Restoring Tribal Stewardship on the North Coast: Tribal-Vineyard Partnerships in Sonoma, Mendocino, and Lake Counties

IMAGE: Alexander Valley Vineyards, Sonoma County

A report produced for the

CALIFORNIA INDIAN MUSEUM & CULTURAL CENTER

Melody Ng

Goldman School of Public Policy
University of California Berkeley
Advanced Policy Analysis | Spring 2017

This page has been intentionally left blank.

TABLE OF CONTENTS

Executive Summary

The California Indian Museum and Cultural Center (CIMCC), a tribal nonprofit that works on cultural preservation and tribal food security issues in Sonoma, Mendocino, and Lake counties, is planning to develop a regionwide community-based health strategy that will improve the health of Native American communities within the tri-county area. The CIMCC hopes to develop and support policies that will improve Native American health in the region by increasing the access that tribal communities have to the traditional subsistence foods that comprised much of their pre-colonial diets.

Returning, even partially, to a subsistence diet requires that tribes have access to lands where subsistence resources are grown. In this region, tribes have very small land bases and are surrounded by private land owned primarily by vineyard owners and timber companies. To access these privately-held lands, tribes will have to develop co-management agreements with private landholders that will allow them to access and manage subsistence resources that are identified on landholder properties.

Vineyard owners in this region may be receptive to proposed co-stewardship agreements, since they are increasingly adopting land management practices that—in principle, if not in practice—align with Native American principles of land stewardship. Moreover, wine grape growers do not farm all the land they own, and some growers own large parcels of undeveloped land that they either have no desire or are not allowed to develop.

To initiate partnerships with the vineyard community, the CIMCC should consider several strategies that will help the tribal community build trust with the public and change the incentive structures motivating the vineyard community to collaborate with local tribes. These options include but are not limited to the following:

(A) Develop “pilot” partnerships with a couple willing vineyard owners in the community by identifying and building upon informal access agreements that may already exist between specific tribal members and vineyard owners. Moreover, tribal communities should also consider reaching out to vineyard owners from the biodynamic and organic wine grape community, who are likely to be more receptive to proposed co-stewardship agreements. The pilot partnerships serve as necessary “proof-of-concept” for the larger wine grape community.

(B) Formalize existing and future informal access agreements with vineyard owners through conservation easements (that either a tribe, tribal nonprofit, or local land trust will hold). Negotiate language in the easements that will secure tribes affirmative management rights to subsistence resources identified on the properties.

(C) Develop long-term working relationships with the local land trusts and public agencies that work with and provide services to the vineyard community. These entities often establish and hold conservation easements on private properties. Cultivate a third-party consulting role with these entities that will allow the tribal community to develop and include language that can be placed

in conservation easements that will secure tribes affirmative management rights to subsistence resources on properties with easements on them.

(D) Form a tribal nonprofit consortium that will be able to (1) pool the collective resources of the tribes in the region to pursue land co-stewardship agreements with private landholders, (2) coordinate various working partnerships between private land owners, and (3) that is eligible to hold conservation easements.

(E) Develop tribal-vineyard-research institution partnerships to study the economic and environmental returns for sustainable agricultural and land management practices and secure the support of private foundations interested in supporting innovative pilot projects focusing on promoting Native American TEK and sustainable agriculture. At present, the body of research about the economic and environmental returns for sustainable agricultural and land management practices is nonexistent/scarce and very poorly funded. Wine grape growers, who like most individuals from the agriculture industry, are risk averse and unwilling to change their cultivation practices, if they believe it will significantly jeopardize their profitability.

(F) Use the ongoing consultation process between the CA Water Resources Control Board and CA tribes to define tribal “beneficial use” categories as an opportunity to develop future incentives for private landowners to work with tribes on land management issues. The Water Board is responsible for many of the recent, upcoming, and likely future regulations requiring that farms operate more sustainably.

GLOSSARY

ACRONYMS

USDA	United States Department of Agriculture
NRCS	Natural Resource Conservation Services
EPA	Environmental Protection Agency
DOI	Department of Interior
BIA	Bureau of Indian Affairs
IHS	Indian Health Services
USFS	United States Forest Service
NPS	National Parks Service
DOJ	Department of Justice
TPL	The Trust for Public Land
UCCE	UC Cooperative Extension
RCD	Resource Conservation District
MOSD	Midpeninsula Open Space District
SCAPOSD	Sonoma County Agricultural Preservation and Open Space District
SLT	Sonoma Land Trust
MLT	Mendocino Land Trust
FFF	Fish Friendly Farming
ISWC	Intertribal Sinkyone Wilderness Council
KDLC	Kumeyaay Diegueno Land Conservancy
THPO	Tribal Historic Preservation Officer
IPM	Integrated Pest Management
THP	Timber Harvest Plan
TEK	Traditional Ecological Knowledge
IRC	Internal Revenue Code
CEQA	California Environmental Quality Act

TERMS

subsistence	Plant and animal species that are part of a traditional diet
viticulture	The practice of cultivating wine grapes
consortium	An entity formally or informally composed of governments or organizations collaborating to achieve similar cultural resource and conservation goals

Introduction

THE CIMCC

The California Indian Museum and Cultural Center (CIMCC) is a tribal nonprofit based in Santa Rosa in Sonoma County that focuses on the cultural preservation of California Indian artifacts in Sonoma, Mendocino, and Lake counties. The CIMCC works with 23 Pomo Indian bands in the tri-county area to preserve California Indian cultural and intellectual property through educational and cultural activities and programs—like their youth stewardship program—and to cultivate relationships with other indigenous groups.

In the past few years, the CIMCC has expanded its focus to include tribal food security and food sovereignty—defined as the "right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods" and "to define their own food and agriculture systems."[1] The CIMCC is planning to develop a regionwide community-based health strategy that will improve the health of Native American communities within the tri-county area. The CIMCC hopes to develop and support policies that will improve Native American health in the region by increasing the access that tribal communities have to the traditional subsistence foods that comprised much of their pre-colonial diets.

The CIMCC has recently secured a grant from the First Nations Development Institute (FNDI) to initiate a community food security and food sovereignty assessment. The assessment will gather information about the food needs and preferences of several Pomo tribes in the tri-county region and to inventory and map the existing subsistence resources in the region.

THE CHALLENGE

Native American communities suffer from a higher incidence of chronic diseases—including heart disease, diabetes, and obesity—than the general population. In the last decade, the health crisis in the Native American community has given rise to an indigenous food sovereignty movement. Tribal communities are responding to the health crisis in their communities through this movement in part by advocating for increasing access to traditional foods in their diets.

However, returning, even partially, to a subsistence diet requires that tribes have access to land where subsistence resources are grown; a subsistence lifestyle is necessarily a "land-based" practice. In the Pacific Northwest, subsistence lifestyles are more accessible given that the land bases of the tribes in this region are located in and around wide swaths of publicly-managed forest lands on which they have treaty-rights to hunt, fish, and gather (though there are limitations to the degree of access in practice). In California, a combination of landmark "legal" reappropriations of the most arable, resource-

[1] Language from the CIMCC Food Sovereignty Assessment

rich lands from the tribes to settlers and 18 unratified treaties between the U.S. government and California Indian tribes has resulted in California tribes having very small land bases that are largely surrounded by private land.

Wine grape growers in Sonoma and Mendocino counties are the largest agricultural producer in the region and have been since the 1990s. Since the region's rapid expansion of the wine grape industry in the 1970s, vineyard conversions have greatly reduced the access that tribes have to the lands where they have traditionally harvested subsistence resources. Many of the lands that tribes in this region seek to access are now privately-held by vineyard owners (and to some extent, timber companies). However, not all the land held by vineyard owners and timber companies is either farmed for wine grapes or managed for timber, respectively.

For tribes in the region to develop a food sovereignty initiative that will allow them to increase the amount of subsistence foods in their diet, they will first need to access privately-held lands where some of these subsistence resources grow. The CIMCC would like to develop co-management agreements with landowners that would allow them to inventory subsistence resources on their properties and to gather and affirmatively manage those resources. The CIMCC aims to identify successful strategies for the tribes in this region to reassert their resource management roles on these privately-held lands.

The CIMCC has chosen to focus on initiating relationships with vineyard owners, because they are among the largest private landholders in Sonoma County. The wine grape community in this region may also be more receptive to proposed co-stewardship agreements (than other agricultural groups), since they are increasingly adopting land management practices that—in principle if not in practice—align with Native American principles of tribal land stewardship.

THE REPORT

This report serves primarily as an internal planning document for the CIMCC as they move forward with developing a regionwide food sovereignty initiative.

The report will help them evaluate the available options to develop land co-management relationships with vineyards owners as a first step toward implementing a food sovereignty initiative.

The Problem: Historical & Legal Background

HISTORY OF LAND TENURE

Tribal Land Tenure in the Region

From Community Ownership to Loss & Private Allotment of Lands (1770s-1880s)

The period from 1770 to 1830 represents the first major disruption of pre-existing Pomo and other tribal settlement patterns in the region, during which Spanish settlers arrived and began establishing the mission system. During the Spanish settlement period, Native Americans in the region were forced to help build missions and to work the surrounding agricultural lands. The mission system ended in the 1830s.

Between 1851 to 1852, the U.S. Indian Commissioners, acting on behalf of the United States, negotiated 18 treaties with California Indian tribes, that would have set aside for them 11,700 square miles—or roughly 7.5 million acres of land (7.5 percent of the State of California). The treaties were rejected by the U.S. Senate in a secret session, in response to concerns about surrendering rights to valuable land that could be farmed or mined for other resources.[2] Consequently, reservations for the California tribes were not created during this period as they were for tribes ("treaty tribes") in other areas of the country whose negotiated treaties were ratified.

From 1850 to 1859, the governor of California called for the formation of local militias to "protect" incoming settlers from Native Americans in the state. As many as 303 local militias formed to coordinate attacks against California Indians—a period of persecution by non-native settlers that forced Native Americans to abandon their ancestral territories (along with their associated historical linguistic and cultural groupings) and to cluster in remote areas where the dangers from local militias were minimized.[3] From 1859 to 1860, a period of intense conflict and violence—known as the "Mendocino War"—arose between Native Americans and settlers in the region due to escalating tensions between settlers and the tribes as settlers expanded further into tribal territory in the valleys.

In 1861, California Congress enacted laws extinguishing Indian title to all lands in California—commencing a period of "landlessness" for tribes in the state. In 1887, U.S. Congress passed the General Allotment (Dawes) Act, authorizing the president to survey and divide tribal lands into allotments for individual Indians and families. Members of tribes were either given permission to select pieces of land—limited to around 40 to 160 acres in size—for themselves and their children or the tracts were assigned by the agency superintendent. Any "surplus lands" (a total of 60 million acres in the U.S.) were purchased by the government and eventually subdivided and distributed to non-native settlers and other corporate interests. While the Dawes Act led to modern tribal landholding patterns that make

[2] Miller (2013).
[3] Johnston-Dodds (2002).

their use of lands nearly impossible, the problems that the tribes in this region contend with are associated more with the total loss of land.[4]

Establishment of the California Rancheria System (1900s to 1940s)

Starting in 1906, the state of California initiated a land acquisition program that reserved appropriations almost yearly to acquire small tracts of lands for California Indians. The total lands acquired were a very small fraction of the lands that had been originally promised to California tribes through their unratified treaties. "Rancherias" were established on these lands where "homeless" Native Americans were (sometimes forcibly) relocated. The program established 82 small reservations in California—though there are more than 104 reservations in the state today. Many rancherias are home to multiple displaced tribes that are recognized as one tribe by the federal government under this system.

In 1934, the passage of the Federal Indian Reorganization Act ended the system of private allotment of Indian lands in the United States. The act aimed to ensure that all remaining tribal trust allotments would stay in trust indefinitely. The act granted the U.S. Department of Interior (DOI) the power to take private lands back into trust on behalf of tribes. The Act is perceived as a measure intended to compensate tribes for the unjust land grabs that took place in the 1800s and to enable them to rebuild their land bases and economies. However, tribes report a tenuous relationship with the DOI—laden with the challenges of navigating onerous bureaucratic processes to place land back into trust.

Termination of Tribal Status for California Tribes (1950s)

From the 1950s to 1960s, the federal and state governments enacted legislation that terminated the tribal status for many tribes in California, including several tribal groups in the North Coast region (Cloverdale, Lytton, and Graton). Since the federal government is only obligated to provide land for federally-recognized tribes, the removal of tribal status also resulted in the revocation of their claims to their lands.[5]

Tribal status would not be restored to some of these tribes until the 1980s to 2000s—a period during which several tribal groups in the regions successfully sued the government to reinstate their tribal status. However, the restoration of tribal status did not restore the lands that were taken from them.

---

[4] Fractionation of land ownership (multiple owners per parcel) and "checkerboarding" (tribal lands being surrounded and peppered in and around private and public lands)

[5] A Second Century of Dishonor: Federal Inequities and California Tribes (1996).

Land Reclamation: Lessons from the Mainstream Conservation Movement (1980s to present)

During the mid-1980s, the "back-to-the-land" mainstream conservation movement grew in prominence in the U.S. The movement gave rise to heightened awareness and involvement by the general public in environmental conservation work. During this period, tribal communities began exploring the use of environmental law and regulations to reclaim access to ancestral lands and to increase their stewardship role on those lands.

At present, most tribes in California have relatively small land bases, compared to tribes in other regions of the country—though there are distinctions in land base sizes even among tribes within Northern California. Several tribes in the region have been progressively buying back lands and exploring the use of conservation easements to reassert their land management responsibilities on public land.

The Region's Wine Grape Industry

In the early 1800s, the Russian and Italian settlers that emigrated to the North Coast brought with them their old-world wine grape cultivation practices. Throughout the next several decades, these settlers established some of the first vineyards in the region in the Alexander and Russian River Valleys.

Native Americans in this region remain unacknowledged for their (unwilling) contributions to the wine grape industry throughout the latter half of the 1800s. The labor shortage in the wine grape industry during the 1840s-1850s led to the passage of the Indian Indenture Act and the ensuing informal system of slave labor that forced thousands of Native Americans into indentured servitude on vineyards over the course of several decades. The law provided Native Americans accused of vagrancy, "public indecency", or other "law-breaking" behaviors an alternative to imprisonment—auctioning off their labor to the highest bidder, who were often vineyard owners. Since Native Americans were legally prohibited from defending against the charges level against them and often could not pay the fines resulting from the charges, they were consigned to having their fines settled by vineyard owners in exchange for time served on the vineyards.[6]

Vineyards proliferated throughout the 1800s until Prohibition began in the 1920s, decimating the industry at large. During this period, farmers in this region cultivated primarily apples, prunes, and pears and raised cattle and sheep. Even after the repeal of Prohibition, the industry would remain depressed for the next few decades until the 1960s.

The wine grape industry experienced a resurgence in the 1970s in Sonoma County and in the 1980s in Mendocino County. During this time, many apple, pear, and prune orchards were converted to vineyards. A second wave of vineyard expansions took place beginning in the 1990s. Throughout the late-1990s to present, much of the new land conversions to vineyards in Sonoma occurred in hillside areas, largely because most of the arable lands had already been claimed and developed.

Sonoma has undergone the most intensive vineyard expansion in the last few decades, but proposed vineyard expansions have also been increasing in Mendocino and Lake Counties in recent years.

---

[6] Street (2004)

LEGAL STANDING

Native American Relationship with the U.S. Government

Federally-recognized tribes are considered sovereign though dependent nations in the United States. Federal recognition (federally-recognized tribal status) constitutes a social contract between the tribes with the federal government whereby the government is obligated to provide for the basic needs of federally-recognized tribes. In the original treaties, basic needs encompassed food, healthcare, etc. Today, these rights are provided in some form by the federal government in coordination with specific subsidiaries of public agencies (ex. USDA commodities program, Indian Health Services (IHS) under the Housing and Human Services department (HHS), and the BIA under the Department of Interior (DOI)).

Without federal recognition, a tribe's claim to land is not recognized by the federal government. Some states have established processes to provide state recognition to tribes that are not federally-recognized, though state recognition confers limited benefits under federal law.

Land Ownership: Land in Fee & in Trust

Tribal land is owned directly by tribes and tribal members in one of two ways: either (1) wholly by the tribal government or (2) through a combination of tribal jurisdiction and individual tribal landowners that received a land allotment. Land purchased in fee by a tribe is fully owned by the tribe like any normal piece of private property.

With land held in trust, the title to tribal lands is held by the federal government "in trust" for the benefit of current and future generations of tribal members. Trust responsibility is a power delegated in the U.S. Constitution under the Commerce Clause. Only the Secretary of the Interior or the U.S. Congress can confer to land trust status—a power established through the 1934 Indian Reorganization Act. Because the land lies in trust status for tribes, tribal governments exercise sovereign authority within their boundaries and are generally not subject to state laws. As a result, tribes generally have more liberty to pursue land use goals on trust lands in a manner that is more consistent with their preferences than they would if they owned the land in fee. Trust land is also not subject to property taxes.

