



United States
Department of
Agriculture

Natural Resources Conservation Service



Conservation Innovation Grants

innovating today for tomorrow's agriculture

OREGON

USDA is an equal opportunity provider, employer and lender.

OREGON

Oregon, where the **CAN-DO** spirit roams free and we don't settle for what worked yesterday.

Armed with innovation and equal opportunity, our farmers, ranchers, and forest stewards help feed and clothe the world.

Where there's a need for new technology or solutions to some of agriculture's toughest problems, Conservation Innovation Grants are here to keep the wheel of progress turning.

Every year, USDA's Natural Resources Conservation Service offers grants to America's brightest individuals and institutions. These opportunities accelerate adoption of promising technology and conservation approaches that address the nation's most pressing natural resource concerns.

In Oregon, we take Conservation Innovation Grants a step further with additional funds set aside just for Oregonians. We're doubling down on a national program by investing in Oregon.

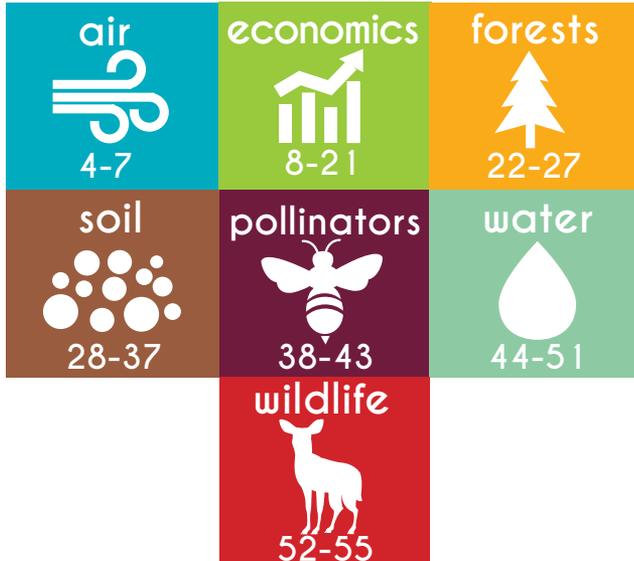
Farmers and technical experts, universities and private companies have come to the table and delivered innovations that influence the rest of the country. From large-scale rain catchment systems for crop irrigation, to new pest management strategies, to new markets and revenue streams for good stewards, investing in Oregon's innovators benefits us all.

This book highlights some of those investments and innovators through the 2014 Farm Bill. It's a celebration of the tenacious imaginations that inspire the future of Oregon's private lands.



content

A glimpse of CIG through the 2014 Farm Bill



CIG Investment



Oregon Total
\$986,131



*National Total
\$3,354,830



TOTAL GRANTS
\$4,340,961



TOTAL PARTNER MATCH:

\$5,558,703



TOTAL INVESTMENT:

\$9,899,664

* National CIG funds invested in Oregon



air





Improving Air Quality in Hood River

Oregon is blessed with an incredible variety of orchards that provide fresh fruit and nuts every year. To keep their trees healthy, orchardists must prune regularly to keep production high and limit disease. Because there's often no alternative, pruning waste is typically burned in piles at each orchard. It's a quick way to get rid of the waste, but it's not so great for air quality in **Hood River County**.

That's why the County is working to eliminate orchard waste pile burning countywide. They've purchased a mobile air curtain burner to drastically limit smoke pollution. Long term, the County will work with fruit growers to develop programs that completely eliminate pile burning in the county.

at a glance

> 50 tons of particulate matter have been eliminated from the air in Hood River County thanks to voluntary conservation.

source: NRCS



\$39,000 awarded in Hood River



economics





High Definition Grazing Management



With thousands, or even tens of thousands of acres to manage, it can be tough for ranchers to determine where cattle are grazing most heavily and where the best grass is still to be had. **The University of Idaho** is combining two approaches to this challenge to help ranchers develop a higher fidelity picture of life on the range.

By combining satellite imagery, plot-based measurements on the ground, and GPS collar data, the project will validate established techniques and improve an online tool to help ranchers analyze and visualize forage availability.





\$661,118

awarded to
The University of Idaho



Synthesizing Resources for Impact Investing in Forests



Oregon's forests are as diverse as they are vast. Taking care of them to make sure they keep taking care of us requires an equally diverse pool of resources. That's why **Ecotrust** has developed a new investment fund which combines public, philanthropic and private capital to maximize forest stewardship dollars.

