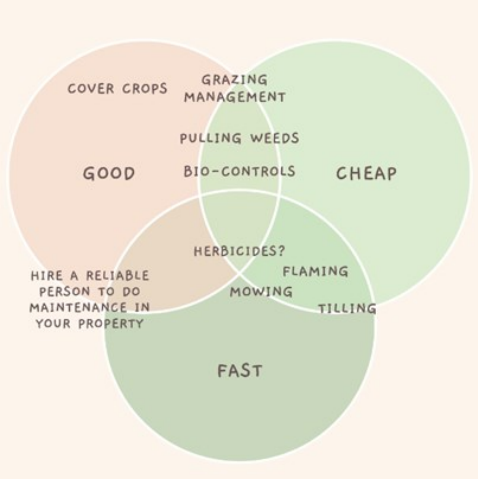
Agricultural land ownership in Colorado has its own challenges and particularities, besides the altitude and the weather. Small acreages are not uncommon and seem to be a trend that will keep increasing in the upcoming years. Colorado State University Extension and NRCS have joined efforts to provide technical assistance to small acreage owners and help them achieve their sustainability and production goals. Additionally, small acreage management provides educational opportunities, factsheets, and helps connect new landowners and small acreage owners with the right institutions and contractors for their needs.

Weed management, pasture maintenance, grazing management, reseeding and overseeding and native plants are just a few of the top concerns for small acreage owners in Colorado. It's not surprising that all these issues relate to some form of pasture/range history and grazing. During the first 8 months of 2023, about 61% of the small acreage owners of the Front range that have reached out for help to the Extension office report to own land with some history of pasture or grazing in their land.

The most common question when talking to landowners is "how can I make this land better?" which certainly brings us, as extension agents some hope that there is interest and willingness to cooperate and leave land better than it was. However, for some people, the hard reality is that this process may take a longer time than they wished for, and the goals of feeding animals off of a small acreage may need to be put off for a couple years.

The main issue with small acreage pastures is often related to a long history of overgrazing and the effects of drought in the region. Rotational grazing can provide many benefits for small acreage owners to sustain animals in a sustainable way. Although it is not a short-term solution, rotational grazing and resting periods may allow better weed management, reseeding, or regeneration times for the existing grasses on a pasture. In pastures where some fewer desirable grasses are available, sectioning the pasture can bring the extra benefit of reducing the grazing pressure on the more desirable plants that get grazed down to the ground and forces animals to feed on the less desirable plants, which prevents them from taking over the field. Building fences, whether temporary or permanent is not a low investment, but on the long term, it makes management easier and improves the chances of success.

Weed management is another common concern that can quickly become overwhelming for small acreage owners. It may never be possible to have a pasture without weeds, however, keeping weeds under control and preventing weed infestations, especially noxious weeds is crucial to ensure that enough forage is produced to feed animals. Integrated weed management often requires 2 o 3 more methods of control: herbicide applications, digging and pulling plants, mowing, or tilling or using biological agents to suppress plants. There is not just one magical method of control for weeds, and it requires constant work every season to prevent infestations. One good way to decide on what method to use for weed control is to ask if these methods meet at least 2 of the following criteria: Effective, quick and affordable (or at least worth the investment).



Weed management is also the first step towards reseeding or overseeding. A common goal for small acreage owners is to have "thicker" grasses and native grasses in their property. Grasses tend to overseed themselves when plants reach maturity and seeds are reseed in the soil, but the chances of those seeds to germinate successfully are reduced by the presence of weeds outcompeting desirable plants. A similar thing happens when trying to reseed a field that has a big seed bank from weeds. It may take up to 2 years to achieve a desirable weed control that allows a successful overseeding. Choosing the right seed for each area is also crucial; precipitation, pH and salt concentration and elevation are just some of the as-

Continued on page 7

Aspen, continued

portance for fire mitigation, people may transition from a “save trees” mind-set to a “save forests” mindset! Saved forest requires reduction of human enabled conifer tree dominance. We must create naturally sustainable forest conditions, diversity, and resilience. More aspen is part of that formula.

Forest resilience means conditions that allow retained living components following fire and other natural disturbance. Many living trees, viable soil quality, plant variety, seed sources, and wildlife, when not destroyed by intense wildfire, hasten recovery.

More aspen groves in place of mostly conifers will enhance forests with added safety and beauty on the landscape.