However, trust status also creates limitations on the use of these lands, and most actions affecting the land must still be consistent with federal law and require federal approval. Under the federal trust system, the U.S. government is responsible for the protection of tribal interests on trust lands, including assets, lands, water, income from trust property (and proprietary treaty rights for tribes that have them). However, in practice, the government as "trustees" has allowed energy, mining and other extractive industries to develop on trust lands, often proceeding without the proper consultation or consent of the tribes and without properly distributing monies produced from the developments.

The Bureau of Indian Affairs (BIA) is responsible for the administration and management of the roughly 56 million acres of land held in trust by the U.S. on behalf of Native American tribes. BIA approval by the Secretary of the Interior is required for nearly all land use decisions. BIA approval often entails multiple layers of bureaucracy that can severely hinder tribal land use and management.

Land Access & Management: Evolving Relationship with Governments

Outlawing Tribal Resource Management

Contrary to the "hunter-gatherer nomad" myth that has been propagated in much of the old scholarship about Native Americans, tribes pioneered and honed a system of wild agricultural management during the pre-settler period that allowed them to both feed themselves and preserve the health of local ecosystems. This system of tribal horticultural practices and land management strategies allowed Native Americans to simultaneously pursue non-intensive, subsistence cultivation of food sources and ecological conservation.

As incoming settlers displaced Native American communities and limited their access to their traditional territories, tribal communities were prevented de facto from practicing tribal land stewardship. Laws were also put in place that outlawed tribal resource management practices, like those that prevented tribes from practicing controlled burning in meadows and forested areas.

In the last couple decades, ecologists have realized that California tribes made significant contributions to the health of ecosystems through their historical land management practices. This understanding is reflected in the small but growing body of science evaluating these practices. Some of the literature suggests that the suppression of tribal land stewardship practices in California has resulted in an ecological "vacuum"—ecosystems that are in a state of unhealthy imbalance. Much of the literature examines the impact of federal fire suppression policies by public agencies managing federal lands.[7] The USFS policy of banning all fire, including the controlled burning practiced by tribes to reduce excess brush that crowded out other desirable plant life, has resulted in an overgrowth of dense forestation (fuels) that contributes to the destructive cycle of wildfires in California at present.

Current Legal Relationship with Governments

Since their treaties were never ratified, tribes in California do not have the same legal standing as other "treaty tribes" to hunt, fish, and gather on federally-managed public lands. However, state agencies in California have worked with tribes in recent years to develop policies that would grant recognized tribes access rights to publicly-managed lands.

Tribes tend to interface with the federal government mainly through their working relationships with the Environmental Protection Agency (EPA), U.S. Forest Service (USFS), Bureau of Land Management (BLM), and the national, state, and regional parks systems. These public agencies are increasingly willing to work with tribes on resource management (1) as the body of research pointing to the benefits of tribal stewardship grows and (2) as they form more working partnerships on the ground with local tribal communities.

Tribes in the region interface more with the Environmental Protection Agency (EPA) than other federal agencies on matters impacting natural resource quality. The EPA convenes with tribal leaders

[7] LeBeau (1998).

periodically on issues related to water quality and waste mitigation. At the federal level, most of the resource management work that tribes aim to advance can only be addressed through the water quality regulations overseen by the EPA.[8]

Tribes also have access rights on BLM lands via a traditional gathering policy that was established in 2006 by the U.S. Department of Agriculture (USDA) and BLM. The policy enables tribes to harvest without permits "non-timber" plants and to manage areas of BLM land. The policy aims to ensure that native traditional practitioners have access to plant and fungal resources and that resources on BLM lands are managed in a manner that promotes ecosystem health and utilizes appropriate traditional management practices. However, BLM lands are relatively scarce in this region as most of the land is privately-held.

California has more policies in place, compared to other states, that attempt to elevate the tribal community's position as an interest group in land use decision-making processes. Most prominent among these laws are CA Senate Bill 18 (2004) and CA Senate Bill 52 (2013-2014).[9] CA SB18 mandates that cities and counties consult with tribes before amending their general plans and allows recognized tribes in California to hold conservation easements. CA SB52 (a guideline update for tribal cultural resources in the California Environmental Quality Act (CEQA)) requires entities developing projects that would disturb culturally and archaeologically significant sites to notify and consult with tribes and to develop appropriate corrective measures to mitigate potential disturbances.

The substantive impact of these laws on the agency and the participation of tribes in these land use projects varies. Some tribes believe that the process is more a formality observed by public agencies and private developers than it is a meaningful opportunity for tribes to impact the outcomes around land use projects.

[8] Interview with Laura Ebbert and Veronica Swann, Manager and Project Coordinator, EPA Tribal Section, Region 9

[9] California SB18 (2004).
California SB52 (2013-2014).

Opportunity: At the Intersection of Tribal Stewardship & Wine Grape Sustainability

TRIBAL HEALTH & FOOD SOVEREIGNTY

Diabetes is one of the leading causes of death for Native Americans and a primary risk factor for developing other chronic diseases, like cardiovascular and kidney disease. In California, 51% of Native American communities compared to 46% of the general population are prediabetic. In this region, the incidence of diabetes is 11.1% among the Native American population compared to the 9.3% among the general population in the U.S.[10]

The incidence of diabetes within Native American communities, especially within reservation populations, compared to the general population can be attributed to the high amount of starches, sugars, and unhealthy fats in the foods that comprise much of their modern diets. As European settlers displaced Native American communities from their homelands and prevented them from hunting, fishing, and gathering in areas where they sourced much of their traditional foods, Native Americans underwent a rapid dietary change from subsistence style diets—high-protein fats and low quantities of complex starches—to a modern diet—rich with added sugars, unhealthy fats, and simple starches. Some of the literature suggests that since Native Americans bodies were adapted to function on a subsistence diet over the course of millennia, this rapid dietary change has made them especially susceptible to developing chronic diseases.[11]

Emerging public health studies indicate that Native Americans may see an improvement in their health by returning to subsistence diets. These studies indicate that traditional foods that were historically part of Native American diets have protective qualities (nutrients) that significantly lower individual risk factors leading to the development of chronic diseases. They also suggest that Native Americans that consume more traditional foods have a lower prevalence of chronic diseases than those that consume modern diets.[12]

Tribal health advocates and tribal communities are now attempting to develop and support community-health interventions that take a more preventative approach to reducing the prevalence of chronic diseases in Native American communities by promoting a return (if only partial) to subsistence diets.

Addressing the Native American health crisis is as salient to improving the overall future of Native American communities as it is a question of improving the government's efficiency in its use of public health resources. At present, the federal government spends millions of dollars annually on hundreds of prevention and treatment programs for diabetes—and much more including other chronic diseases. The Indian Health Services (IHS) spends $150 million annually alone on the Special Diabetes

[10] Patterson, Brennan, Blocker, and Harvey (2015); Babey, Wolstein, Diamant, and Goldstein (2016).
[11] Samson (2016); Cordain (2005); Zimmet (2001).
[12] Williams, Knowler, Smith, Hanson, Roumain, Saremi, Kriska, Bennett, Nelson (2001); Schulz, Bennett, Ravussin, Kidd, Kidd, Esparza, Valencia (2008); Mohatt, Plaetke, Klejka, Luick, Lardon, Bersamin, Hopkins, Dondanville, Herron, and Boyer (2007); Bersamin et al. (2008).

Program for Indians (SDPI) and, in general, 3.6 times more on services for Native American adults with diabetes ($7,682) than for adults without diabetes. [13]

VINEYARDS & LAND MANAGEMENT

Focus on Sustainability in the Wine Grape Community

The CIMCC has chosen to focus on initiating relationships with vineyards, because wine grape growers in this region tend to practice more sustainable land management than other growers in the agricultural community. Moreover, wine grape growers do not farm all the land that they own, and some growers own large parcels of undeveloped land that they either have no desire or are not allowed to develop due to protections placed on those lands by government agencies. The wine grape community has slowly began adopting the position that sustainable management involves more than just the management of the wine grapes and the land being used to cultivate them; sustainable management includes the management of their overall properties.

The degree of sustainable land management that vineyard owners practice will impact both (1) how willing they are to allow tribes to contribute to their sustainable land management (via co-stewardship agreements) and (2) the quality of the subsistence resources that tribes are interested in managing on vineyard lands. Understanding what sustainable growing practices are currently being employed by growers will be necessary for tribes to identify who they should target in outreach efforts to form partnerships with vineyard owners.

Wine Grape Growing Practices on the CA North Coast

Wine grape cultivation consist of three primary inputs—irrigation, pest and disease control, and fertilization. How sustainably growers will manage their vineyards using these inputs depends on their different and sometimes overlapping economic and environmental priorities and constraints. Sustainable growing exists on a spectrum—from “sustainable” to “organic” to “biodynamic”—with the “sustainable” standard involving the least rigor (regulations).

“Sustainable” practice as a standard has not yet been codified, though growers generally understand sustainable practices to include any system of practices that are necessary for a grower to reduce the impact their wine grape cultivation has on the environment. Organic and biodynamic practices involve a prescribed set of practices regulated by the USDA and Demeter Foundation, respectively, that allow a grower to label their wine grapes “organic” or “biodynamic”. Organic growers are restricted from using synthetic pest control substances and fertilizers, though there are some exceptions that are listed in the USDA National Organic Program (NOP) Handbook (which lists restricted and permitted substances).

[13] O’Connell et al. (2012).

The "biodynamic" standard has the most stringent set of requirements—including a requirement that 10% of the total area of a farm be preserved for biodiversity. The aim of biodynamic growing practices is to convert a farm into a self-sufficient, closed-system that requires no additional external inputs—relying on recycled farm waste, including compost and livestock manure, instead of synthetic fertilizers. The smallest minority of farmers manage their farms biodynamically.

Vineyards in this region commonly employ cover crops as a partial or complete substitute for synthetic fertilizers to increase the nutrients (nitrogen and carbon) available to wine grapes in the soil. Cover crops are planted on alternating rows in the winter to protect the soil. In the spring, the cover crops—and the nitrogen and bio-matter that have accumulated during the winter—are mown and then tilled into the soil, where they slowly break down and feed the vines. A minority of growers also utilize livestock to fertilize their vineyards. The livestock (usually sheep) graze on some of the vegetation (weeds/and or cover crops) around the vineyard and return the bio-matter back to the soil as manure.

Almost all vineyards employ a pest control management regimen called "integrated pest management" (IPM). IPM utilizes a holistic, preventative approach to pest management that encourages growers to rely primarily on natural pest control methods and to use synthetic/chemical controls only as a last resort. Growers are encouraged to rigorously scout their vineyards to identify and track pest populations before they reach outbreak levels, to promote and support natural enemy populations that can reduce pest populations naturally through "biological control" methods, and to utilize chemical/synthetic pesticides only when all else fails. When chemical products are applied, growers are encouraged to select materials with the least toxicity to the beneficial insects that support biological control. This approach to pest management was conceived of in the 1950s had gained enough popularity by the 1970s that a statewide University of California IPM program was initiated in 1979—resulting in IPM becoming a standard component of most university viticulture programs. While today the IPM approach is utilized on almost all vineyards in the region and accounts for most of the reductions in pesticide use by growers seen in the last several decades, there is of course still variation in how readily different vineyard operations will resort to chemical controls.[14] Not enough information exists to determine how faithfully vineyards adhere to the "synthetics as a last resort" principle in the IPM system.

Other less commonly employed ecologically-based pest management practices include the use of insect corridors and compost. Insect corridors involve strategically cultivating certain plant species in areas of the vineyard to attract beneficial insects that protect against pests. Compost can also be used both as a complete or partial substitute for synthetic fertilizers and to control pests. Some growers have used compost tea (a mixture of water, manure, and compost) and milk whey (a byproduct of cheesemaking) to prevent mildew (a common pest), since the organisms in naturally fermented organic matter compete with mildew. Compost does not directly fertilize vines but increases the biomatter in—and the fertility of—the soil. Vineyards using only biocontrol methods are in the extreme minority.

[14] Interview with Dr. Houston Wilson, Post-doctoral Researcher with the Environmental Science, Policy & Management Department, UC Berkeley

Where a vineyard is established geographically in the region can impact the likelihood of pest infestation. Wine grape growers must maintain the right amount of vigor in the vines so that they are not too weak or too vigorous—either of which can make them susceptible to certain pests. More recently, vineyards have been established in places closer along the rivers that were traditionally cultivated for other crops, like hops. Some of the vineyards established closer to areas along rivers need less irrigation, because vines that become too vigorous (with over-irrigation or excessive fertilizer application) may attract more pests. Consequently, vineyards nearer to the rivers and valleys with wetter conditions may need to irrigate their crops less intensively to avoid attracting pests.

Most vineyards in the region are irrigated through a drip irrigation system, which reduces the quantity of water and possibly fertilizer a grower needs to use by allowing water to drip slowly either onto the soil surface or directly onto the vine roots. Drip irrigation was developed partly out of necessity for growers in this region, because the groundwater storage capacity in the North Coast is lower than in the Central Valley. Moreover, unlike the Central Valley, growers in the North Coast are not connected to state and federal irrigation canals. Drip irrigation began in the 1970s and became common practice starting in the 1990s. About 10% of the total vineyard acres in this region are dry-farmed. Dry-farming is a practice which involves training vines to develop deep root systems so that they can subsist primarily on rainwater—with a few exceptions, like for frost prevention and in severe drought. For vineyards attached to wineries, a small fraction of their water supply comes from treated wastewater resulting from wine production.

Vineyards can use a substantial quantity of water for frost prevention. Frost can severely stunt the growth of young vines and negatively impact the vine's overall growth potential throughout the course of a growing season. Consequently, growers are willing to use large quantities of water to prevent frost from stunting young vines. While the wine grape community's typical irrigation needs are geographically dispersed, a single frost event can lead growers in a region to collectively concentrate their water use during one large event—resulting in surface water from creeks and rivers being drained at a rate that endangers fish populations in the local watersheds.

Implications for the Environment & Tribal Food Sovereignty

Wine grape producers became the largest agricultural grower in Sonoma and Mendocino counties starting in the late 1980s and early 1990s. Tensions have been escalating between wine grape growers and the general public due to a perceived threat that wine grape growers pose to the availability of ground and surface water and the impact that their pesticide use has on air and soil quality. In 2008, community members in Sonoma County became outraged when growers drained a large amount of surface water from the local creeks to protect their wine grapes from a large frost event. The collective drainage led to the suffocation of a large quantity of the local fish population.[15]

More broadly, there are concerns by ecologists, some wine grape growers, and the general public that the conversion of diverse landscapes into monoculture vineyards and the overuse of

[15] Mohan (2015).

pesticides may reduce biodiversity on their lands. Some growers are also concerned that the overuse of pesticides may reduce the natural resistance that their crops have against pests over time.

The literature is not definitive on the impacts that vineyard expansions and practices have on water and land quality, though they have come to some exploratory conclusions. Some studies suggest that vineyard conversions can contribute to soil erosion and impact surface water and groundwater levels during the summer when water is at its lowest levels. [16] Moreover, a recent CA Water Resources Control Board assessment in the region found that vineyard owners were one of the primary emitters of the excessive sediment found in the regional water system. [17]

The tribal community shares many of the concerns that the public has about the impact that vineyard operations have on local land and water quality. The tribal community needs not only to have access to vineyard properties to manage subsistence resources but to ensure that the subsistence resources that are identified on those properties will be safe to consume.

PROBLEM SUMMARY & OBJECTIVE

Like many tribes in California, the tribes in the tri-county region have small land bases, are geographically dispersed, and are surrounded by privately-held lands. These privately-held lands are owned primarily by vineyard owners in Sonoma County (and timber companies in Mendocino County).

Some vineyards in this region already practice sustainable land management that is consistent—in principle, if not in practice—with the tribal land stewardship goals embodied in the proposed co-stewardship partnerships tribes seek to form with vineyards owners. Tribes in this region need to develop a strategy to motivate private landholders to enter voluntary co-stewardship agreements with them. These agreements will allow tribes to access and manage subsistence resources identified on portions of privately-held vineyard properties.

[16] Grismer and Asato (2012); Merenlender (2000).
[17] Low and Napolitano (2008).

Methods

DATA COLLECTION

Initially, data from U.S Geological Survey, the CA Department of Water Resource, the County Agriculture Commissioners, and other federal and state agencies were aggregated in an attempt to evaluate changes in water and land quality from the 1970s to present. However, the data available were too incomplete to be able to draw any conclusions.

Please see the **APPENDIX** for a complete list of data sources that were explored (**(A) List of Data Sources**).