The Impact Investment Fund helps conservation dollars go further and achieve a scale that yields measureable results for forestland productivity and conservation.



at a glance

10%

of Oregon's economy is involved in agriculture

=

\$22.9 billion in value



326,000 in full and part-time jobs



source: OSU Extension



\$ 150,000

awarded to
Ecotrust





Ensuring Value in Environmental Markets



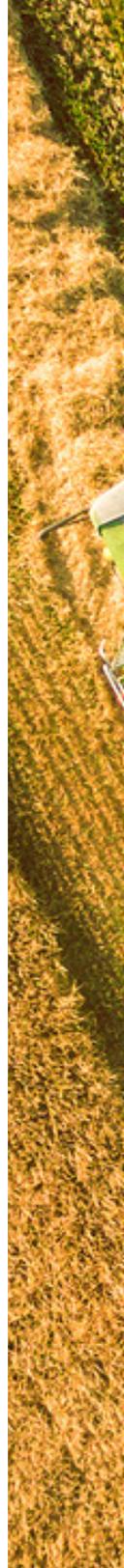
Conservation on farms, ranches, and forests provides major benefits to the environment. **The Climate Trust** wants to make sure more private landowners get credit for all that work.

Many conservation projects have the opportunity to generate environmental credits, such as carbon credits, to recognize their environmental benefits. When companies or governments generate greenhouse gasses, they may be willing to purchase carbon credits from a farmer to offset their carbon footprint. This can result in additional income for Oregon's farms and ranches.

Investors and lenders have been known to discount the future value of carbon credits. Perceived risk means there's not enough investment in carbon markets, and not enough credit going toward conservation.

The Climate Trust has launched an Environmental Price Assurance Facility to spur development in agriculture and forestry conservation projects by reducing the risk associated with the future value of carbon credits.

By guaranteeing the minimum value for future carbon credits, **The Climate Trust** will lower the cost of conservation projects and encourage more investment in the market.





“

WE'RE EXCITED ABOUT
THE CLIMATE TRUST'S
INNOVATIVE STRATEGY
TO SPUR ADOPTION OF
CONSERVATION PRACTICES
USING A MARKET-
BASED APPROACH.

— RON ALVARADO
State Conservationist, NRCS Oregon

”



\$900,000 awarded to
The Climate Trust



Bringing Carbon Credits to Range and Pasture



The open range is the next frontier of carbon credits. Long-lived grasses and well managed pastures are incredible fixers of soil carbon.

Terra Global is leveraging that carbon storing potential to develop new greenhouse gas markets on vast swaths of range and pastureland. A key product of their project is a comprehensive set of range and pasture greenhouse gas protocols through the Climate Action Reserve. This work will make it easier for ranchers to access new carbon market revenue streams as they pursue higher levels of stewardship on their land.



\$730,647

awarded to
Terra Global
Capital, LLC



\$437,037 awarded to
Willamette Partnership

Integrating Science, Policy, and Tools for Floodplain Markets



Flood storage, improved water quality, wildlife habitat, and groundwater recharge are just a few of the many benefits provided by floodplains. **Willamette Partnership** is combining the best science and policy innovations to create market incentives for farmers and communities to participate in floodplain conservation programs.

The Partnership isn't going it alone. They're leveraging resources and expertise across industries to give Oregon the best chance possible to protect, restore, and enhance floodplains. This project also incorporates tools from The Nature Conservancy, The Freshwater Trust, the Environmental Protection Agency, and the U.S. Army Corps of Engineers.



Improving Human Health Through Forest Health



Most family forest owners are over 65 and their land is the family's most valuable asset. When sudden financial demands such as healthcare arise, the land is often the first resource tapped for relief.

Until now, forest carbon projects have been mostly implemented by large landowners to support conservation and sustainable forest management. Carbon projects have remained largely inaccessible to small-acreage family forests.

The Pinchot Institute for Conservation is addressing these issues by developing a carbon market that allows multiple family forests to combine their carbon sequestration power toward the sale of carbon credits.

Through this 3,500 acre project, the Institute hopes to provide a model applicable across the U.S., which will help family forest owners meet healthcare expenses not through timber or land sales, but by monetizing carbon credits through sustainable forestry.

Conservation for healthcare means more trees and more family forests in Oregon.





\$125,000

awarded to
Pinchot Institute
for Conservation





Broadening Access to Carbon Markets in Oregon



Ecotrust is connecting the dots to bring two recently completed efforts together with an ecosystem services buyer seeking to buy Oregon forest carbon credits.

