

High Country Conservation



January 2020

LARAMIE RIVERS CONSERVATION DISTRICT

Winter Edition



Last year was a busy one as we continued establishing conservation practices in both rural and urban areas of Albany County. Our area is not rich in oil, coal or natural gas so our main industries are education and tourism. As a result, Albany County remains relatively stable and continues to grow at an even pace. As residents, we appreciate that our state has abundant beauty and natural amenities that we enjoy. We also know that we will continue to see our popula-

tion increase, which underscores the importance of planning our land and natural resource use wisely right now. At LRCD, we have the skills and knowledge of over 70 years of natural resource management to contribute toward building our future. We bring the latest advancements that help landowners, local government agencies, and special interest groups make informed decisions and implement wise conservation practices. We hope you enjoy this year's snapshot of projects!

IMPROVING LIVESTOCK GRAZING DISTRIBUTION

Laramie Rivers Conservation District (LRCD) teamed up with USDA, Natural Resources Conservation Service (NRCS), US Fish & Wildlife Service, and The Nature Conservancy on a range improvement project north of Laramie. The plan called for installing a wildlife-friendly cross-fencing and upland livestock watering systems to improve the grazing distribution of livestock and reduce overgrazing that can lead to soil erosion. Along with the installed best management practices (BMPs), LRCD, with assistance from USFWS, established four Cover-by-Life-Form Transects (an estimation of the relative amounts of different vegetation on a site) for long-term upland monitoring. Fence markers were installed on the wildlife-friendly fencing to improve the visibility of the smooth wire and reduce wildlife collisions. The wildlife benefits resulting from this project are more watering locations for upland birds, elk, deer and antelope. These sites will be reevaluated on a 5-year rotation to monitor long term plant diversity trends.



Martin Curry, Resource Specialist/Bookkeeper, has been with LRCD for 12 years and has managed the district's rangeland programs and projects. His skills provide landowners with essential information about land management on the high plains of Albany County. A few of his areas of expertise include livestock management, soil types, rangeland plants, wildlife migration, and land use strategy to conserve and restore wildland ecosystems.

PROJECT COST SUMMARY

NRCS = \$27,099	The Nature Conservancy = \$5,000.00
Wildlife Natural Resource Trust = \$25,344	LRCD = \$5,000.00
USFWS = \$7,950.00	Landowner Contribution = \$12,318.00



LARAMIE SENIOR HIGH SCHOOL GEO-DOME

Seven elementary schools in ACSD1 have seasonal gardens, greenhouses, or both. This year Laramie High School was the eighth to install a small raised bed garden and an eighteen-foot geo-dome. This dome features heat-activated automatic opening vents, under soil heating-and-cooling system powered

by a solar fan, and an above-ground 700-gallon water tank to stabilize temperatures year-round. With Laramie's short growing season and extreme temperature variation, the hopes are that this geo-dome will extend the ability to grow plants throughout the school year.



Gardens and greenhouses are an effective way to integrate what students are learning in other classes. Gardening can cultivate curiosity and an opportunity connecting book learning while allowing students to become active in their learning process. These types of projects also serve as a training ground for life-long learning as students foster an understanding of their relationship with nature and their community.

Over the last several decades, the Ag industry farming practices and human consumption may have contributed to a negative impact on caring for our environment. By teaching youth about sustainable agriculture practices, they learn how their actions and choices affect the environment.

Partial funding for ACSD1's garden/greenhouse programs obtained through the Department of Ag's Specialty Crop Block grant, Laramie Rivers Conservation District, and many volunteers from ACSD1 staff and students.

Trish Penny is going on her 16th year with the district and is passionate about providing essential conservation education to K-12 students and adults. She is a Master Gardener and has been successful in implementing teaching gardens throughout the county. She has also built a beautiful and instructive learning center and community garden at LaBonte Park that is a shining example of successful growing techniques in high-altitude gardens.

URBAN CONSERVATION & AGRICULTURE

Growing populations and increased urbanization are putting greater demands on the natural systems in and around cities. To meet the mounting demands for clean water, food, and energy, we must find ways to maintain human well-being through sustainable land use, efficient resource use and the protection of biodiversity through innovative strategies. Along with environmental challenges, throughout the nation, urban agriculture pioneers are taking action in their communities and are an important part of the urban conservation system.