INTERVIEWS

Sixty-five respondents divided among three stakeholder groups were interviewed. The options, criteria for evaluation, and recommendations are informed by their responses. The three stakeholder groups include:

A. **Private and public land management/conservation entities:** Includes land trust organizations, Resource Conservation Districts, open space districts, and other private conservation organizations

B. **Tribal community:** Includes Tribal Historic Preservation Officers (THPOs), EPA/Environmental Department Directors, Natural Resource Department Directors, other program coordinators and managers working for the tribal administration, and tribal organizations/nonprofits

    a. In California: Tribes in the North Coast, Bay Area, and San Diego
    b. Beyond California: Tribes in Washington, Oregon, and Idaho

C. **Wine grape community:** Includes vineyards owners, individuals/organizations working with vineyards, farm advisors, and UC Cooperative Extension staff

Stakeholder Analysis: Summary

This section outlines the network of stakeholders in the region. It will be necessary to involve all or some of these stakeholders in the efforts to develop partnerships between tribal communities and vineyard owners in the North Coast region.

The information in this section will be used to evaluate the options presented in the report by helping to identify potential conflicts, opportunities, and general incentive structures among and between stakeholders. The full write-up for this section can be found in the **APPENDIX ((B) UNABRIDGED Stakeholder Summary**). The full write-up contains details that may be useful as the CIMCC considers how to customize and implement the final recommendations.

TRIBAL COMMUNITY

This section identifies the current interests and existing work of some tribes in the region.[18] The interests and existing efforts can be folded into (or further developed) in a regional food sovereignty initiative.

The findings in this section do not represent the opinions of all tribes in the region, since not all tribes in the region could be reached to complete an interview.

Tribal Interests & Capacities

1. Common priorities included housing, economic development, illegal dumping, and water access (for drinking and sanitation purposes). Less common priorities that were mentioned included mitigating pesticide drift and sustainable agriculture.

2. Tribes have limited resources to initiate, develop, and manage conservation easements.

3. One EPA representative working for a tribe expressed an interest in collaborating with tribes to develop a tribal consortium or land trust, like the Intertribal Sinkyone Wilderness Council (ISWC), to secure tribal stewardship rights and to establish conservation easements on lands of interest.

4. Several tribes in the region have established or are looking to establish vineyards in the area.

[18] The information collected in this section represents the opinions of the interviewees that were able to be interviewed at the time that this report was being assembled. It is no way intended to represent definitively the interests of all tribes in this region, since not all tribes were able to be reached and interviewed at the time this report was assembled. The findings in this subsection are subject to future revisions if more accurately representative information from the interview participants and intended participants is presented to the author of the report.

5. In Lake County, tribes have been preoccupied with natural resource restoration work in the aftermath of two big fire events that took place in 2015 and 2016.

Existing Natural Resource Management Efforts

Sonoma County

1. Graton Rancheria is working with the Sonoma County Regional Parks to co-plan a park which, among other features, will explore indigenous cultural food restoration.

2. The Kashia Pomo at Stewarts Point Rancheria are currently managing several projects related to a parcel of land they recently reacquired (the Kashia Coastal Reserve).

Mendocino County

1. In Mendocino County, Sherwood Rancheria's environmental department has engaged in restoration planning for endangered species, fish habitat restoration projects, oak restoration and habitat restoration for culturally significant plants.

2. The Cahto tribe at Laytonville Rancheria has a cooperative/general service agreement with the Redwood Forest Foundation (RFFI), a local nonprofit holding a conservation easement over portions of the Usal Redwood Forest. The Cahto tribe also holds cooperative service agreements with federal agencies to complete forest maintenance service projects on BLM lands that the BIA oversees in the area.

Lake County

1. Big Valley Rancheria has been actively engaged in efforts to change policy at local and state level to protect tribal resources—primarily related to pesticide drift mitigation and general water quality.

Preferences for a Food Sovereignty Initiative

1. Several tribes have expressed interest in establishing conservation easements and other kinds of land co-management agreements with private landowners, counties, and other land management agencies.

2. One EPA representative working for a tribe suggested that it would be useful to establish a co-management agreement with the Mendocino Redwood Company that would grant tribes access

rights to gather acorns in the fall on the company's land. The company is one of the largest private landholders of timberland in Mendocino County.

3. One tribe is interested in furthering their existing pesticide drift mitigation work with pear orchards—which are more prominent than vineyards in Lake County.

PUBLIC AGENCIES: PROGRAMS & EXISTING RELATIONSHIPS

This section identifies existing programs under specific public resource management agencies and the working relationships they have with each other and with the tribal and wine grape community. These programs and relationships represent existing "points of entry" for tribes to initiate or develop existing partnerships with vineyard owners. Tribes may consider reaching out to and partnering with these agencies and/or participating in existing projects and programs as part of their partnership-building efforts with vineyard owners. These findings may also be useful to tribes as reference points for developing project proposals and outreach strategies to connect with vineyard owners.

Federal

USDA National Resource Conservation Services

The NRCS houses several programs including easement programs for landowners who want to maintain or enhance their land to benefit agriculture and the environment. Their Agricultural Lands easement program helps Native American tribes, state and local governments, and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land.

1. Culturally, the NRCS in the North Coast of California is more open to supporting regenerative agricultural practices and biodiversity efforts, despite the NRCS historically having been less receptive to engagement with civic environmental groups around these issue areas.

2. Vineyard and other property owners from the agriculture community tend to reach out to the NRCS for cost-sharing support on projects to increase sustainable practices and land improvements on their properties.

3. The NRCS grant system has established for allocating monies awards extra points to grant applicants partnering with tribes on conservation/restoration projects.

4. The NRCS on the CA North Coast has developed funding partnerships with local Resource Conservation Districts (RCDs) to support projects involving the tribal and/or agricultural community (ex. In the northernmost areas of California, projects where native lands and properties of dairy farmers intersect).

Regional

Sonoma County Agricultural Preservation and Open Space District (SCAPOSD)

The SCAPOSD is tasked with carrying out the Open Space component of Sonoma County's Open Space General Plan. Its mission is also guided by Measure F (a ballot initiative authorizing its existence)

and the agency's land acquisition plan. It works primarily with public and private landholders to preserve open-space and/or agricultural use of lands within the county. It acts primarily as a funder to acquire lands on which they are entitled to place conservation easements. They utilize different categories of conservation easements in their work (agriculture, natural resource, scenic/greenbelt and open space, and timber easements).

1. SCAPOSD often collaborates with the Sonoma Land Trust (SLT), since the easements that they establish and hold share the same purposes.

2. Members of the agricultural community can apply to have agricultural easements and natural resource easements placed on their lands. SCAPOSD prioritizes easement applications involving lands that (1) are adjacent to properties on which they have already placed an easement and (2) contain wildlife corridors, threatened and endangered species, priority watersheds, and groundwater recharge areas.

3. SCAPOSD prioritizes easement projects that cover larger areas of land (on average 300 acres) that serve multiple purposes over projects on lands that serve only a single purpose. Projects that focus on preserving old-growth redwoods are the exception, since the district also prioritizes projects on lands where there is an imminent threat to a resource that is rare or considered essential to a habitat. SCAPOSD has made protecting old-growth redwood commonly found in the northwest region of the county a priority since there is so little of it left.

4. SCAPOSD has completed several working forest projects focusing on restoring timberland to a level that would allow sustainable timber harvest to continue that employed timber easements. The SCAPOSD consults with foresters to develop language to place in timber easements that reconciles the "gaps" between the state and their own requirements regulating timber harvest and forest management. The consulting relationship that SCAPOSD has developed with foresters could serve as a model for tribes to develop their own consulting role with the SCAPOSD.

5. SCAPOSD often acts as a facilitator to connect private landholders they work with to the Sonoma RCDs, particularly if a natural resource issue arises on a property with an easement on it that requires technical assistance to resolve.

Resource Conservation Districts (RCDs)

In Sonoma County, there are two RCDs (Sonoma and Gold Ridge). Mendocino and Lake Counties, are each covered by one RCD—Mendocino RCD and Lake RCD, respectively.

Resource Conservation Districts (RCDs) help private landowners manage the soil and water quality on their properties. They are "special districts" within counties that were created to serve as the local implementing arm of the U.S Department of Agriculture's Natural Resources Conservation Service

(NRCS). They sponsor educational efforts to teach the public the importance of conserving natural resources.

RCDs work on various conservation projects, which may include soil erosion control, water quality enhancement, range management, vineyard development, woodland, forestry and wildlife management, watershed and stream enhancement, and more recently carbon farm planning/carbon sequestration. They also provide technical assistance, access to funding, facilitate communication and work within the community, natural resource planning, voluntary natural resource monitoring, and coordination of funding between different partners (including landowners and land managers).

In General

1. An RCD's directives are determined by (1) the board of directors and (2) the public funds that are available to meet the needs identified by the board. Many of the board members are prominent landowners in the community who share with RCD staff the needs and interests of the broader landholding community.

2. Project opportunities often emerge when landowners reach out to RCDs to utilize their cost-sharing programs.

3. The RCDs have been developing their own agricultural support programs to help landowners defray the costs of implementing farm practice improvements. However, vineyard and property owners reach out more often to the NRCS for cost-sharing and technical assistance on land improvement projects, because they have a more developed agricultural support program.

4. RCDs collaborate frequently with local land trusts. RCDs often provide technical support to open space districts and local land trusts. A small minority of vineyard owners reach out to RCDs because they are interested in habitat restoration and preserving wildlife on their lands; the RCDs refer these individuals to the local land trusts. RCDs also engage in cost-sharing collaborations with land trusts on grassland (non-wetlands, focused on agricultural lands or open-space) conservation easements.

5. The RCDs are currently focused on helping agricultural landowners with "whole farm" or "whole ranch" planning, which involves identifying and addressing natural resource issues on their entire properties.

6. RCDs are now expanding their focus from ranches and large-scale forest systems to vineyards—where they have observed most of the damage to local waterways (sediment and runoff posing dangers to fisheries). RCDs have developed a new Land Smart Program to help vineyard owners develop farm plans that evaluate the environmental condition of their properties and their current land management practices. The program arose as a result of a previous State Water Resources Control Board waterways assessment in the region that found that vineyard owners

were among the top emitters of the excessive sediment found in the regional water system. [19] Moreover, some of the RCDs in this region (in Sonoma and Mendocino Counties) are partnering with vineyards to explore carbon sequestration on vineyards.

7. RCDs are always looking to contract with work crews that have knowledge about habitat restoration for agency projects. There could be a long-term business opportunity for tribes to develop natural resources work crews (as some tribes in Northern California have done) to work on restoration and resource management projects. Tribes may be able develop work crews as work-education programs allowing tribal members to learn about tribal stewardship while being paid for their work.

Specific County RCDs

1. In Sonoma County, the RCDs provide the SCAPOSD assistance on technical projects, while the SCAPOSD fund their outreach efforts. SCAPOSD and the RCDs in Sonoma County have recently secured a large USDA grant allowing them to collaborate to purchase agricultural easements in the county.

2. Gold Ridge RCD operates a youth education program that brings students from grades 3 to 6 out to local farms to teach them about natural resource stewardship.

3. Mendocino RCD is currently working with Mendocino Land Trust (MLT) to assess high priority agricultural areas throughout the county on which to place protective agricultural easements.

4. Mendocino RCD has a Native Plants Assessment and Planting Plans program that helps landowners with the removal of invasive plants and native plant restoration on their properties. The native plants program manager and project staff often complete plant inventories and assessments on properties with active projects on them.

5. Lake County RCD has very little contact with vineyard owners or the local tribes. Most of their work has been focused on educating the public about conservation and resource stewardship and natural resource restoration in the aftermath of two large fires that took place in the county in 2015 and 2016.

[19] Low, Tina J. and Michael Napolitano (2008)

WINE GRAPE GROWERS: OPPORTUNITIES & CONSTRAINTS

PRIMER: Important Trends in the Region's Wine Grape Industry

1. In Sonoma County, the wine grape industry is dominated by small parcel holders (approximately 80%) that are family-farmed.

2. Wine grape farmers as a group buck the national youth in agriculture trend. Many of the next generation are likely to be interested in continuing to live on and to farm their family's vineyards. In Sonoma County, there is an increasing demand from younger farmers to learn about and practice more sustainable agriculture.[20] Moreover, many educated and affluent retirees opt to join the wine grape community and tend to purchase and/or farm vineyards as a side business.

3. Santa Rosa Junior College, in Sonoma County, has one of the best sustainable agriculture programs in the state. The viticulture curriculum has been designed with the input of local industry leaders to respond to current industry issues and to give its students in-demand skills. Though the ages of the students range widely, younger students make up an increasing portion of the program cohort. Many of the students are locals that were born into vineyard owning families. Most students from the program are hired out to big vineyards and wineries in Sonoma County (Kendall Jackson, Constellation, and Gallo) after they graduate from the program.

4. Even growers who are more profit-driven understand that their success as growers is tied to the health of the land. Almost all growers want to be "good neighbors" and good "stewards of the land".

5. Wine grapes grown on the North Coast region receive a higher price premium than grapes grown in the Central Valley. Some of the premium can be attributed to the business model and marketing strategy that wine grape growers and wineries in the North Coast region employ to sell their wine grapes and their wine.

6. The "economics versus the environmental impacts" of growing is becoming an archaic way of thinking about the incentive structures that determine how a vineyard should be managed. Some growers feel that, in the long-term, growing wine grapes more sustainably can reduce some of the costs associated with farming conventionally, since the improvements in soil health can reduce the need for water and fertilizer and, overtime, naturally occurring pests.

7. Some growers hope that the next generation of wine grape growers will be able to better balance both the environmental and economic priorities of growing wine grapes.

[20] Interview with Michael Presley of DaVero Farms & Winery

8. Institutions that support wine grape growers are also working to develop the science for technologies that would reduce the use of pesticides and water to grow wine grapes.

INTERESTS: Needs as Wine Grape Growers & Interests in Sustainability

1. Growers' livelihoods often depend to some degree on adopting practices that align with sustainable principles. Water is one of the costliest inputs in the wine grape growing process, and it is in the best interest of growers to be efficient with their water use.

2. How sustainably a grower wants to or can manage their vineyards depends on both (1) their personal understanding of what "sustainable" means and (2) their willingness and ability to navigate certain barriers to adopt certain sustainable practices.

3. Not all growers in the wine grape community are convinced of the actual mitigated environmental harms associated with more sustainable growing practices.

4. Some growers are aware that sustainable wine grape growing practices are likely to result in better quality wines that can be sold at a premium while allowing growers to use fewer inputs.

CONSTRAINTS: Limits & Risks to Their Business Operations

1. When growers were asked about how sustainably they were willing to manage their vineyards and whether they would be willing to work with tribes to develop access agreements on their properties, they mentioned two common constraints: (1) costs (including time and additional labor) and (2) liability.

2. At present the curriculum in schools and technical support systems for individuals looking to establish vineyards are developed around conventional growing methods. Those who want to farm more sustainably must go out of their way to find resources to do so.

3. Many growers do not have better information about the impacts and potential gains from transitioning to more sustainable growing practices. Without more hard evidence to support claims about the benefits of sustainable agriculture, wine grape growers as a community will continue to subscribe to dogma that the risks involved in growing more sustainably and organically outweigh the potential benefits.

4. Some vineyard owners continue knowingly to use less efficient and environmentally-conscious vineyard management practices because they prefer the aesthetic of a vineyard that has been tilled of all weeds and other competing plant matter.

5. Currently, there is limited interaction between tribes and growers in the region. Generally, though not in absolute terms, the wine grape community has little experience or understanding about how to initiate conversations with and invite indigenous groups to collaborate on projects. Some growers would have been open to collaborating with tribal communities, had they known tribal communities were interested in working with them.

6. Many growers are inherently averse to the risks of opening private lands for public access to tribal communities (and the general public)—particularly to individuals they do not personally know and trust.

INCENTIVES: Pursuing Land Management Partnerships with Tribes

1. Sonoma County has started a movement to ensure 100% participation of its wine grape growers in sustainable practices by 2019. There is a growing focus on social equity in the wine grape sustainability movement. The sustainability movement in Sonoma County aims to promote the "triple-bottom-line" as a business model that focuses on the economic, environmental, and social equity impacts of vineyard practices.

2. Growers want to find effective ways to communicate to consumers that it is worth spending more on sustainably-grown wine due to the benefit to their health, the environment, and their larger community.

3. Landholders place easements on their land for these common reasons:

    a. They want to free up capital to invest in other aspects of their business.
    b. For estate planning purposes: they want to ensure the smooth transfer of property among heirs who may not all want to continue farming the land but who still want to receive their fair share of the land's value. Easements are a way to avoid subdivision of properties and to keep land in agricultural use.
    c. They no longer want to actively manage their property, but still want to live on land and have it provide them an active income stream.
    d. They love their land and agriculture and see an easement as a means to help them preserve this way of life for the next generation.