The project focuses on establishing a forest carbon project that's scalable to multiple sizes and broadening the scope of participation. The purpose is to bring together a unique partnership of landowners, technical experts, and a motivated buyer to develop a forest-carbon offset program that can be replicated across the country.





\$75,000

awarded to
Ecotrust





f o r
e s t s





Educating Eastern Oregon Woodland Owners

Understanding the health of your forest doesn't need to be complicated. **The Oregon Department of Forestry (ODF)** is developing a "Forest Wellness Report Card" to help forest landowners get an A-plus on forest health.

ODF is addressing forest conservation issues across Northeast Oregon and the Blue Mountains by engaging rural, non-industrial forest landowners who live and work there every day.

Through special outreach and tools such as the forest report card, landowners will be better equipped to understand fire risk, forest density, and timber production potential.



at a glance

48%

of Oregon is forestland

30

million acres of trees 

11%

of Oregon's economy is related to forests

source: Oregon Forest Resources Institute





\$75,000

awarded to the
Oregon Department
of Forestry



Assessing Forests with Tech-Enabled Efficiency

Ecotrust is giving forest stewardship planning a major tech boost. By integrating high resolution imagery with mobile platforms, forest managers now have the tools to quickly see the forest through the trees.

This Rapid Forest Assessment project will allow forest landowners to quickly assess the composition and structure of their forests for planning and management purposes. That means more efficient, more sustainable private lands forestry in Oregon.



\$75,000 awarded to
Ecotrust





\$60,075

awarded to West
Multnomah Soil
and Water
Conservation District



Bolstering Understory Habitat

The plants and wildlife that make up the understory of a forest are just as important to forest health as the show-stopping old growths we all love. A healthy forest floor with active wildlife supports the entire forest and contributes to clean water and air.

West Multnomah Soil and Water Conservation District is developing seed mixes and planting guides to help forest managers grow healthier, more resilient forests.



soil





Bringing Native Plants Back to the Farm

It's in the name, native plants belong here. Oregon's native species are well suited to our climate and soils. Healthy native plant populations can improve soil health and extend the growing season in addition to myriad ecosystem benefits.

Oregon State University's OregonFlora program will determine best practices for selecting and integrating native plant species into grazing lands. They will track the viability of native plant species in various grazing conditions to identify species compatible with livestock production. The project will also enhance the OregonFlora digital resource, including an interactive mapping program that tracks plant distributions across the state.





\$74,779

awarded to
Oregon State University



Maximizing Cherry Production and Soil Health

Conservation can help orchards boost production and disease resistance while also improving water quality and soil health. Research proves it, and Michael Omeg is out to make it a reality in Oregon.

The Cherry Orchard Conservation and Productivity project will showcase to farmers how mulching and intensive nutrient management can transform their orchards—benefiting their bottom line and the environment.



at a glance

220

agricultural commodities are produced in the state, and every one of them depends on the soil.

source: Oregon Department of Agriculture



\$74,612

awarded to
Michael Omeg



\$75,000

awarded to
**South Umpqua Rural
Community Partnership**

Transforming Farm Waste into Money- Saving Biochar

Biochar can help improve the health of many soils, but shipping and applying it to farmland can be a costly proposition. **The South Umpqua Rural Community Partnership** is making biochar available to more farmers by helping them produce it right on the farm.

The group is building community kilns and hosting on-site demonstrations to show how easy it can be to convert woody debris and animal manure into carbon rich, soil fortifying biochar. The project is also performing field trials to test various types of biochar composts and developing guide sheets specifically for farmers.

By making their own biochar, farmers are boosting soil, sequestering carbon and dealing with major farm waste all at the same time.

Tracking Nutrients Just Got a Whole Lot Easier

H&R Engineering has integrated decades of NRCS data with a simple-to-use, internet based record keeping tool that allows farmers to easily document and track key soil nutrients on their farm.

Say you're a wheat grower. The tool not only helps you keep track of the fertilizer you apply, but also tells you how much of your nutrients the crops are using. H&R's Online Decision Making and Record Keeping tool helps farmers track all the key nutrients that went onto the field, what nutrients were used up, and which nutrients might still remain for the next crop.

With the ability to quickly generate whole-farm nutrient reports and track historical balances, the tool puts a major time and money saver in the hands of farmers across Oregon.

Learn more at www.odark.org.



\$55,000

awarded to
H&R Engineering



Understanding Fertilizer Efficiency In Winter Wheat

Understanding how much fertilizer your crop needs and the potential size of your harvest is key to a farmer's business planning. **Keith Morter** is developing a report to help Oregon winter wheat growers do just that.