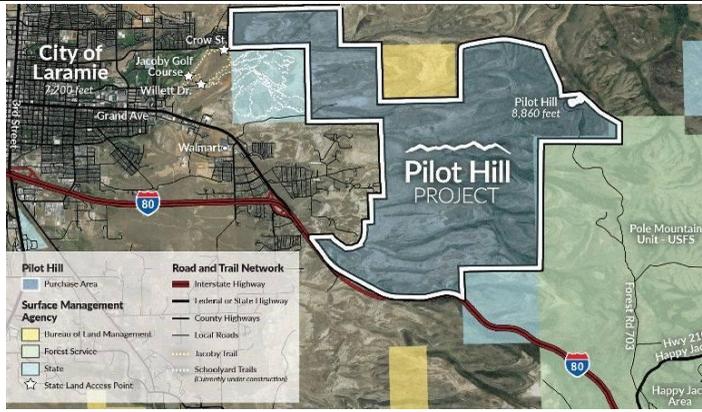
LRCD, along with conservation districts across the nation, has the specialized skills and knowledge to address these urban conservation and agriculture issues and provide guidance to the local population as well as municipal government and other local agencies. In our district, LRCD tackles issues managing stormwater to better mimic natural hydrology, landscaping with native and low-water-use plants, utilizing raised beds and season extension structures to increase gardening success, and increasing tree stock in our urban forest.



Laura McGinley, District Clerk/Communication Coordinator, is going on her 8th year at LRCD. She utilizes her graphic design skills to create communications for practical and educational use as well as keeps the office IT systems up and running. She addresses many of the urban conservation issues, including solid waste reduction, low-resource use landscaping, native and pollinator plants, native grasses for turf and landscaping, and town trees.

PILOT HILL PROJECT

An important project that aligns well with our mission is the Pilot Hill project. The purpose of the project is to provide new public access to 5,472 acres of undeveloped open space east of Laramie.



This land acquisition will offer recreational opportunities for residents as well as protect the Casper Aquifer drinking water resource. The plan is that this area would be co-managed by Wyoming State Parks and Wyoming Game and Fish Department for its recreation and wildlife values. The protected land would also offer a wide variety of educational opportunities and be a draw to the area that would benefit Laramie and Albany County's economy. Tony Hoch has been representing LRCD by as Co-chair of the Oversight Committee and the Chairman of the Land Management Committee for the project.

Tony has been Laramie Rivers Director for 16 years and handles most of the conservation district's water quality and quantity testing and projects. He enjoys educating residents on conservation issues through the many presentations, walking tours, and workshops he does throughout the year as well as through participation in community groups and committees.



Natural Resource Conservation Service (NRCS) report:

Biological Primers to Improve Forage Productivity

Roger Stockton, PhD. Crop Physiology and Production/WY NRCS State Conservation Agronomist

In many areas of the state we see long-term grazing units and hay meadows that have steadily declined in production over the years. Usually these areas have been planted to a single grass or maybe an alfalfa-grass mixture. This is contrary to Mother Nature who uses 50 to 200 different grasses, forbs and legumes to maximize the stability and productivity of her grazing land.



This system worked very well until mankind got "smart enough" to start interfering. How do we "prime" soil biology?

There are 5 principles for priming low production forage units:

- Minimize soil disturbance, tillage, fertilizer and pesticides
- Keep living roots in the soil as many days of the year as possible
- Maximize plant species, crop rotation, multi-species cover crops
- Keep soil covered with residue and/or growing crop
- Integrate livestock grazing where ever possible.

The benefits of multi-species cover crops or perennial forage species are many. There is no wasted space or energy; there are leaves growing at all levels of the plant canopy, absorbing maximum sunlight. There are roots growing at all levels of the root zone, using water and nutrients efficiently. Mycorrhizal fungi grow in the soil connecting plant roots to other plants to transport water and nutrients throughout the plant community. This results in about 1/3 more biomass with less water usage in the multi-species mix. Plants will leak 20 to 40% of their Carbohydrate production through the roots to attract microbes to mineralize organic nutrients into plant usable nutrients in very close proximity to the root. Penn State University research showed 31% greater forage yield from a 5 species mix compared to a 2 species mix over a 9 year study. The advantage continued even after some of the 5 species disappeared from the mix in later years.

When renewing a declining forage unit with cover crops before replanting perennials, use 8-12 species with 40% being legumes, 40% grasses and 20% brassicas and pollinator plants. Use the same guidelines for the perennial mixture as well. Producers with 5 or more years' experience in this forage management mention they don't have vet bills now because their cattle are eating healthy forage and don't get sick.

For more information, contact your local conservation district or NRCS field office. USDA is an equal opportunity provider and employer.

**LARAMIE RIVERS
CONSERVATION DISTRICT**
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Laramie Rivers Conservation District

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LRCD Soil, Water, and Plant Analysis Cost Share Program

**Potable Water * Trace Minerals in water
Irrigation and Livestock water * Forage testing for
nutritional value * Soil testing for gardens for crops**

The SW&P Analysis Cost Share is a matching program in which up to 50% of project costs may be reimbursed by the District up to \$500 total. Our knowledgeable staff can assist with understanding the different tests that are available, where testing labs are located, and how to read results.

Regular Cost Share Program

Application can be found at www.lrcd.net
50% or up to \$1000 contributed to
your qualifying project!

**Living Snow Fences/Shelterbelts
Raised bed vegetable gardens
Low-Impact Landscapes
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Drip irrigation**