4. Vineyard owners as a group generally are not eager to put easements on their lands, given that most of them want their children to have flexibility with how they utilize the land.

5. The Wild Farm Alliance (WFA), a national coalition of growers and ecologists, was established in 2000 to promote biodiversity in open spaces alongside with sustainable farming practices. WFA's latest project in the California North Coast region involves identifying vineyards that have adopted best practices to enhance biodiversity on their lands. While the project is still

developing, WFA hopes the project will promote awareness and wider adoption of best biodiversity enhancing practices in the region and that it will drive the direction of their policy work in the future.

KEY POINTS

A. Key natural resources/agricultural features of the region:

1. **Sonoma County**: Wine grape growers are the largest agricultural landholders in the county. The wine grape community has significant political and economic clout.
2. **Mendocino County**: Timber companies are among the largest private landholders in the county. Vineyard expansions are in progress.
3. **Lake County**: Pear orchards are the largest growers in the county. Vineyard expansions are in progress.

B. Key constraints and opportunities to developing tribal-vineyard partnerships:

1. **Constraint 1**: Vineyard owners are profitable and have little to no financial incentive to either sell their land back to tribes or to cooperate with tribes if they have no personal inclination to do so.
2. **Constraint 2**: Individually, many tribes have limited resources and capacity to manage and coordinate access agreements and projects on various individual vineyard properties.

3. **Opportunity 1**: Many public agencies and private land conservation organizations are well-positioned to build upon or develop existing relationships with the wine grape community in the region.
4. **Opportunity 2**: Within the wine grape community, sustainability is increasingly seen as not just crop management but overall land and resource management of an entire property/landscape.
5. **Opportunity 3**: Sustainability in the wine grape community is evolving to place a greater focus on social equity—providing an opportunity for tribes in the region to make their case about how tribal-vineyard co-stewardship agreements are necessary to support a more "equitable" wine grape industry.
6. **Opportunity 4**: There are strong legal and economic incentives prompting the wine grape community to increase sustainable land management on their whole properties due to recently passed and upcoming water quality and farm management regulations.
7. **Opportunity 5**: Both tribes and vineyard owners have an interest in increasing water use efficiency and water access.

C. Conditions necessary to support tribal partnerships with other entities (vineyards, public agencies, and private organizations):

1. **Institutional "champions"**: Initial tribal-agency partnerships were often advanced by champions at institutions pushing to develop processes and frameworks for them to better engage with tribal groups.

2. **Basis in law for "inclusion" of tribal communities**: Champions pushing for tribal partnerships were aided by laws and regulations pushing public agencies to engage more substantively with tribal groups.
3. **Building institutional memory**: Public agencies need to (but do not always) develop standard operating procedures to ensure that a tribal-agency/tribal-vineyard relationship extends beyond the tenure of specific organizational contacts (champions).
4. **Accommodating intertribal interests**: Partners aiming to work with tribal communities on large-scale, geographically-broad projects need to identify an intertribal body to coordinate with, since no one tribe's interests are representative of all tribes' interests. Moreover, designating an intertribal body as a point-of-contact for public agencies decreases bureaucratic inefficiency and misunderstandings resulting from consulting with tribes in an uncoordinated, piecemeal manner.

OPTIONS (A)—Common Strategies to Increase Tribal Land Access

The options detailed in this section have been aggregated from interviews with tribes and tribal organizations about strategies that they have used to reclaim access to ancestral territories. The tribes and tribal organizations interviewed reside in states along the U.S. west coast (California, Washington, Oregon, and Idaho). Some of the options available to these tribes were only possible due to their unique legal, economic, and political standing within the general community.

The tribes in the North Coast region operate in very different legal, economic, and political contexts, which will impact how effective some of these strategies will be for their purposes. This will be discussed further in the "**Evaluating Options: Analysis**". Tribes in this region may find some aspects of these strategies—if not the whole strategy—useful to consider as part of a regionwide plan to increase land stewardship on privately-held lands.

DIRECT ACTION: ACCESSING PRIVATE LAND

Tribe purchases land in fee (with the help of a land trust)

If a tribe has identified a parcel of land they would like to acquire, they may consider consulting with a large land trust organization, like The Trust for Public Land (TPL), to facilitate the purchase from the landholder. If the tribe plans on transferring the land into trust status and adding it to whatever land it currently holds after acquisition, this option requires that the tribe be able to prove that it has historical claim to it.

The tribe would need to identify a suitable parcel of land—"suitable" varying with whether the tribe wants to convert the land in fee into trust land or to simply hold title to the land in fee indefinitely.

Establish conservation easements on (a portion of) private land with a tribe as the easement holder

Conservation easements are a type of land use agreement between a landholder and an easement holder that typically restricts (and in some cases, requires) certain use rights on land. A landholder typically donates a conservation easement in exchange for a sizable property tax deduction—as long as the easement is held by a "qualified organization" (usually a government agency, federally-recognized tribe, or 501(c)3 tax-exempt nonprofit—as defined under the Internal Revenue Code (IRC)). Conservation easements "may grant the holder a direct management role (or an

informal consulting role) on the property, or simply provide the right to enforce against specified activities on the land."[21]

Some tribes have used conservation easements as a "placeholder" alternative when purchasing land in fee outright is not possible—at least until they have accumulated enough resources to purchase land in fee. In California, only federally-recognized tribes (and certain tribes on the contact list maintained by the Native American Heritage Commission) can hold easements. Otherwise, a tribe needs to designate or establish an eligible land-holding entity (usually a nonprofit) to hold the easement. As easement holders, tribes are responsible for monitoring and enforcing the terms of the easement.

Establish conservation easements on (a portion of) private land with a public agency or private organization as the easement holder

Tribes can partner with a public agency or private organization to establish a conservation easement on private land. Tribes can also work with them to ensure the terms of the easement are enforced once they have been established. When these partnerships are established, the tribe and their partners may have distinct roles in the establishment and management of the easement: facilitating, funding, and managing (monitoring and enforcing compliance).

Some tribes allow land conservation entities, like a local land trust or an open space district, to hold easements on their behalf while—through either an understanding with the official easement holder or as part of the terms of the easement—they enjoy right of access to lands with easements on them.

As a condition of their involvement, some entities will require that they be able to add terms in the easement or place their own easement on the land to ensure that their organizational directives are being met by participating as a partner. This is often the case for public agencies who must be accountable to the public for how they spend their tax dollars. There are different configurations for how tribes might include public agencies or private organizations as partners for a conservation easement.

A. The SCAPOSD or a local land trust serves as an easement holder who does not fund the easement but facilitates the negotiations between the tribe and the private landholder.
B. The SCAPOSD or a land trust serves as a funding partner and holds the easement. The tribe negotiates directly with landowners. The tribe can place an easement on a property but must be willing to allow the SCAPOSD to place their own easement on the same property as a condition of their participation in the process.

[21] Wood and O'Brien (2008).

An existing nonprofit holds conservation easements

Some native nonprofits—primarily in Hawaii, since there are no "recognized tribes" to hold easements—hold lands and/or conservation easements.[22] Many of these nonprofits tend to have an organizational focus that does not deal exclusively with land conservation. However, they pursue conservation easements, because their organization's work requires being able to access or protect certain lands through some mechanism (ex. A native nonprofit focused on preserving cultural practices).

Tribes form a nonprofit consortium to hold conservation easements (and/or land in fee)

Some tribes have convened a nonprofit consortium to lead potential land acquisition projects and/or to hold conservation easements over private lands. The consortium model has been necessary where individual tribes are not able to manage land themselves or where there is no consensus within a tribe or between different tribes about whether they are able or willing to acquire and manage land or conservation easements.

This option may also be the only option to allow certain tribes who are federally unrecognized (and not on the contact list maintained by the Native American Heritage Commission) to participate in the broader effort to access lands, since they cannot hold conservation easements as a "qualified organization" under the Internal Revenue Code (I.R.C.) section 170(h) and under CA Senate Bill 18.

The consortium provides a forum for individual tribal groups to negotiate preferences for how to move forward on a project and to pool labor and financial and other resources in pursuit of land acquisitions and/or conservation easements.

Tribes cultivate informal access agreements with individual landowners (and cooperative agreements with timber companies)

Many access agreements, restoration projects, and collaborative co-management partnerships start with a direct informal relationship between individual tribal members and a member of the private landholding community. These agreements tend to allow only a specific set of

[22] Interview with Laura Kaakua, Native Lands Project Manager at The Trust for Public Land

tribal members to access the landowner's property, since the property owner must know or trust these individuals. These agreements also include conditions such as the tribal member agreeing to call ahead of time to ask or notify the landholder about entering onto the property for gathering purposes.

While the direct access resulting from these informal agreements have been "ends" in themselves, they may serve as a necessary means to pave the way toward more formal, durable agreements—as has been the case for some tribal communities.

In the North Coast region, these partnerships are prevalent between individual tribal members and private landowners though no evidence shows that they are being actively cultivated by any local tribal organizations.

INDIRECT ACTION: IN-ROADS TO THE PRIVATE LANDHOLDING COMMUNITY

Work with public agencies and private organizations to connect with the private landowner community

Many tribes have developed partnerships with public agencies and land trusts through the course of their natural resource restoration work over the years. Many of these public agencies and land trusts interface regularly with the agricultural and private landholder community in their work.

Land and natural resource management work often requires navigating overlapping land boundaries—both ecological, in terms of wildlife habitat, and jurisdictional, in terms of the administrative bodies overseeing specific areas of land. Tribes need to develop lasting working relationships with adjacent private property owners and different resource management entities to initiate resource management projects on private lands and to ensure that they will be able to continue managing them in the long-term.

Tribes in this region could work through local public agencies and land trusts to outreach to private landowners that they believe would be amenable to forming access agreements with tribes.

Initiate special collaborative projects to depolarize the relationship between tribes and landholding agricultural community

Partnerships between the agricultural community and tribes have often been initiated and bonded through projects that helped these two often polarized groups meet distinct needs and (revealed) shared interests.

Focusing on water access and quality has been a common strategy to unite landowners and tribes attempting to come to a consensus about land management goals and practices.

Individuals looking to fund land conservation projects have utilized funding available through bond measures passed to promote water quality protection. The language in most water quality protection bond measures—particularly at the state and local level—does not usually mention land acquisition. However, the money goes almost exclusively to the purchase of land for conservation purposes.[23] (*See* **APPENDIX** *for a list of tribal-landholder community conservation projects that involve restoring water quality*).

Lomakatsi Restoration Project, a nonprofit, grassroots organization that develops and implements forest and watershed restoration projects in Oregon and northern California, has advised various tribes on how to establish co-stewardship agreements with the USFS. These agreements

[23] Interview with Chuck Sams, formerly with The Trust for Public Land, the Indian Land Conservancy, and current interim Executive Director of the Confederated Tribes of the Umatilla Reservation

promote “ecological forestry”, a dual-issue platform focused on restoring the local environment and local economies that achieves buy-in both from the tribal community, industry, and the general public.

Lomakatsi Restoration Project has developed this dual-interest paradigm over decades, inspired by the strategies that the environmental movement developed to diffuse the polarization between the environmental and the timber communities. The model has legal standing through the “stewardship authority” clause in the forestry provisions of the 2014 Farm Bill. The clause permanently reauthorizes stewardship contracting, a tool that allows the USFS (and the BLM on DOI lands they manage) to enter dual service and timber sale contracts for up to 10 years to achieve certain land management goals.[24] Stewardship authority has allowed tribes to push forward ecosystem restoration work that also bolsters local economies.

It may be possible for tribes to use stewardship authority to model sustainable working forest co-management agreements with the local USFS and BLM on lands that they manage in Mendocino County. A couple tribes in Mendocino County have already negotiated or are negotiating access and service agreements with local timber companies and federal agencies that they could build upon.

[24] Hoover (2014).

OPTIONS (B)—New Strategies

The options listed in this section were not identified by the tribal community but are potential companion strategies have been suggested in response to stakeholder constraints and incentives that were identified in "**Stakeholder Analysis: Summary**".

Develop a tribal eco-label for wine grape growers who have developed long-term co-stewardship partnerships with the local tribes

The wine and tourism industry in this region are very closely connected. Consumers come to this area not just to taste wine but also for the experience that comes with it—touring the vineyards and wineries while hearing the story behind how the wine is made and how the land that produced the wine is managed. Wineries and wine grape growers often capitalize on this demand and build the story behind their wine grape cultivation into their marketing practices.

Vineyard owners may be more receptive to tribes seeking to secure a co-stewardship agreement with them (or a conservation easement that grants them the affirmative right of access to gather and manage resources on their lands) if tribes can offer them the option to include the story of their partnership in their marketing strategy.

Develop tribal-vineyard-research institution partnerships to study the economic and environmental impacts of more ecologically sustainable agricultural/land management practices

Apart from vineyard owners' personal convictions about sustainable land management, one of the primary incentives for vineyard owners to grow more sustainably is the claim that it leads to better quality wine grapes. However, there is no critical mass of research in the public domain confirming this claim—meaning many growers have reason to suspect that this claim is subjective. Moreover, the body of literature exploring the impacts of tribal traditional ecological knowledge (TEK) as a land management strategy is promising but also only emergent. Though there is interest in both research areas, there is a lack of funding to support further research.

Universities host various research centers with committed staff, professors, and students that (1) frequently collaborate with local communities on research and (2) have the resources to pursue grants to fund research proposals. Several schools (such as UC Berkeley and UC Santa Cruz) have involved local tribes in research related to botany and land management using TEK and ecological practices (ex. Karuk-UC Berkeley Collaborative and the partnership between UC Santa Cruz and the

Amah Mutsun tribe). Other schools like UC Davis are heavily involved with the agricultural community through the UC Cooperative Extension program. Some of these researchers are working on ways to reduce the water and pesticides necessary to grow wine grapes. (*See the* **(B) UNABRIDGED Stakeholder Analysis** *in the* **APPENDIX** *for more details*).

Moreover, several tribes have experience working with state and local agencies on research related to water quality and natural resource quality (levels of pesticide or other pollution found in plant matter).

To change the level of support from the larger wine grape community about sustainable land management practices and the opinion of the decisionmakers who are shaping policy about the kinds of land management practices that will be promoted and/or mandated, tribes and vineyard owners should develop and fund research proposals in partnership with local research institutions.

Tribes might consider (1) developing research proposals with receptive wine grape growers (from the biodynamic and organic wine grape community) and (2) identifying individuals (from the environmental studies or similar departments) at local research institutions who are currently involved in or would be interested in research that aligns with their own interests in TEK and sustainable farm and land management practices.

Evaluating the Options: Criteria

OBJECTIVE

Identify a set of regionwide strategies enabling tribes to develop **long-term** partnerships with vineyard owners in the most **resource-efficient** manner possible.

Using Constraints and Opportunities as Lenses to Evaluate the Options

1. **Long-term**
    a. Sustainable
    b. Aligns politically with interests of all stakeholders (the tribes, wine grape growers, public agencies and land trusts)

2. **Resource-efficient**
    a. That builds upon existing efforts and does not create unnecessary and unmanageable bureaucracy for the tribes or potential partners
    b. The cost is proportionate to level and longevity of access provided

CRITERIA DEFINED

The following chart lists a set of criteria and guiding questions that were considered while evaluating how suitable each proposed option would be for achieving the objective of increasing tribal access to privately-held lands.

Effectiveness	What level of access does this option give tribes to private lands? How long will it take before tribes can access and manage the land? To what degree does this option increase the tribal community's decision-making power over land management decisions in tandem with the landholders on private lands?
Ease of Administration	How resource intensive is this option? Do tribes have the existing administrative capacity or the political infrastructure to initiate and maintain this option in the long-term? What capital would be necessary or is available to implement and maintain this

	option?
Durability	How easily can access be revoked by other competing (economic, political) incentives or interests in the future?
Cost-efficacy	How much money and other capital (labor and time) will this option cost upfront? In the long run? Is the level of access and right to assert decision-making power over land management decisions through this option proportional to the long-term costs?
Political acceptability	Internal: Will this option align with the collective economic/political incentives of the tribes in the region? External: To what extent will it impact the relationship the tribes have with the general public? To what extent is this option compatible with the interests of the other stakeholders in the community?

Given that—

(1) the region of focus and the time-horizon for the project are broad
(2) there is no way to approximate the exact cost of a particular option given that no specific parcels of land have been identified
(3) there is no single tribe, group of tribes, or tribal organization that has been definitively identified as project planning or implementing actors
(4) and each tribe or group of tribes may have different interests and preferences

—the criteria serve as a frame of evaluation rather than a rigid ranking system in the considerations about which options/combination of options would be best to pursue.