Using precision fertilizer tools, precipitation tracking, and soil tests, this project will help farmers understand what to expect from their next wheat crop and potentially plan more resiliency into their business.





\$75,000

awarded to
Keith Morter



pollin
ators





Creating Market Incentives for Pollinators



In partnership with major food companies, agricultural investors, and conservation-minded farmers, the **Xerces Society** is developing and launching a first-of-its-kind certification program that incentivizes the large-scale adoption of pollinator conservation through a marketing-driven platform.

Bee Better Farming leverages investments from the private sector to encourage pollinator conservation on Oregon's farms and ranches and rewards participants with a formally recognized certification.



at a glance

\$3 billion

The combined value of pollinator dependent crops in Oregon and Washington.

source: Xerces Society





\$351,028

awarded to
Xerces Society



Enriching Pastures to Become Pollinator Havens

Oregon's pastures are buzzing with potential. **Oregon State University** is developing resources to demonstrate how ranchers can create pollinator habitat, improve soil, and provide nutritious food for their livestock—all in one fell swoop.

How do they do it? Plant clover! By enriching pasture with a diverse clover mix that blooms in sequence, ranchers provide a wider window of opportunity for pollinators while also boosting soil health and forage for livestock.





\$30,648

awarded to
Oregon State University



water





Tracking Water Quality Investments in the Klamath Basin



The Klamath Basin is crucial to Oregon's agriculture and economy, so it's no surprise farmers and ranchers are committed to voluntarily implementing conservation practices that help protect and enhance the watershed.

The Willamette Partnership is building on existing tools to create a platform that helps NRCS and partners track the outcomes of water quality investments in the basin.

The platform will demonstrate how project investments in stream restoration and other conservation practices are effective at improving water quality in the Klamath Basin.



at a glance

77%

of Oregon's crop value comes from irrigated farms, making irrigation water crucial to our agricultural economy.

source: Oregon Water Resources Department





\$59,970

awarded to
Willamette Partnership



Keeping Groundwater Safe In The Southern Willamette Valley

The Southern Willamette Valley Groundwater Management Area spans 230 square miles following the Willamette River from Coburg to Corvallis. Over 21,000 people call this area home and nearly 80 percent of them rely on groundwater for drinking, cooking and bathing.

There's also an unwelcome resident lurking just beneath the surface—nitrate. It's a common agricultural runoff that in high concentrations has been associated with diabetes, negative reproductive outcomes, and various forms of cancer.

Portland State University (PSU) is working with farmers and ranchers in the area, many of whom are groundwater users themselves, to implement strategies that reduce nitrate. PSU wants to increase the tools available to farmers to more efficiently apply nitrogen to their crops, resulting in economic savings and less nitrate in groundwater.

The university is also collecting data on nitrogen emissions to develop carbon credits in the Willamette Valley.





\$75,000

awarded to
Portland State University





Advancing Precision Irrigation

Reliable, affordable irrigation is essential to Oregon agriculture and our food supply.

Wy'East Resource Conservation and Development Area Council is making sure farmers have the tools they need to water crops, make a living, and feed America.

Advanced Precision Irrigation 2.0 combines the best irrigation hardware available with real time data and predictive models. The Irrigation Application Forecast Tool and Pumping Cost & Efficiency Tool utilize weather models and pump plant efficiency data to optimize the irrigation regime.

Advanced Precision Irrigation 2.0 ensures water gets to crops at the right time, in the right place, at the right rate.





\$74,989

awarded to
Wy'East Resource
Conservation and Development
Area Council, Inc.



wild
life





Detecting Fish through eDNA

Imagine if you could stand by a stream for 15 minutes and determine what fish are present and which are absent. Magic, right? That magic is exactly what the **Burns Paiute Tribe** is making a reality using eDNA.

Environmental DNA or eDNA is all the little bits of DNA that accumulate in the environment as animals make it their home. There's DNA in the water, the soil, the air, even your house!

Using a power drill, a pump, and a filter, the Tribe is able to collect enough DNA from streams to determine what fish live there.

Their grant project is working to improve eDNA collection and enable land managers to confidently determine what fish are in a given distance of stream. This is especially important for identifying the home streams of native species as well as finding where invasive fish are hiding.



at a glance

16.3 million

acres of Oregon are used for farmland. Those same acres support an abundance of birds, fish and other wildlife.

source: National Agricultural Statistics Service





\$67,058

awarded to
Burns Paiute Tribe





CIC

oregon