Here is a neighborhood action plan: Neighbors that desire wildfire defense can cooperate to encourage more aspen. Map out the drainage perimeter you and your neighbors live in for a natural “project” boundary. Give it a name. Then with landowners’ permission, get into the project’s woods. Inventory aspen. Cross property boundaries, preferably together, maybe aided with a drone flight. Search and locate on your project map all places with existing aspen tree roots signs. Even just one aspen tree will have a root network clone existing under and around it for regeneration. Then strategically plan, with neighbors and a professional forester for technical guidance, your aspen project. Draw artistic shaped patchy cleared openings in the conifer overstory at selected mapped aspen locations. Foresters can ground locate them. For a project’s multiple landowners, conifer tree removal and clean-up cost-share for contracted work is available for participating landowners. Site clean-up after patch tree removal is very important. Aspen roots need sun rays to reach the ground’s surface and warm it, to initiate sprouting. Also, remove any existing but diseased aspen trees during conifer removal. This is for sanitation before aspen regeneration begins. Leave a few to many conifers in groups or individually if wind firm. This is to lend a natural pleasant forest appearance. Nature has diversity inside diversity. Aspen will come in well during the next growing seasons. It is possible for aspen sprouts to reach 3 feet high in 3 years, with good moisture. A project for aspen needs to make sufficiently large patch openings for new aspen, to disperse ungulate browsing of aspen regeneration. Just making very small patch cuts and few acres of regeneration will concentrate browsing damage by wildlife and offer less fire mitigation. Avoid this with a significant sized and strategically designed project.

Something to See: On State Highway 7, driving north from Allenspark, stop at an unpaved turnout on the right, for a vista north. This location is across the highway from Lily Lake, just before a steep descent into Estes Park. Look past Estes valley at the most distant ridgeline, the highest mountain top touching the horizon. You will see an all-black, all-dead landscape running west to east for miles. Field glasses will help. This now dead Cameron Peak Fire killed forest is an example of what happens when there is no break in fuel continuity (conifer trees). An unstoppable wind driven crown fire will rapidly advance when uninterrupted tree density is available to fuel it. This scene would be a worse catastrophe if there had been homes with people in this crown fire’s footprint. However, wildlife, grass, herbs, and shrub roots were killed. Soil was sterilized and made hydrophobic from intense heat, and the ground is now prone to erode with flooding. Fuel quantity, continuity, and arrangement must be effectively addressed to avoid more of what you see here.

Another factor: To many first responders, the Marshall fire revealed fire behavior as never seen before. Intense heat from burning structures, vehicles, and human related fuel sources added ferocity to a wind driven vegetation fire start. Harden your structures to withstand fire and add surrounding defensible space. Immediate FIRE PREVENTION action is needed and this can be very cost-effective. All this must be addressed together with forestry and other vegetation management in collaborative community wildfire protection plans (CWPP).

Opinion: It is taking too long to effectively manage fuel sufficiently. We know what must be done. We are overdue to create beneficial forest conditions for people, wildlife, homes, watershed quality, reduced fire suppression expense, and peace of mind. Work must be accomplished at landscape scale. Managed forest is essential outside of designated wilderness.

Elvis said “a little less talk and a little more action.” John Wayne noted “we are burning daylight.” Please, now, come together. Save the forest carefully.

Small Acreage, continued

pects to keep in mind when choosing a grass species to plant on a field. Additionally, although some native grasses may check all the boxes in terms of adaptability, the purpose and desired management of the grass on a long term may define what grass to use. Short native grasses like blue grama will not produce hay, but may be good forage for some species, and in some cases, introduced species that are already established on a field may be the best option to provide forage.

Even though it seems like non-native plants, either grass or weed, may become a problem for native ecosystems, sometimes the most realistic approach for small acreage owners may be to keep what the land already has but manage it differently and encourage natives to grow naturally, without eliminating invasive species. And although this may contradict the weed management approach mentioned before, maintaining ground cover is extremely important. Wind and water erosion are not uncommon in Colorado, and sometimes weeds are the only thing keeping the soils in the field. So, rushing weed control and creating fallow fields for extended periods of time can cause more damage than good.

As with any big project, small acreage management requires a lot of planning, patience, and time. Rushed management decisions and quick solutions may have long term effects over pastures, as we have experienced with over grazed fields, made to feed large quantities of cattle without thinking about the long-term goals. Being a good land steward is a constant work on creating resilient pastures and landscapes. CSU and NRCS' small acreage management is here to help with achieving those sustainable goals for small acreages through site visit consultations, fact sheets, workshops, classes and more. You can visit the website: https://sam.extension.colostate.edu/ to learn about how to get assistance or learn about how to manage a small acreage in Colorado.

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The Boulder Valley and Longmont Conservation Districts' *Front Page*, is published occasionally.

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