Evaluating the Options: Analysis

DIRECT ACTION: ACCESSING PRIVATE LAND

Tribe purchases land in fee (with the help of a land trust)

Effectiveness

As landowners, tribes would have unfettered access to lands and relative freedom to implement a land management regimen of their own devising—consistent with (1) federal, state, and local land use regulations and (2) whatever conditions are attached to the funds for the acquisition.

The opportunity to purchase land in fee in this area is rare. Most lands of interest in Sonoma County are already privately-held by vineyard owners, while in Mendocino County, a large proportion of private land is held primarily by timber companies and, to a lesser extent, vineyard owners. Given that wine grapes are a thriving industry in the region, landowners will have no financial incentive to sell their land.

This option is an unlikely alternative unless the tribe knows that a property is on the market. Moreover, this process could take approximately 3+ years of negotiations and fundraising before the transaction is complete and tribes can access the land freely.

Ease of Administration

This process is often technically and legally complex due to the various funding mechanisms and the cooperation between actors from different levels of government required to move the process forward (BIA, state and county agencies, etc.). Unless the tribe has revenues (ex. from a casino) and can front a majority of the acquisition itself, the cost is usually too large to defray through any one public source. The public funding available for land acquisition is often limited, and a patchwork of public funding and intensive fundraising for private donor money—that often comes attached with their own conditions—is usually required to fund land acquisitions.

Tribes would have to consider the uncertainty that comes with facilitating land acquisitions with the assistance of land trusts. Land acquisitions often must manage the expectations and maintain the buy-in of multiple partners and funders through a period of 3 or more years—any one of whom could decide to withdraw their support or their money during the waiting period.

The conditions that come with public and private funding are usually negotiated over a long period of time. Private landholders must consider how long they are willing to wait to receive the money from the sale of their land when deciding whether to sell their land to a land trust or to a private owner. Even landholders who support the goal of returning land to tribal communities may not be able to wait 2 to 3 years for the land trust to aggregate the funds to complete the sale, when they could sell immediately to another private landowner.

Whether the tribe will choose to add the land, once acquired, to their existing land base (through the fee-to-trust process) is another matter. The fee-to-trust-process requires another extended, complex process that involves navigating layers of bureaucracy—including approval by the BIA-DOI and the consent of state and local jurisdictions for the land acquisition to take place and for the transfer of land in fee to trust status. It would also require the tribe be able to provide proof that they have historical claims to the land/that is within the tribe's ancestral territory.

Durability

Land in fee once conveyed to the title-holder confers full ownership of the land to the tribe. The land is not likely to pass into non-tribal ownership unless the tribes decide to sell the land to a non-tribal owner. This prospect is even more unlikely if a tribe successfully applies to convert land in fee to trust after it has been acquired.

Cost-Efficacy

Land acquisitions are likely the costliest of all the options considered, given that land values in the North Coast of California are among the highest in the country and land availability is scarce. Most of the land that is readily available for purchase is typically not "usable", since the most arable lands have long since been given to or purchased by non-native private owners.

While it may appear that buying land in fee is the most cost-effective option, since a tribe would have full access to the land after a one-time payment, there are additional costs after the acquisition that need to be considered. After a land acquisition has been finalized, there is often no funding left for land maintenance—to implement a regimen to return the land to health—which is usually necessary since the land is often returned in a state of "degradation". For tribes to be able to pursue stewardship activities in the long term and restore the land to a level that would allow it to pursue subsistence practices, tribes would need to acquire additional endowment monies for the continued maintenance of the land. The annual interest from the endowment would be used to fund long-term maintenance.

Political Acceptability

Internal & External: This process is politically contentious both among the non-native community, who assume that tribes are buying up lands to develop casinos, and even within the tribal community, who may have different, competing priorities for how land that is acquired should be used.

Moreover, dominant cultural narratives about private land ownership (as a superior model to communal land ownership) make private landowners reluctant to sell land to tribes even when they have land to sell. Private landowners tend to be more willing to sell their land to other private owners or land conservation organizations—even though the land management ethos (if not the management practices) of conservation organizations and the tribes are similar.

Establish conservation easements on (a portion of) private land with a tribe as the easement holder

Effectiveness

Once established, conservation easements travel with the land title "in perpetuity"—the restrictions/obligations travel with the land regardless of the landowner. The land use terms specified in conservation easements are both permanent and adaptable to the needs of the contracting parties. If the language in the easement is given proper consideration during negotiations, a conservation easement could guarantee that a tribe has access and the affirmative right to manage subsistence resources on the land "in perpetuity". However, in practice, their effectiveness in guaranteeing that those land use rights are secured "in perpetuity" hinges on how well the tribe as the easement holder can enforce the terms. Consequently, conservations easements will only be effective for a tribe with the necessary resources to enforce compliance from landowners. In practice, conservation easements take roughly 1 to 3 years to negotiate and finalize.

Cultural easements have also emerged as another tool tribes can use to protect the cultural resources on certain lands. However, establishing a cultural easement requires that tribes do the additional work of educating the general public about what they are before they are comfortable with having them placed on their land. The public is likely to be more familiar and therefore comfortable with conservation easements and the tax benefits that they confer to private landowners.

However, private landowners who want to donate easements to a tribe would only be able to receive tax deductions for their donation if the conservation easement were established "exclusively for public purposes"—indicating that some public access component is generally required (according to the Internal Revenue Code (IRC)). Given that the tribe placing the easement on vineyard lands would likely not want the land and the subsistence resources on them to be accessible to all members of the general public, it may not be in their own interest to serve as the holders of the easement. Private landowners might also be disinclined to donate a conservation easement if they knew it would open their private property to the general public.

Ease of Administration

Conservation easements can take anywhere between 1 to 3 years to negotiate and finalize. The process comes down to ensuring that the easement holder (the tribe) and the landholder can agree on a common vision for the agreement and the kind of practices that it will permit and/or restrict. Moreover, while conservation easements are usually donated by landowners, if the value of land is high (which is the case in this area), the landowner is cash-strapped and looking for an immediate payout (which is unlikely in the vineyard community), or the landowner cannot utilize the tax deductions that come with donating an easement, landowners might instead opt to sell an easement. The tribe would then need to be able to raise the necessary funds to purchase the easement.

Establishing conservation easements requires land use law and policy expertise to negotiate and draft the easement documents. Unless someone within the tribe has expertise on the process, the tribe

will need to work with a land trust and/or legal counsel with experience negotiating easements to serve an as advisor and a facilitator between themselves (the prospective easement holders) and the private landowner.

Moreover, easements are difficult to modify once they are finalized, which is why so much scrutiny goes into crafting the language to ensure that the use rights intended to be in the agreement are preserved. The tribe and the landholder also need to ensure that they do not unintentionally bind themselves to (1) use terms that are overly restrictive or that render the land "useless" in unforeseen "changed circumstances" (ex. natural disaster and impacts of climate change) and (2) management commitments that they cannot fulfill.[25] Specific language needs to be developed and placed in the agreement to allow for amendments in those exceptional circumstances.

The Intertribal Sinkyone Wilderness Council (ISWC) in Northern California negotiated the first conservation easement ever established through a tribal-private landowner collaboration with the Pacific Forest Trust (PFT) in 1996. It took three years to finalize the easement. Once the land was purchased and the easement on the land along with it was transferred to the ISWC, the ISWC placed another easement with even more stringent terms to increase the protections on the land. However, there were hidden costs that came with this process—before and after the easement was secured—including staff time invested in negotiating the agreement with PFT and devoted to monitoring and enforcing compliance (including grant applications and reporting).[26]

Durability

While conservation easements aim to limit the pool of future buyers to those whose plans for the land are consistent with the easement terms, enforcing compliance can still be a challenge. Whether the succeeding landowner will comply with the terms agreed upon by the original landowner comes down to (1) how well the values of the new landowner and the easement holder (the tribe) align and (2) the ability of the tribe to enforce those terms. At a minimum, enforcement involves working with a landowner, who may unknowingly violate the terms, to pursue corrective action that will bring them into compliance. At worst, it can involve a landowner deliberately disregarding the terms and who must be forced into compliance through a lawsuit. These conflicts still occur despite ongoing efforts by the conservation community to prevent violations by strengthening easements.

Both the tribe and the landowner are allowed to enforce the terms of the easement and to designate a third-party holder (such as a land trust or a public agency) as an "alternate holder" who would also have enforcement rights in the event that neither of the contracting parties are able to enforce the terms themselves. In some cases, the tribe can serve as the primary easement holder while a city agency serves as co-holder or "alternate" holder.

Succeeding landowners who want to invalidate conservation easements on their properties often claim that easements place an undue burden on them as property owners due to "changed circumstance". "Changed circumstance" may include changing environmental conditions in and around the easement lands and/or new science making claims about the validity of the conservation or cultural

[25] Wood and O'Brien (2008).
[26] Interview with Hawk Rosales, Director of the Intertribal Sinkyone Wilderness Council (ISWC)

reasons for which the easement was initially established. However, it is possible to preemptively address this potential attack on the validity of the easement by placing language in the contract allowing it to be adaptable to changing circumstances and for the contracting parties to renegotiate permitted and restricted uses in accordance to whatever circumstances may arise.

One of the added benefits of a tribe holding a conservation easement over privately-held lands is that the landowners residing on the property can share with the broader community their positive experience of having a conservation easement placed on their land. The relationship between the tribe and the landowner that develops through the course of managing the easement could catalyze a networking process within the broader private landholder community. The growth of these networks can increase opportunities for tribes to develop easements on neighboring private lands and help secure the public's approval of the existing conservation easements that they hold.

Cost-Efficacy

On average, conservation easements are appraised at half the value of purchasing the land in fee. While purchasing land in fee may be out of the budget for a tribe, a conservation easement may still allow a tribe to pursue and achieve many of the access and resource management goals that otherwise would be infeasible for them. The tribe would also have to factor in the additional cost of consulting with a land trust and/or legal counsel with expertise on conservation easements—which may be high given that conservation easement law is a niche area of law.

As with land purchased in fee, if a conservation easement does not also come with an endowment to ensure that the tribe can monitor and enforce the terms of the easements moving forward, the tribe may be forced to continually apply for grants to fund the maintenance of the easement. There would also be the added burden of allocating staff time to report on grants.

Political Acceptability

Internally: Conservation easements are designed to ensure that lands are protected in perpetuity regardless of the title holder. By some accounts, conservation easements constitute a mechanism for land stewardship that aligns historically and culturally with the land stewardship values of Native Americans and the traditional customary "use right" policies they observed that made access to land contingent on the tenant's productive and sustainable use of the land.[27]

Informal access agreements to private land for gathering purposes already exist on a piecemeal level in the region. However, both tribal members and private landholders might welcome a more formalized agreement that further clarifies the access agreement's terms. It may (1) take the onus off individual tribal members to continually seek out and build relationships with private landholders and (2) address the liability concerns that make private landholders reluctant to enter informal agreements in the first place.

[27] Interview with Hawk Rosales (ISWC)

Externally: According to IRC section 170(h), tax deductions are only available to landowners who donate easements on their land for a "qualified property interest" and "exclusively for conservation purposes".[28] Some vineyard owners are already inclined to manage their vineyards and overall properties sustainably in a manner that is consistent with the purpose of conservation easements. Some private landowners are generally familiar with and support the purpose of conservation easements. However, tribes may have to contend with fear from the broader private landholding community that conservation easements might interfere with their privacy and increase their legal liability by opening their properties to more public access.

Moreover, landowners may be dissuaded from placing conservation easements on their lands, because lands with easements placed on them are likely to restrict the pool of future buyers. Even though lands with easements placed on them are appraised at a lower value, because easements lower the value of land to its true "agricultural" value, the land use restrictions/obligations may not appeal to future buyers that want more flexibility with how they utilize the land. Consequently, lands with easements placed on them take a longer time to sell.

Establish conservation easements on (a portion of) private land with a public agency or a private organization as the easement holder

Effectiveness

Tribes can still help establish conservation easements that grant them access and management rights to private lands even if they are not the easement holders. The efficacy of easements as tool that allows the tribe to access and manage a portion of private land hinges on their ability to enforce those terms. Having a private organization (like a land trust) or a public agency (like an open space district) serve as the holder might be a more feasible option for tribes that do not yet have the capacity to manage easements themselves.

Moreover, land trusts are exempt under the Internal Revenue Code from the requirement that the conservation easement must be established "exclusively for public purposes"— unlike other "qualified organizations" (like tribes) that can hold conservation easements.[29] If a local land trust were to hold the conservation easement, it is possible for the tribe to negotiate more exclusive rights under the easement for the tribe to access and manage subsistence resources on a property.

At present, the terms in conservation easements typically focus on restricting and permitting specified uses. Tribes do not have an affirmative right to manage subsistence resources on easement lands. Rather, they might be allowed to "gather" on lands so long as (1) the easement holder believes that gathering is consistent with the easement terms and (2) the landowner is willing to allow tribes access to their lands for gathering purposes.

[28] Wood and O'Brien (2008).
[29] Wood and O'Brien (2008).

However, language can be added to the standard conservation easement template so that some of the terms are more affirmative in nature—allowing tribes to secure a permanent right to manage subsistence resources on private lands even if they are not the easement holders**.** In the Kashia Coastal Reserve project, the easements held by the SCAPOSD include language that was added specifically to permit the gathering and management of vegetation on the land, which is not normally included in the natural resource conservation easements held by the SCAPOSD. The easement does not necessarily grant them the affirmative right to manage resources on the land but still represents an evolution in conservation easements as a tool that allows tribes to address their traditional practice needs.

As a practice, not many local land trusts and public agencies currently consult with tribes as third-party stakeholders when they draft easements. A tribe would first need to cultivate relationships with the local land trusts and public agencies and then maintain those relationships for the duration of easement negotiations—which can take between 1 to 3 years per easement—before obtaining access to a specific easement property. Language can also be added to easements to reserve the right for the land trust or public agency to pass "easement holder" status to a tribe or tribal organization in the future. This measure ensures that the conservation easement will pass on to and remain in tribal management if and when the tribe decides they or a tribal organization is willing and capable of managing the easement themselves.

Ease of Administration

Working with a more established private organization, like a land trust, might make it easier for a tribe to ensure that an easement is being monitored and enforced, since these organizations typically have more resources and greater standing in the community.

Moreover, private nonprofits, like land trusts, can purchase land, select a tenant, and put an easement on a property without going through a time-consuming public process that public agencies would be required to undergo. Land trusts are better equipped to guide tribes through the process of securing a conservation easement, with public agencies like the SCAPOSD serving as "facilitators" that convey potential resource management projects and opportunities to the tribe and the local land trusts.

The Sonoma Land Trust (SLT) has an internal policy of reaching out to the local tribes and conducting cultural resource surveys on all the properties they acquire. It is possible for the tribal community to leverage the existing relationships that SLT has with a couple of the tribes in the county to further develop a consulting relationship with the SLT. This relationship would allow them to consult with SLT to place language in future conservation easements that the SLT establishes that will guarantee that tribes have access and co-management rights on lands that SLT oversees (including agricultural lands with easements placed on them).

In drafting the language in an easement, tribes must work with partners to find the right balance between clearly defining their desired intended uses (right of access to manage subsistence resources) without giving carte blanche rights for any individual to manage those resources in a way that might be inconsistent with how the tribes want those resources to be managed.

In Hawaii, this challenge has been addressed by requiring in conservation easements that any restoration activities that take place on the land will comply with the State Historic Preservation Division

regulations. This would require anyone proposing a restoration project or a land management regimen to either (1) involve the State Historic Preservation Division or (2) require that management and restoration activities involve a local tribal expert on restoration activities and traditional practices.[30]

Durability

The durability of this option hinges on whether the land trust or public agency can monitor and enforce the property owner's compliance —which can be a challenge when the land title is transferred to a new owner who did not negotiate and consent to the terms. Land trusts and public agencies may be in a better position to monitor and enforce easement terms given that they have more resources to do so and that their organizational directives are centrally devoted to these purposes, whereas a tribe often has multiple competing priorities.

However, land trusts, as private organizations, might be in a better position to enforce conservation easements than public agencies. A public agency's ability to pursue corrective action to enforce an easement will at times rely on the willingness of the Department of Justice (DOJ) to allow a lawsuit to move forward to enforce an easement. However, the DOJ is not likely to prioritize the enforcement of conservation easements on private property over other priority issues.

An additional benefit of forming a long-term relationship with local land trusts is that they have many connections to the larger community. If a tribe can develop a good working relationship with a land trust, they may have greater access to information about opportunities to reacquire or to access private lands and about landowners who would be receptive to having conservation easements placed on their properties.

For example, the Feather River Land Trust, which holds easements on the lands recently acquired by the Maidu in Northern California, has leveraged their partnership with the Maidu to pursue funding on behalf of the local tribal natural resource work crews for crew staff training and salaries. The work crews are often employed to complete restoration and resource management projects on tribal as well as private and land trust land.

