

The Value of Protecting Rangeland: Local Cheese

THE HEALTHY LANDS AND HEALTHY ECONOMIES INITIATIVE

CASE STUDY



**AG +
OPEN
SPACE**
SONOMA COUNTY

CONTEXT

Rangelands in Sonoma and Marin counties are home to agricultural operations that support a wide variety of products, including beef, lamb, and goat meat, as well as hay, silage, milk, yogurt and cheese. The locally produced artisan and farmstead cheese market has emerged as an important economic driver in northern Marin County and southern Sonoma County. In this coastal agricultural area, over 330 people are employed directly in cheese-making or fermented dairy production, and there are up to **600 additional jobs** in related sectors. In total, the value of milk production in Sonoma and Marin counties in 2017 totaled over **\$170 million**. A 2010 study showed that local farmstead and artisanal cheese production alone is a **\$119 million** industry, and has helped this region become a world class producer of artisanal and farmstead cheese, and a prime destination for agricultural and food tourism.

However, due to fluctuations in markets and land prices, regulations, and competition from outside areas, dairying has become increasingly challenging.

These challenges can result in dairy closures and land use changes, including the conversion of land from agriculture and food production to rural residential or other uses. Between 1984 and 2008, over **480,000 acres** of California rangeland were converted to other uses, most commonly commercial and residential development.

In addition to the values associated with productive agriculture, the coastal rangelands in Sonoma and Marin counties also encompass important groundwater basins, scenic vistas and open spaces, wildlife corridors, and habitat – including several streams that are home to the endangered coho salmon. Coho are under intense pressure due to land use change, climate shifts and ocean conditions, with development being a major driver of impacts to their habitat.

Rangeland agriculture and wildlife – including coho salmon – have co-existed for hundreds of years, and the protection of private rangelands and habitat holds promise for the continued existence of both. In fact, research shows that in many cases ranches provide the best remaining habitats for threatened and endangered species, including wintering birds and waterfowl, invertebrates, and mammals.⁶¹ There are 75 plant and animal species associated with California grasslands that are listed as threatened or endangered under the Endangered Species Act.⁶² Land conservation – whether through private stewardship, public and private investment of dollars into conservation easements, or

via Williamson Act provisions – keeps land in agricultural production while providing many other benefits to the local and regional economy and community. In Sonoma and Marin counties, there are nearly 47,000 acres of dairy land, and of these, over 18,400 acres are protected by a perpetual conservation easement – most commonly held by Ag + Open Space or the Marin Agricultural Land Trust. In addition to perpetual conservation easements, other tools play an important role in protecting rangeland. For example, in Sonoma County over 17,600 acres of dairy land are protected by the Williamson Act – a state program that provides short term protection of agricultural land.

In addition to the revenue and jobs that are provided to the local economy from artisanal cheese production and other agricultural uses, these privately stewarded lands help our community to protect biodiversity, sequester carbon, avoid greenhouse gas emissions associated with rural residential subdivisions, adapt to climate change, and protect drinking water supplies by keeping lands over groundwater basins open and supporting flows in stream corridors.

Additional economic benefits include the well-documented contribution of scenic agricultural lands, and local cheese and other food production, to the over **\$2.52 billion** in annual tourist spending in Marin and Sonoma counties – driving **\$1.1 billion** in local business and employee income.



FINDINGS

Value: AGRITOURISM

More than **2.4 million** visitors participated in agritourism at California farms and ranches in 2008. A 2015 survey of Sonoma County tourism businesses found that **44%** thought that agritourism was a good market opportunity for Sonoma County, and **69%** thought culinary tourism with locally sourced food was a good market opportunity.

Value: JOBS RELATED TO CHEESE-MAKING

332 people are employed directly in cheese-making or fermented dairy production in Sonoma and Marin counties, and there are up to **600 jobs** in related or supportive sectors.

Value: CARBON SEQUESTRATION

In Sonoma County alone, approximately **25,292** metric tons of aboveground carbon is stored on the 6,510 acres of dairylands protected by a conservation easement. With an average value of carbon storage at \$60/tonne or greater, carbon storage on these properties is equivalent to **\$1,517,520** in avoided global climate change costs.

Value: NATURAL BEAUTY

Rangelands provide scenic and open space value. Scenic value varies considerably from location to location, but one study found that the public may value the natural beauty service at more than **\$130 per acre per year**.

Value: WATER QUALITY AND SUPPLY

Well managed grazing combined with the natural capacity of rangelands to mitigate microbial pollutants provides for clean water. Per acre of rangeland, there is approximately 1.25 to 2 acre-feet per year of groundwater recharge, which may be valued at approximately **\$100 to \$1,000** per acre-foot, based on Sonoma Water analysis of groundwater recharge projects.

Value: HABITAT AND NURSERY

Rangelands provide migration corridors and habitat for diverse species, including threatened or endangered species. Grazing has been shown to enhance California's unique habitats such as vernal pools by controlling exotic annual plants and enhancing herbaceous plant diversity which can benefit a diversity of species, including endangered species such as the California tiger salamander. Habitat value varies considerably from location to location, but one study found that the public may value the wildlife habitat benefits of enrolling an acre of terrestrial in a conservation reserve program at **\$87.50 per acre per year**.





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Sonoma County Ag + Open Space permanently protects the diverse agricultural, natural resource and scenic open space lands of Sonoma County for future generations. We are responsible for the perpetual protection of over 116,000 acres of land throughout our region. These agricultural and open space lands are protected through a quarter-cent sales tax approved by voters in 1990 and reauthorized in 2006. For more information, please visit www.sonomaopenspace.org.



THE HEALTHY LANDS AND HEALTHY ECONOMIES INITIATIVE

The Healthy Lands and Healthy Economies Initiative documents the economic value and community benefits of natural and working landscapes. This research helps to show that Sonoma County's investments in land conservation pay real dividends, now and into the future. This Initiative would not have been possible without contributions from the Gordon and Betty Moore Foundation, the S. D. Bechtel, Jr. Foundation, and the California State Coastal Conservancy.

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MORE INFORMATION: Conservation Strategy Fund. 2016. Artisanal Cheese and Land Conservation in the Milkshed of Sonoma and Marin Counties. Report prepared for Sonoma County Ag + Open Space and the Marin Agricultural Land Trust.

Rilla, E. 2011. Coming of Age: The Status of North Bay Artisan Cheesemaking. UC Cooperative Extension. Available at: www.bit.ly/2MSNio9