REGENERATIVE AGRICULTURE ON CITY OPEN SPACE

*"Conservation is a state of **harmony** between men and land."*

Aldo Leopold

By Howard Zahniser - NCTC Archives/Museum, Public Domain,

OPPORTUNITY STATEMENT

ALIGNMENT OF ISSUES + SOLUTIONS

Park City adopted North America's most ambitious climate goals. The solutions need to be both traditional (energy efficiency, carpooling) and innovative (electrification, carbon sequestration).

Certain agricultural open space have proliferation of noxious weeds, water quality issues, and lack of biodiversity. These issues will continue to grow, increasing treatment and mitigation intervention costs.

Open space is a long-held community value. Re-engaging the public with the diverse landscapes will strengthen the fabric of community, ignite curiosity, and heighten responsibility to be good stewards.

OUTCOMES

WHAT CAN BE ACCOMPLISHED

engage and educate the public, land managers, universities, government, and key stakeholders in the process to help the agro-ecosystem flourish

improve biodiversity and water quality on-site through increasing plant species on site, improve microbial health, and managed disturbance

sequester carbon into soil not through tilling, rather by using diverse tools that mimic natural processes. Plants, water, and animals working together reduce the need for external inputs, and aid in the cycle of nutrients.

measure, verify, and share efficacy of management practices implemented on-site. This will include field measurements, third party assessments, and remote sensing. Developing a durable soil carbon tool that can be scaled across vast landscapes would be impactful to land management practices across the west

Issue

Certain city owned agricultural lands suffer from noxious weeds, grass overgrowth, drainage issues, and lack of biodiversity. These issues compound their affects of competition with beneficial plants, loss of soil, and lack of water retention.

Solution

Increase plant biodiversity through spreading 30+ species of plants. This will include:

Nitrogen fixers (clovers, vetches)

Soil busters (radishes, beets)

Pollinator friendly (sunflowers, lupins)

Diverse root structure (rye, buckwheat, corn, warm grasses)

The goal is to have these plants work symbiotically to fertilize, compete with noxious weeds, improve water quality, and provide food for a diversity of animals, insects, and most importantly, soil microbes.

Issue

Grass overgrowth, along with marginal soil health, impede nutrients cycling between plants and the soil. The overgrowth, called “thatching,” creates thick mats of dead grass that does not easily break down and hamper plant growth. If left unmanaged, it can expose the soil and degrade plant health on the site.

Solution

Imagine if we had equipment that didn’t need gasoline, dispose of issue materials, and loved all weather?

Mob-style grazing uses cattle to mimic bison on the Great Plains. Cattle are kept in smaller areas, and moved regularly. This creates competition (cattle eat all the plants, not just their favorites), and moves them on before exposing soil. Their presence break down the plants and return nutrients to the soil by stomping on grasses, ingesting and pooping out broken-down plant material. This feeds the soil, which in turn feeds the plants.

Issue

The iconic McPolin White Barn is a stunning welcome to Park City. History is an important value to Park City, and is one of the characteristics that make this town unique. Our agricultural heritage has been under-highlighted.

It will take a myriad of projects and programs for Park City to meet its climate goals. Keeping the public engaged through projects that they can see and interact with daily will be key in finding success.

Solution

The iconic and historic value of the structures, in combination with the agricultural landscape, presents a unique opportunity to engage the community and other stakeholders. Looking back at the importance that agriculture played in shaping Park City, while also educating on how critical agriculture could be in solving our climate issue, is an unique opportunity.

Working with Friends of the Farm, Summit Land Conservancy, and other groups, we can teach history, science, and policy to a diverse mix of the greater community. Engage the school in what made Park City into what it is today, work with land managers to demonstrate innovative practices, and get the community to not just drive by the site, but to take pride in their community.

Issue

Eco-systems are complex and hard to quantify. Inputs that humans can control (seed mix, watering, weed removal) are affected by forces that we cannot (weather, soil type, etc.). Understanding the outcomes, and correlating the change to management practices can become overwhelming and a challenge to measure.

Solution

How will we know what is effective?

Through field based measurement, remote sensing, and learning from other programs.

If we can develop a tool that aids in measuring carbon being stored in the soil, we can share this tool, as well as our best practices, to encourage adoption of regenerative agriculture. Healing the land, cleaning the water, and providing animals a good quality of life would work together to be one solution for our climate issue. Park City is not alone in pursuing agriculture as a solution for environmental issues. Many potential partners have expressed interest in joining in our goal to measure and verify the impacts of what we are trying to do.

Partners

PCMC: land owner, capital improvements, policy goals

Summit Land Conservancy: non-profit conservation holder

Bill White Farms: non-profit ranch operator, implementer of projects (seeding, repair, animals)

Friends of the Farm: volunteer board, engaging community with iconic historic landmark

UPDATES/Feedbcak/awareness