Cost-Efficacy

A tribe might end up funding a portion of or contributing no funds to the purchase of a conservation easement if they can convince a local land trust or an open space district to serve as a funding partner. At the same time, public agencies tend to have limited public funds to complete conservation projects, and that pool of funding may shrink further in the next 4 to 8 years. Land trusts—particularly the larger national land trusts—may have (1) greater expertise in fundraising and (2) greater access to private donors who are willing and able to donate funds to purchase an easement.

Like a conservation easement held by a tribe, the tribe would still be able to achieve many of the access and resource management goals that otherwise would be infeasible for them without the

[30] Interview with Laura Kaakua (TPL)

easement. However, the tribe may have less leeway to define and practice their management rights in easements held by land trusts and public agencies than they would if they were the easement holders. Land trusts and public agencies need to prioritize their own organizational directives in drafting and enforcing easements, which may result in terms negotiated in the easement that do not align with the tribe's goals.

Land trusts and public agencies would already have the resources to monitor and enforce the terms of easements moving forward.

Political Acceptability

Internally: Some tribes already have a degree of familiarity with some of the local land trusts and public agencies. They have worked with them in various capacities— monitoring projects on sites of cultural significance and as part of work crews on restoration and other service projects.

Moreover, tribes may be amenable to working with land trusts and public agencies to develop and manage conservation easements, given that the rise in conservation easements and land trusts as conservation tools reflects a pivot from land privatization and a return to a model of tribal communal land ownership.[31] Land trusts and public agencies like the SCAPOSD have institutionally enshrined the collective duty of the public to manage land in a sustainable manner in their organizational directives. This duty is a belief that aligns in principle—if not always in practice—with Native American principles of natural resource stewardship.

Externally: Land trusts—and public agencies to some degree—have experience assessing the needs and potential conflicts that come with a project proposal and providing tribes information about their options to move forward with a particular landowner.

Land trusts are also adept at facilitating the relationships necessary to establish a conservation easement and involving the whole community in the process. As a proxy, land trusts can help tribes navigate the initial negotiations with landowners, who often have unfounded fears about a tribe's motivations for accessing land and/or skepticism about their ability to manage land. As neutral entities that have a more established and accepted presence in the community, they can more easily secure the cooperation of private landowners.

Land trusts may also have an advantage over public agencies with private landowners that are wary of the bureaucratic challenges of working with public agencies.

[31] Interview with Hawk Rosales (ISWC)

An existing nonprofit holds conservation easements

Effectiveness & Ease of Administration

For an existing tribal nonprofit to manage conservation easements, it must adapt their existing mission to include the additional responsibility of land and natural resource management—if this is not already the focus of their organization. This requires high-level organizational restructuring—adding board members with expertise in large scale environmental restoration and land management to their existing roster of board members and acquiring and managing a larger budget to accommodate the additional staff needed to manage land and conservation easements. These high-level organizational changes take time. Given that easement projects usually take on average 1 to 3 years, existing nonprofits that want to serve in this role have very little time to change or expand their mission to be fully prepared to manage easements.

Moreover, while a tribal nonprofit may have been operating in the community for years, there is no guarantee that the nonprofit will have the trust of the general public—particularly if the general public is not aware of the nonprofit's standing in the community. This is likely to be the case, since the tribal and the vineyard community in this region have limited contact with each other. The nonprofit would have to spend time developing its capacity and rebranding its image before landholders could trust the nonprofit's intentions for pursuing a conservation easement with them.

Durability & Cost-Efficacy

As an organization that has already obtained 501(c)3 nonprofit corporation status, apart from the costs associated with purchasing or raising funds to purchase an easement, there would be no additional overhead costs to establish itself as a "qualified organization" to hold an easement. However, how effective the nonprofit will be in securing long-term access and management rights on private lands for a tribe will depend on how well the nonprofit can manage the easement.

A well-established nonprofit with a lot of funding and high staff capacity may be able to accomplish this task more easily, but a nonprofit that is at capacity and only just able to manage its current workload would be poorly suited to hold and manage a conservation easement.

Political Acceptability

Internally: Only tribes who are willing to have the tribal nonprofit hold the easement on their behalf would consent to this arrangement. Assuming the nonprofit has consulted with the tribes on behalf of whom they would hold the conservation easement, there would likely be no pushback from within the broader tribal community. However, the non-profit would still need to account for the tensions that may arise from existing competing land acquisition and land use goals of tribes in the region.

Externally: Landowners may still be wary of donating easements to a native nonprofit since it will likely not be clear to them why the nonprofit is pursuing a conservation easement on their lands. It is clearer to landowners why land trusts and public agencies want to pursue conservations easements, because they have a clear and singular organizational mission to conserve land and natural resources in the community.

It will take time—and a concerted rebranding campaign—for the tribal nonprofit to make clear to the landholding community that their organization has similar conservation goals as non-native land trusts and public agencies that are already established in or near their communities.

Tribes form a nonprofit consortium to hold conservation easements (and/or land in fee)

Effectiveness

Some of the existing tribal nonprofits may already be at organizational capacity and/or currently service locations that are geographically remote from the lands that will be acquired to manage them properly. If no suitable tribal nonprofit exists to hold land or conservation easements, the tribes in this region might consider forming a new nonprofit organization with the express purpose of holding and managing conservation easements on vineyard owner lands and with the timber community.

A tribal nonprofit consortium would allow multiple tribes to pool together their resources and to raise their clout in the community—both of which would increase their likelihood of successfully acquiring lands and securing conservation easements.

However, tribal consortiums face steep competition within the already competitive world of land conservation organizations. Mainstream conservation organizations have been in the public eye for a longer time and therefore have had the time to develop the public's trust and confidence in their ability to manage of land and natural resources. In the past, tribal consortiums have been edged out from serious consideration as potential owners during the bidding process for lands.[32] Moreover, property owners tend to be less willing to sell lands to tribal land trusts/organizations. It will take time for a new tribal consortium to develop the same social capital in their communities as the mainstream conservation organizations that are already established in or near those communities, before they can successfully pursue conservation easements (and land acquisitions in the future).

At the same time, having a consortium at the helm of a prospective partnership may reduce apprehensions landowners have about entering partnerships with tribal communities, since landowners might be reluctant to enter into a permanent or long-term arrangement with a more loosely-defined group of Native Americans.

[32] Interviews with Ken Holbrook, Director of Maidu Summit Consortium; Lisa Haws, Assistant Executive Director of the Kumeyaay Diegueno Land Conservancy (KDLC); and Hawk Rosales (ISWC)

Ease of Administration

If tribes want to form a new nonprofit consortium for the explicit purpose of holding conservation easements on vineyard lands, they would have to undergo the process of applying to obtain 501(c)3 nonprofit corporation status, putting together a board and staff, and raising an operational budget—in addition to the funding that would be required later to purchase and manage conservation easements.

The task of balancing the duties of managing easements held under the consortium model as well as each member tribe's individual affairs might be an overwhelming undertaking for member tribes with fewer resources.

Durability

In the long-term, a tribal nonprofit consortium may be in a better position—have more resources and visibility in the community—to purchase lands in fee than some individual tribes. Having a consortium hold lands in fee would give multiple tribes permanent access to various lands, though how that access to different properties will be managed will depend on the preferences of the member tribes. A consortium would also be in a better position to monitor and enforce—and therefore guarantee tribes long-term right of access through—conservation easements.

However, the ability of a newly formed consortium to manage conservation easements as a "qualified organization" in the long-term will depend on its ability to raise funds both for (1) purchasing conservation easements and (2) its operational costs (staff and other overhead).

Cost-Efficacy

Assembling a tribal consortium will require fixed-costs upfront that might otherwise be allocated immediately to specific land acquisition or conservation easement projects. However, it might be a necessary expenditure if the long-term aim is to secure access to private-lands for all tribes regionally—given that (1) not all tribes who might want to participate are recognized federally or by the state and (2) there is disparity in capacity and political clout between the tribes in the region. Some tribes having tiny land bases and others that have larger land bases and revenue streams from casinos. Some of the smaller and/or federally-unrecognized tribes may not be able to participate otherwise.

Political Acceptability

Internally: The consortium model has been necessary in order (1) to aggregate political clout among tribes that are geographically dispersed and (2) to make decisions collectively about lands that are consistent with the preferences of the tribal community as a whole. Both conditions allow tribal communities to project greater authority and to present a more unified vision of their land access goals to the general public. The consortium provides a forum for its chosen leaders to speak more effectively on behalf of the overall tribal community about how public decisions are made in a manner that respects the autonomy and preferences of individual member tribes. In these ways, the structure of the

tribal consortium aligns historically with how tribal communities were organized and collaborated with one another.[33]

The consortium serves as an information-sharing network for member tribes and a public forum for the general public to call upon when they need to address the member tribes as a group. Moreover, the consortium can provide a forum for specific tribal family groups to make known to the wider tribal community their sentiments about specific land management projects and what management regimes will be practiced at specific sites—honoring the individual family connections to specific lands. The Maidu have been able to circumvent potential inter-tribe land rights conflicts by ensuring that they consult family groups that are known to have a specific connection to a parcel of land where a project is being proposed or taking place (and ensuring that traditional protocols are observed).

Externally: Members of the general public may not understand why there is a specific need for a land conservation organization that caters specifically to the land management goals of the tribal community. They also may not understand how the mission and land management approach of a tribal consortium differs from those of mainstream ("contemporary") land conservation organizations. Leaders of tribal consortiums shared that much of the work that needs to be done—and that preoccupies their time—is to actively outreach to and educate the general public about tribal land management needs and to disabuse them of some of the assumptions they have about why tribes want to buy back and/or have access to lands (ex. Building casinos).

Tribes cultivate informal access agreements with individual landowners (and service agreements with timber companies)

Effectiveness & Durability

When these informal access agreements have been established, they offer tribal members immediate access to private land. However, access is limited to certain tribal members who have established the agreement with the landowner. The scope and duration of access is relationship-specific.

If the goal is for the broader tribal community to have access to land, this option will not be sufficient to increase the tribal community's land management roles on these portions of private lands in the long term. The weakness of relying on an arrangement of understanding between tribal members and specific property owners is that access can be revoked at any time if the landowner holding title to the property changes.

Ease of Administration & Cost-Efficacy

There is little to no financial cost associated with these agreements save for the efforts by tribal members to make those initial connections and then to manage those relationships piecemeal as they

[33] Interviews with Ken Holbrook (Maidu Summit Consortium) and Hawk Rosales (ISWC)

move forward. However, the process of initiating and managing these relationships can be challenging for tribal members who may not be comfortable reaching out to vineyard owners on their own.

For this strategy to be employed strategically regionwide by a tribal organization, it would require staff time to identify and manage existing and future agreements established in the tri-county area.

Political Acceptability

Internally: Informal access relationships already exist between some tribal members and private landholders in this region. It would be simple to continue cultivating existing relationships and to identify other vineyard owners who might be receptive to participating in these agreements. (See **APPENDIX** for more details.)

Externally: Some vineyard owners/individuals from the agricultural community have willingly developed these agreements with tribal members in this region. In general, landowners might be willing to allow a tribe to access to a portion of their property in exchange for maintenance (that is free or for a nominal cost to landowners).

These informal partnerships demonstrate to private landholders the tribe's commitment and capacity to manage land and may disabuse them of any suspicions they may have about tribes accessing their lands. They may also serve as a stepping stone to a more formal arrangement in the future—like a potential conservation easement or the sale of that land to the tribe in the future. If these relationships were to become more widely known in the community, they could serve as "proof of concept" for landowners and the general public that co-stewardship agreements benefit the whole community and that tribes do not intend to "take over" the land.

INDIRECT ACTION: IN-ROADS TO THE PRIVATE LANDHOLDING COMMUNITY

Work with public agencies and private organizations to connect with the private landowner community

Effectiveness

Many public agencies (SCAPOSD and RCDs) offer landowners cost-sharing opportunities for open space land purchases and land conservation projects. By cultivating relationships with these agencies, a tribe might be able to develop a more formal tribal consultation role that will allow them to inform the agency protocols dictating how land management and conservation projects proceed. This may result in tribes having a more substantive "consulting" right than is currently provided to them through CA SB18 and CA SB52. This consulting relationship may enable them to more effectively advocate for their interests in accessing and protecting subsistence resources on private lands being served by local public agencies.

For example, hypothetically, if a landowner applied for funding from their local RCD or the SCAPOSD for a conservation project, the RCD or SCAPOSD might one day require that local tribes be allowed to complete a native plants assessment (to survey and identify resources) on site. They could then also require easements to be placed on portions of those properties (to be held by a land trust, the SCAPOSD, or a tribe or tribal organization) where resources are identified that would allow a tribe to affirmatively manage those resources.

This outcome is contingent on tribes being able to develop a close working relationship with the RCDs and SCAPOSD. This level of trust and coordination could take years or even decades to develop.

In Central California, the Coarsegold RCD has a working relationship with several of the local tribal governments, including the north Fork Rancheria of Mono Indians, Picayune Rancheria of the Chukchansi Indians in Coarsegold, and Big Sandy Rancheria Band of Western Mono Indians in Auberry. Coarsegold RCD has a contract with the Mono Nation to practice controlled burning to thin trees around tribal members' properties. It has also encouraged landowners with easements in Madera County to work with tribal members who would like access to their lands to manage culturally significant resources. They have also worked with both the private landholder and tribal communities to develop language that can be placed in conservation easements protecting lands in the county that will respect both private property rights and help tribal communities better access lands so that they can gather and steward culturally significant plant and other resources.

In Northern California, the Maidu have developed long-term working relationships with local land trusts enabling them to access land trust lands to gather native plants, maintain sacred sites, to practice TEK, and to help landowners comply with the terms of conservation easements placed on their lands (See **APPENDIX** for more information). Bear Yuba Land Trust has expressed willingness to serve as a proxy through which local tribes (including the Maidu) could propose potential land stewardship

collaborations with private landowner. The land trust would be willing to raise an opportunity with a landowner they work with were a tribe to bring them a proposal.[34]

The most prominent tribal-public agency partnerships have been negotiated formally as co-stewardship agreements between tribes and federal agencies like the USFS primarily in Washington, Oregon, and the northernmost parts of California. These agreements have given tribes the opportunity to demonstrate best forest management practices on the ground and to build trust with the greater community (with public agencies as well as with the industry). The partnerships have helped to advance an organizational paradigm shift within government agencies that have led to policy changes in how forest lands are managed. They have the potential to continue shifting public policy to increase tribal rights to actively manage federal lands.[35]

In this region, where private landholders are the group of focus, developing strategic partnerships with public agencies that work directly with vineyard owners might also provide tribes a similar path to influence policies that determine how vineyards are managed and to secure more substantive tribal access rights to manage subsistence resources on privately-held lands.

This is salient in light of the ongoing consultation process between California tribes and the California Water Resources Control Board to define tribal "beneficial use" categories that will be incorporated into the agency's broader water quality planning in the future. Through this process, tribes might already be indirectly redefining some of the water quality protection policies impacting private land management that will be implemented by public agencies like the local RCDs in the future. RCDs may benefit from partnering with tribes to help them comply with amended regulations.

Ease of Administration

Some public agencies have undergone internal paradigm shifts that make them relatively more receptive to working with tribes than they were even a decade ago. This sentiment seems to be affirmed by the interviewees from public agencies in the region.

Ongoing conservation projects in this area have the support and, to varying degrees, the participation of tribes, land trusts, and local RCDs. Many of these projects are heavily focused on habitat restoration to promote Coho Salmon and Steelhead Trout recovery. It is possible for a tribe to leverage the personal and working relationships developed through the course of those projects—between the agencies and vineyard owners and between the tribes and the agencies—as "templates" for how to negotiate new opportunities to increase tribal management and restoration of subsistence resources on private lands serviced by public agencies.

[34] Interview with Erin Tarr, Director of Land Stewardship for Bear Yuba Land Trust

[35] Interview with Belinda Brown, Tribal Partnerships Manager, and Marko Bey, Executive Director, of Lomakatsi Restoration Project

Durability

Some private organizations and public agencies have informal working relationships with local tribes to support their natural resource work that they might be willing to develop into more formalized partnerships.

The Sonoma Land Trust has a consistent albeit informal internal policy of consulting with tribes on projects on their lands that impact cultural and archeological resources. It may just take more time and negotiations to formalize this policy so that it also includes ecological, subsistence resources.

However, unforeseen personnel changes and the lack of institutional memory in public agencies about their working relationships with local tribes can make pursuing long-term partnerships with them both elusive and time-intensive. In practice, this challenge applies to agencies that manage publicly-held lands—like the USFS and state parks. However, it is a challenge some tribes might also face when attempting to cultivate relationships with public agencies that interface with private landholders in the region (like the SCAPOSD and local RCDs).

Cost-Efficacy

Financially, this may be a more cost-effective option for tribes who are able to find ways to include native plant access and management on vineyard properties as a component of a larger conservation project that a public agency would be willing to fund. Tribes and public agencies have incentive to develop better working partnerships with each other as potential project partners, since grant proposals for water quality and habitat restoration projects with multiple partners are more competitive. If successful, these partnerships would deflate the total cost of certain project opportunities on vineyard properties in the future, and vineyard owners might be more receptive to longer-term tribal involvement in the management of certain portions of their property.

However, this option will require the tribe to devote staff time to identify these opportunities and to cultivate relationships with specific public agencies. Moreover, unforeseen personnel changes at these agencies may lead tribes to expend resources on initiating and managing relationships that do not have sufficient time to develop into more secure and formalized working relationships before the “point of contact” leaves or transitions into a different position in the agency.

Moreover, it is important to acknowledge that some landholders from the agriculture community may not be swayed by the prospect of secure funding from public agencies to partner with tribes. Members of the agricultural community tend to be skeptical of outside sources of funding (federal grants), since their identities are based on an ethos of self-sufficiency. However, landowners have been amenable to assistance that will help them keep their land intact and in production—in the face of increasing economic pressures that make farming less profitable—or to help them comply with land and water regulations.

Political Acceptability

Internally: Locally, tribes already engage on some level with public resource management agencies and local land trusts. These engagements include the informal consulting relationship that a couple of tribes in Sonoma County have with the Sonoma Land Trust (SLT) (on projects impacting cultural resources) and their participation in restoration projects with the local RCDs in Sonoma and Mendocino counties. Tribes that have those relationships may be willing to develop a more consistent and formalized partnership with these agencies and land trusts.

Externally: Both land trust organizations and other tribes have implied that partnering with public agencies that regularly interface with and provide services to landowners can help to neutralize any suspicions that landowners might have about tribes wanting access to their lands**.** Public agencies are bound by laws requiring them to operate transparently and to be accountable for how they spend taxpayer dollars. Working through public agencies to develop relationships with the landholding community can dispel public concerns about "radical" aims that a tribe might have for pursuing access to private land.

For some tribes, collaborating publicly with public agencies and land trusts have served to normalize what had otherwise been perceived by the general public as suspect involvement in land conservation and management. Public agencies and private organizations have the potential to help tribes expand the reach of their work and to promote a better understanding of the tribal community's intentions by the general public.

Initiate special collaborative projects to depolarize the relationship with the landholding agricultural community

Effectiveness, Durability, & Cost-Efficacy

The collaborative projects that a tribe might be able to pursue with vineyard owners most likely involve riparian and other habitat restoration—repopulating certain plant species, reducing soil erosion, and improving stream/river quality and flow. However, it may be difficult for tribes to identify a project that would involve the broader wine grape community. The needs of vineyard owners are very specific to where in the region their vineyards are located and to the individual properties themselves. Therefore, a tribe would have to identify and manage various collaborative projects between themselves and an individual vineyard owner.

Given that habitat restoration projects would satisfy both tribal interests in accessing resources on vineyard properties and vineyard owner interests in complying with the new water quality/farm planning regulations, there are potential cost-sharing opportunities that will reduce the total costs of the projects between the tribe and vineyard owners. It is possible for tribes to further reduce the cost of

such projects, if they and vineyard owners collaborate to apply for funding from their local NRCS and RCD.

However, unlike securing access and ongoing management rights to land through a formalized agreement, project-based access may only guarantee the tribe access to a vineyard property for as long as the project is active. Unlike some of the profitable self-sustaining projects that have paved the way for ongoing collaborations between tribes and private landowners (like the biogas facility operated by the Tulalip tribe and dairy farmers in Washington—*see* **Examples for OPTIONS (A) & (B) from Stakeholder Interviews** *in the* **APPENDIX**), habitat restoration projects are episodic and rely largely on grants for funding. Tribes cannot assume that they will maintain the same level of access to private land if the project is either temporarily inactive or has been completed—even with the goodwill that has been generated between themselves and the vineyard owner.

On the other hand, many of the projects that involve habitat restoration and water quality improvement planning require ongoing maintenance, so collaboration between the tribe and the private-landholder community and continued access to these lands for the tribe is possible. Nonetheless, because these projects do not guarantee long-term access to the private lands, it is possible that the tribe may end up expending resources and funds that will only grant them temporary or limited access to these lands for project completion (and to some extent, project maintenance).

Ease of Administration

Several recent and upcoming industry-specific and environmental regulation developments in the region may provide incentives for vineyard owners to collaborate with tribes on potential habitat restoration projects on or near their properties.

The increasing focus on social equity in the larger sustainability movement might make growers in Sonoma County more receptive to project proposals from tribes that help them meet environmental improvement requirements.

Region 2 of the State Water Resources Control Board (Bay Area) will require by late-2017 that all farms, including vineyards with 5 or more acres, to complete a farm plan that will detail and guide their land management (including water use) practices in Sonoma and Mendocino counties. This farm plan process has been modeled from Fish Friendly Farming (FFF)'s sustainability certification process. FFF is a certification program for agricultural properties that are managed to restore fish and wildlife habitat and to improve water quality in the North Coast region. FFF has synthesized all relevant state regulations involving water and land quality, pesticide use, and protection of endangered species into a system of best management practices (BMPs) that vineyard owners are required to comply with on their entire property—not just on the land actively farmed—to be certified. While this is currently a voluntary process in the region, the board's regulatory additions would make this process mandatory for all growers.

This rule change may be an opportunity for tribes to begin clearly defining how some of the subsistence resource management activities they would like to pursue on individual properties could contribute to the habitat restoration and land improvements that vineyard owners may soon be legally obligated to pursue. However, it is also important to consider that the management of these projects on

a piecemeal basis across different vineyard properties would likely present a challenge to tribes with limited resources to manage multiple projects off-rancheria.

Political Acceptability

Internal: Some tribes who have few resources to begin with may not be willing to expend the few resources they have on a project that they feel offers more long-term benefits to vineyard owners than their own communities. Others who have a higher baseline level of resources and capacity might see this as a "long game" opportunity to build relationships with vineyard owners that they may be able to capitalize on later to secure more permanent access to private lands.

External: There may be unqualified fears from the larger wine grape community that these projects may constitute a "power grab" that aims to limit their ability to control land use on their properties. The partnerships in question would need to assure the broader wine grape community that tribes are not looking to limit their access to their own properties and to include them in some way in potential longer-term tribal stewardship projects on their properties. A tribe might achieve this by developing project proposals that will allow tribal subsistence resource management to augment any potential habitat restoration or water use and quality improvement planning that vineyard owners would like to or may soon be required to pursue on their properties.

NEW STRATEGIES

Develop a tribal eco-label for wine growers who have developed long-term co-stewardship partnerships with the local tribes

Effectiveness

An eco-label would create greater incentive for more vineyard owners to participate in co-stewardship agreements with the tribal community. How effective this strategy would be to help tribes retain long-term access to vineyard properties depends on the conditions tribes would impose upon growers in exchange for receiving the label. The conditions that are devised will vary depending on whether the tribal community prefers to (A) increase the number of vineyard owners developing co-stewardship partnerships with tribes or (B) focus on cultivating a few committed partnerships with growers in the community.

Tribes could either make receipt of the label contingent on full and permanent access (via the donation of a conservation easement) to their lands or require the vineyard owner to enter into an MOU with a tribe outlining the terms of a co-stewardship agreement. With the MOU, tribes could more immediately calibrate the appropriate access level that they would be granted to the assessed comfort level of the vineyard owner. Requiring the donation of a conservation easement in trade for the eco-label may be too high a cost and will likely attract a smaller, but possibly more committed, group of vineyard owners.

Assuming the vineyard owner feels that the terms of the agreement are compatible with their needs as a grower, this bargaining chip might make initiating conversations with vineyard owners easier and more productive for tribes.

However, this option might be a gamble, since the appeal of such an arrangement could vary with the size of the grower and whether wineries see any additional value associated with wine grapes grown under a tribal eco-label.

It might be an appealing option for some of the larger growers that can rely on economies of scale to offset some of the added (management) costs of complying with the terms of the co-stewardship agreement and who might feel that being able to include the tribal co-stewardship agreement as part of their marketing strategy is merely a bonus. The multitude of smaller growers may not be convinced that this exchange is a good investment, if they are not confident that the effort they put into managing the relationship with the tribe and being able to share the story of their partnership with their consumers will either (1) grow their consumer base or (2) result in better quality wine grapes that wineries and consumers will purchase in higher quantities, respectively.

Tribes would have to rely on wine grape growers being motivated by the personal benefit that they receive from having this eco-label signify to the general public their brand's commitment to tribal stewardship. Alternatively, smaller growers (at least in Sonoma County) might be swayed if this access-for-label arrangement can be pitched as a commitment they can use to increase their score in the

"Social Equity" portion of their overall sustainability score during the sustainability certification process. (*See* **(B) UNABRIDGED Stakeholder Analysis** *in* **APPENDIX** *for more details*).

Ease of Administration, Durability, & Cost-Efficacy

A vineyard owner's receipt of the label is conditional upon the co-stewardship agreement, and therefore tribal access and management rights on their land, being permanent. However, the permanence of this access would in practice depend upon how rigorously the administrative body assigned to monitor and enforce the eco-label certification can monitor and enforce the process.

It would be very resource intensive for individual tribes to manage access-for-label relationships with individual vineyard owners. Consequently, for the eco-label to be implemented effectively, an administrative body would be required to oversee the "certification process". Tribes would have to devise protocols to manage the process.

At the very least, this would involve working with county wine grape growers commissions to create accountability mechanisms that ensure that this eco-label, as with the other eco-labels that are awarded ("sustainable", "organic", and "biodynamic"), have been earned. At the most, it would require individual tribes or a tribal organization take this responsibility upon themselves or to create a subsidiary administrative body to monitor and enforce the process.

Creating a new administrative body to monitor and enforce the eco-label would involve allocating money and time (in labor) to manage the relations with tribes and vineyard owners with agreements and to pursue corrective action for breach of contract if, for example, vineyard owners with the label violate the terms of the conservation easement or stewardship agreement (MOU).

Political Acceptability

Internal: Tribes continue to face the challenge of ensuring that they as a group and their intentions are fairly and accurately represented to the public. There may be opposition from some tribes who do not want their public image or their story to be used to sell wine. They may not want the issue of tribal land stewardship to be commodified in this way. This will likely vary with the conditions outlined by tribes determining the ways in which vineyard owners are permitted to represent the tribal community and tribal land stewardship in their marketing strategy.

However, some members might see the eco-label as a mainstream opportunity for the tribal community to educate the general public about what tribal land stewardship is, what it means to the tribes in this region, is and why it is needed.

External: Since this is a voluntary incentive for vineyard owner, it is highly unlikely that there would be much opposition from the wine grape community or the general public. There may be some suspicion against whatever entity is charged with overseeing and enforcing this certification process—similar to the suspicion that most public agencies that play a "monitoring" role typically face.

If tribes were to collaborate with the county wine grape growers commissions to oversee this process, there may be less suspicion from the wine grape community. However, the commissions are comprised of vineyard owners in the community at large who will be unfamiliar with this proposed

arrangement, and the tribal community may face resistance and skepticism in response to their efforts to obtain buy-in from growers in this setting.

Develop tribal-vineyard-research institution partnerships to study the economic and environmental impacts of more ecologically sustainable agricultural/land management practices

Effectiveness & Durability

This option will not grant tribes immediate access to vineyard properties. However, it may be a necessary step to develop two conditions for the tribal community to establish more enduring relationships with the wine grape community and to secure long-term access to private lands in the future:

(1) a wider base of more informed natural resource management professionals that support policies that advance the take-up of sustainable growing practices and

(2) trust and understanding from the wider wine grape community that they share common stewardship interests and goals with the local tribes.

Even tribes in the Pacific Northwest that have the legal standing (ratified treaties) and that have developed the political capacity to push forward broad natural resource policy issues realized that those who control the science being produced have stronger influence in decision-making around natural resource management. The tribes in the Pacific Northwest responded by developing within their government administrations natural resource management departments that now stand toe-to-toe—expertise-wise—with state and federal agencies. For example, the Umatilla tribe persuaded Oregon's Department of Environmental Quality to improve state water quality standards after presenting the results of studies its environmental department led examining the negative impact of certain land management practices on water quality/fish consumption safety levels.[36]

Because the capacity of the natural resource and environmental departments of the tribes in this region are not as robust as their Pacific Northwest counterparts, it may be useful to partner with local research institutions that have access to more resources to develop the "science" formally evaluating TEK and the possible benefits to vineyards and environmental and public health.

However, large institutions move slowly and tend to be the "last adopters" of new ideas and practices, so attempting to develop a body of science evaluating the impacts of TEK by working with research institutions may take many years. Tribes may see more immediate results by attempting to

[36] Interview with Jaime Pinkham, Executive Director of Columbia River Inter-Tribal Fish Commission

secure financial support for demonstration projects (like a tribal-vineyard land co-management pilot project) from private foundations—who are nimbler grant-makers.

Research institutions may overlook project proposals that might seem too niche—as tribal-vineyard land co-management partnerships might appear—preferring to prioritize projects that produce research with broader applicability. Conversely, private foundations often have specialized interests in unique projects/innovations that their entrepreneurially-savvy donors are willing to support as investors.[37]

Ease of Administration & Cost-Efficacy

Some tribes already have a standing list of both (1) collaborative natural resource research projects underway and/or (2) a "wish list" of environmental studies they would like to pursue if they had the resources to do so. Likewise, some growers in the biodynamic and organic community in the region have also participated in university studies examining the impact of biological pest control methods (as an alternative to synthetic pesticides) on the environment and on wine grape yields (the Miguel Altieri Agroecology Lab project at UC Berkeley from 2007-2013). Both communities are aware of and have worked to some degree with universities or local research institutions to examine questions of interest to them related to the environmental impact of certain land management practices.

However, a tribe or tribal organization will need to allocate staff time (from the environmental and natural resources departments) to identify willing partners from the biodynamic and organic community with whom they can develop collaborative project proposals. This will also involve inventorying existing research interests and projects being conducted by researchers and students at local universities and other research institutions.

Political Acceptability

Internal & External: Both tribes and the wine grape community could benefit from learning more about the environmental and economic impacts of more sustainable wine grape growing and general land management practices. The general public is typically unaware of such collaborations and would likely have no strong opinions about these partnerships.

Some members of the wine grape community (potentially some of the larger and/or more conventional growers) might feel threatened by the prospect of "political environmental interests" driving scientific investigation of the impacts of wine grape growing practices. However, there is not much they can do to prevent these partnerships from forming since they will neither be funders nor participants of these collaborations.

[37] Interview with Michael Presley, Soilkeeper for DaVero Farms & Winery

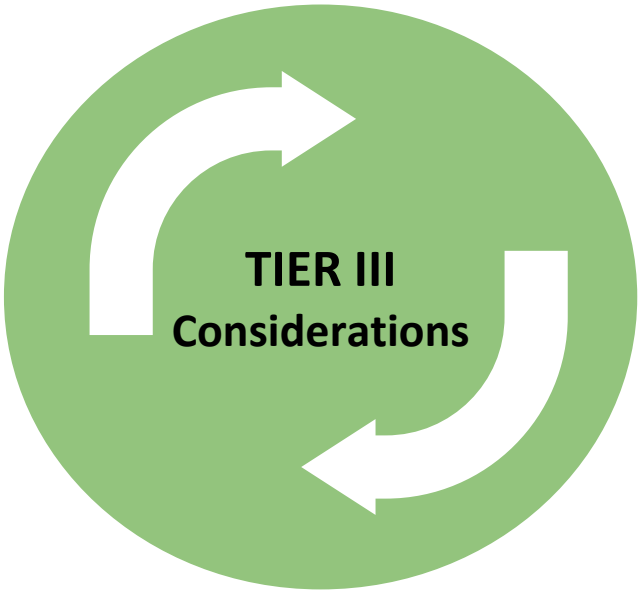
Recommendations

The following set of recommendations have been developed based on certain aspects of the **OPTIONS** that were evaluated.

TIER I recommendations are actions that a tribe or a tribal organization can pursue to develop new relationships and to formalize existing relationships with vineyard owners. The recommended actions in this tier have combined aspects of distinct options that were evaluated in the previous sections.

TIER II recommendations are strategies that tribes or tribal organizations will need to pursue to change the economic and social incentive structures that will make vineyard owners more inclined to develop access agreements with tribes.

TIER III considerations are discussed in the next section, since they pertain to higher policy-level issues that the tribal community will need to address in tandem with actions recommended in **TIER I** & **TIER II**.



TIER I: INITIATING & SECURING AGREEMENTS

Multiple stakeholders in each of the stakeholder groups strongly recommended that the tribal community identify a couple champions within the wine grape community that they could work with to develop a "pilot" partnership that would demonstrate how these arrangements would operate in practice. The pilot partnership, if successful, would demonstrate proof-of-concept, which the tribal community could use to recruit other vineyard owners from the wider wine grape community interested in developing tribal-vineyard land co-management partnerships.

Some of the landmark advances that have led to increased acceptance of TEK as a natural resource management regime and of collaborations with Native Americans on natural resource management arose from similar "pilot projects". In 1998, the Maidu in Northern California partnered with the USFS to lead a pivotal national land stewardship pilot project that would allow them to demonstrate the impact of TEK on 2,100 acres of forest land in the Plumas and Lassen national forests. The project was one of 28 national USFS stewardship pilot projects testing experimental management techniques and the only project co-led by a tribal entity.

As rife as it was with challenges that prevented them from demonstrating the full scope of TEK on the forest lands, the pilot project played an important role in catalyzing culture shift in the USFS leading to changes to the way the agency managed forests nationally. Prior to the project, the USFS focused primarily on forest management for timber sales. In recent years, it has developed an increased focus on stewardship. The project was vital as proof-of-concept to the USFS that TEK is an effective land management strategy. As the Maidu developed expertise on land stewardship under the public eye, forest rangers and organizations began approaching them for guidance on how to manage lands they oversaw. The public trust in the Maidu's natural resource management expertise has extended to the private sector—with local timber companies approaching them to assist with land management planning.[38]

The following recommendations focus on helping the tribal community identify appropriate "pilot partnership" candidates and providing a preliminary roadmap for how to formalize informal access agreements in the future.

(A1) REGIONALLY: Identify vineyard owners from the sustainable grower community to cultivate informal access agreements

(A2) MENDOCINO: Identify timber companies interested in working toward more sustainable forest management

The tribal community needs to collect information about (1) existing access agreements and (2) identify lands of interest with potentially receptive vineyard owners. The most receptive growers will

[38] Interview with Lorena Gorbet, Maidu elder and Secretary for Maidu Summit Consortium and Conservancy

likely be found among the biodynamic agriculture community—whose land management ethos aligns very closely with the principles of indigenous TEK. This information will be used to develop a strategic outreach plan. There are three ways the CIMCC can coordinate this process.

Modify the "greenprinting" activity employed by The Trust for Public Land to inventory the land value priorities of a community.

"Greenprinting" involves administering a brief survey to a representative sample of the community that would allow participants to rank-order specific land value preferences (ex. Preserve open space, preserve access to cultural sites, preserve agricultural lands, etc.).[39] The aggregated survey data would allow tribes to identify common land value interests and needs by geographical area and potential opportunities to reach out to certain landowners to develop informal access partnerships.

The formal greenprinting process employs GIS mapping and can be both expensive and technically complex. However, the CIMCC could partner with a local land trust or a nonprofit to implement a "low-tech" version that involves manually mapping survey results (without GIS or other geocoding software). Alternatively, the tribal community could enlist the Trust for Public Land (TPL) to coordinate an official greenprinting project, if it wants more granular information about the community's land preferences and if it felt that such an activity would present a worthwhile opportunity to initiate relationships with the vineyard community and the general public.

This activity would require many people to implement and presents a good opportunity to involve both the tribal and non-tribal community on a project that would provide both the tribal community and the general public information of value.

Map all (1) geographical areas of interest and (2) properties with existing informal access agreements between specific tribal members and land/vineyard owners.

Some of the tribes in the region have likely developed maps identifying culturally significant areas in their region that were sent to local county agencies after the passage of CA SB18. The CIMCC may be able to develop a similar master map that (1) aggregates all known vineyard properties that have existing access agreements with tribes and (2) to utilize information from the collective maps of the tribes in the region to identify properties of interest where tribes are interested in initiating new informal access agreements.

When outreaching to landowners, the tribal community may find it useful to appeal to the vineyard community's desire to be "good neighbors", to their shared desire to preserve the character of their homes, and to invoke their "responsibility as stewards of the land". However, this rhetoric needs to be employed tactfully, because it has the potential to create (or unearth) conflicts between stakeholders

[39] "Greenprinting." The Trust for Public Land
https://www.tpl.org/related-content/86470/all#sm.000k910t21du5dpatc51i8mpjyxg5

further down the road if there is misalignment between the tribal community's and the vineyard community's conceptions about "how our home is" and "how it should be".

The CIMCC has already identified the **Francis Ford Coppola Winery**, near Geyserville, who has expressed interest in working with local tribes on land costewardship, as a potential vineyard owner with whom it could begin negotiating an informal access agreement.

One other vineyard in Sonoma County has also expressed strong interest and commitment to becoming a pilot partner—**DaVero Farms & Winery**, near Healdsburg. DaVero Farms & Winery has already initiated a tentative partnership with Dry Creek Rancheria to raise an indigenous basket weaving garden (replant grasses for basketmaking purposes) as part of a bank restoration project on land DaVero owns near Warm Springs Dam. While at present, DaVero has agreed to allow the Dry Creek tribes to cultivate and gather basketmaking materials on the land through the garden, DaVero has expressed openness to expanding the agreement to allow the Dry Creek tribes access to the land for gathering other materials (native plants).

DaVero is assisting with the design of the garden project, in collaboration with Sonoma County Water Agency and the Army Corps of Engineers, who are spearheading a salmon restoration project on a nearby river bank owned by the City of Healdsburg.

On the larger side of growers, **E & J Gallo Winery** has indicated openness to collaborating with local tribes on land co-stewardship, once the tribes have a defined proposal that could serve as a starting point for negotiations.

To begin with, CIMCC should consider developing pilot agreements with (1) DaVero Farms & Winery and (2) Francis Ford Coppola Winery.

Build relationships with local land trusts, the RCDs, and SCAPOSD who can connect tribes with information about potentially receptive vineyard owners.

Land trusts have developed relationships with public resource management agencies as a specific outreach and overall organizational strategy to grow their connections with private landowners. Identify which agencies and programs already outreach to private landowners and ask to attend these landowner outreach events. For example, the RCDs often host outreach events where they educate landowners about opportunities to participate in their conservation programs.

This strategy allows tribes to introduce themselves to the vineyard community in a neutral space. It also allows them to capitalize on the accumulated social capital—trust and goodwill—that these agencies have built with the landowning community, which may help tribes improve their reach to private landowners and the receptivity of the private landholder community. This approach also mitigates the risk of putting landowners on the defensive if tribes were to approach them directly about accessing resources on their properties.

(B1) REGIONALLY: Formalize access with individual vineyard owners by convincing them to donate a conservation easement to the tribe (or an easement holder designated by the tribe).

(B2) MENDOCINO: Work as a third-party stakeholder with public agencies and private organizations that develop easements with timber companies to incorporate tribal "right of access" language in the agreements.

While the informal partnerships that tribes have formed with private landowners have been pivotal to their having access to privately-held lands, there needs to be an institutionalized way of maintaining partnership beyond the specific relationships between tribal members and individual landowners.

Conservation easements have been identified by tribes and public agencies as a voluntary way to formalize those relationships. Conservation easements meet the access needs of tribes while compensating vineyard owners in multiple ways—offering property tax deductions and possibly helping them to comply with existing and impending water quality and farm management regulations. Moreover, the language in easements is adaptable to the needs and interests of the negotiating parties. It is possible for a vineyard owner and the easement holder (the tribe or the local land trust) to negotiate specific language in the easement reserving the affirmative right of local tribes to access and manage any native plant species that are identified on the property.

Landowners that opt to place easements on their land often do not intend to resell their land in the future, preferring instead to hand their property down within the family or to integrate them into their businesses as a working asset.[40]

Growers might be willing to donate a conservation easement to a tribe, if the tribe has a well-defined plan for how to initiate and manage the easement. They may also be more willing to work with a tribe on a conservation easement, if the tribe can ensure that the easement terms will involve minimal to no disturbances on their vineyard operations and will not increase their legal liability (ex. harms that might befall individuals coming onto the property that may put them at risk for lawsuits).

The amount of public money available to fund conservation easements depends on the priorities of the federal administration—meaning that there may be less money available to fund conservation easements in the next 4 to 8 years. Nonetheless, conservation easements are the next best alternative to purchasing land in fee while still preserving the access and management rights of tribes on privately-held lands. This option allows tribes to build upon any existing good relationships and informal access agreements that they already have with private landholders and to ensure that their access rights outlast the tenure of any one landholder.

Tribes also have to consider that putting an easement on a particular land might make it more difficult to convert the land from fee simple to trust status in the future—if they were ever in the

[40] Interview with Laura Kaakua (TPL)

position to purchase the land in fee. In practice, the BIA prefers lands being transferred to trust status to be free of encumbrances (like easements), since "encumbrances" pose the risk of increasingly liability for the federal government (who as the trustee holds the trust land for the benefit of the tribe). However, conservation easements may present a minimal threat of liability, though this determination may vary with region.[41]

A tribe or tribal organization holds a conservation easement on vineyard property

A tribe might consider starting conversations with a landowner that already has an access agreement with tribal members about preserving the relationship through a conservation easement. To ease the process, a tribe may also consider having a local land trust serve as facilitator of this conversation.

The tribe might also invite the land trust to serve as a "temporary" holder of the conservation easement if it is not able or prefers not to hold the easement itself. This option also allows the tribe or tribal organization to bide time while it develops the capacity to manage conservation easements itself.

A tribe or tribal organization serves as a third-party consultant to public agencies and private organizations that establish conservation easements on vineyard properties (or timber properties)

By cultivating existing relationships and developing new relationships with local public agencies and land trusts, tribes might be able to establish informal and formal "consulting" partnerships that allow them to directly influence the language and, consequently, the resource management directives that are written into conservation easements. Over time, this consulting role might expand to include different land management and planning documents and contracts. Such documents might include:

1. *The Wine Institute's Sustainability Handbook: "Social Equity" section*
2. *Easements held by local land trusts and the SCAPOSD*
    a. *Agricultural easements*
    b. *Natural resource/open-space easements*
    c. *Timber easements*
3. *Forest management and timber harvest plans (THP)*

Tribes may be able to work with these entities to incorporate specific language in land use contracts and planning documents providing tribes the affirmative right to manage subsistence resources on the privately-held lands of willing landowners.

[41] Middleton (2011)

Since the RCD board members who determine the priorities of the RCD's work are often prominent members of the landholding community, tribes in the region should also identify and develop relationships with board members who are interested in tribal stewardship and would be receptive to having the RCD develop longer-term partnerships with local tribal communities.

(C) Form a tribal consortium to hold land in fee and/or conservation easements

A tribal consortium will be able to hold conservation easements on behalf of tribes that otherwise do not have the capacity to hold a conservation easement themselves. A tribal consortium is also necessary if the tribal community wants to be able to efficiently manage their third-party involvement in the conservation easements that are negotiated between private landholders and other easement holders. A tribal consortium may also allow tribes to pursue fee lands as a collective in the future.

Because the tribes are small and geographically-dispersed across the region, most of the tribes in this region lack the political clout to give their preferences weight in larger discussions about how land will be used. This problem is mitigated by the tribal consortium model, which enables individual tribes to pool its resources together to pursue and manage conservation easements.

Assuming that there is not already a willing and suitable tribal organization that could coordinate this arm of the food sovereignty initiative—securing informal and formal access agreements to privately-held lands—the broader tribal community needs to consider forming a consortium as they move forward with developing a regional food sovereignty initiative.

Forming a tribal consortium may be a resource-intensive a step that might detract from the tribal community's ability to focus immediately on developing agreements with landowners. However, it will be useful and even politically necessary to coordinate between different preferences of the tribes across the region and, administratively, to enable various tribes to manage individual access agreements with different property owners and their partnerships with public agencies.

In general, land conservation work requires coordination between multiple entities operating within multiple jurisdictions. This coordination can be resource-intensive and time-consuming for individual tribes to manage themselves, especially when they need to confer with each other about potential conflicting interests before a final decision can be made. The consortium model reduces the bureaucratic inefficiency of tribes coordinating with each other on an as-needed basis for various on-going individual projects by serving as a forum for member tribes to (1) share information and (2) negotiate differences in preferences about projects with consideration to particular family groups' preferences about how land will be used in certain territories.

The information-sharing mechanisms that are built into the administration of a tribal consortium would allow tribes to more effectively identify and outreach to vineyard owners who currently or would be willing to participate in informal access agreements (**Recommendation A**), since that process needs to be coordinated between different tribes and the information coming out of this process needs to be

consolidated. However, **Recommendation A** can also be implemented by an existing nonprofit like CIMCC if they feel they have the capacity to do so.

Tribal organizations have noted that the conservation community is becoming more receptive to collaborating with native groups. Nationally, land conservation organizations are increasingly aware that there are archeological and other culturally significant tribal resources on land that they oversee. National land trust associations that were not as keen to involve Native American groups as they have been in recent years are now actively reaching out to native groups about collaborating to pursue mutual land management goals.

Many of these organizations would like to work with local tribes but often do not know how initiate and build partnerships with them. The Land Trust Alliance, a national land conservation organization that represents more than 1,000 member land trusts, has started this conversation and is helping to convene an alliance of existing native land trusts in an attempt to help them better represent their interests in the larger land conservation movement.[42] The consortium model will make it easier for tribes in this region to participate in those conversations and to represent their interests with greater standing as a tribal collective.

Moreover, interviewees from public agencies and tribal groups alluded to the necessity of forming a tribal consortium to enable future collaborations with public agency partners that will support tribal-vineyard relationships in the long-term. Public agencies often need to identify an intertribal body to coordinate with, because as they attempt to fairly support the interests of local tribal communities in their work, they need to be aware that no one tribe's interests are representative of all tribes' interests. Designating an intertribal body as a point-of-contact for public agencies also decreases bureaucratic inefficiency and misunderstandings resulting from consulting with tribes in an uncoordinated, piecemeal manner.

[42] Interviews with Ken Holbrook (Maidu Summit Consortium) and Lisa Haws (KDLC)

TIER II: CHANGING INCENTIVE STRUCTURES

The following recommendations are intended to help cultivate future inroads to the wine grape community. They were developed using some of the options evaluated in the previous sections and with considerations about recent and upcoming environmental regulations and industry-specific developments in the region's wine grape industry.

(A) Develop tribal-vineyard-research institution partnerships to study the economic and environmental impacts of more ecologically sustainable agricultural/land management practices.

Some tribes and vineyard owners have conveyed an interest in research about the impact that certain growing practices have on the environmental and on the wine grapes themselves. Tribes and vineyard owners both have an interest in making sustainable viticulture both profitable and effective at mitigating the environmental impacts of wine grape cultivation.

The familiarity and convenience of conventional vineyard management practices and thin hard evidence about the positive tradeoffs for sustainable practices on the ground contribute to whatever inaction there is in the vineyard community to move toward more sustainable land management practices. Tribal-research institution partnerships would fill this information gap and may augment the existing work that tribes in the region have completed on natural resource quality monitoring.

However, given that these partnerships take years to develop and the body of evidence resulting from research collaborations take years to accumulate, it would be prudent to simultaneously identify private foundations who have an interest in supporting pilot projects featuring sustainable agriculture innovations and indigenous TEK. Private foundations may be able to provide more immediate financial support for tribal-vineyard land co-management partnerships through grants to support and explore the science underlying the pilot projects—even while tribal communities work to gradually develop the body of science supporting the use of TEK.

(B) Use the opportunity to consult with the CA Water Resources Control Board on tribal "beneficial use" categories to increase future incentives for private landowners to work with tribes on land management issues.

At present, there is no water quality legislation protecting tribes that consume or want to consume wildlife and wild vegetation for subsistence purposes. This lack of protection jeopardizes the health of tribal members who live on a subsistence diet, because a larger proportion of their diet consists of plant and animal species that may have been exposed to high levels of naturally-occurring and man-made pollution in the water—making them unsafe to consume in large quantities.

The CA Water Resources Control Board is in the process of consulting with federally-recognized tribes in the state who are helping them define "beneficial use" categories for individual tribes in each region. These beneficial use categories will be integrated into state regional water quality planning—including the development of "water quality standards, which comprise beneficial uses, the designation of specific waters with beneficial uses, water quality objectives to protect those uses, and an antidegradation policy."[43]

Regionally, tribes in Mendocino and the North Coast are collaborating to identify the species that tribes consume and to assess the current risks associated with consuming each of those species. At present, the tribes in Northern California are more involved in this process, due in part to a proposed state water project that will impact their water supply in the future.[44] The Maidu have been active in interregional water management planning in their area. While some tribes have chosen not to participate, preferring instead to develop their own tribal water management plan, participating in the regional planning discussions has allowed the Maidu to influence water planning decisions made beyond their own boundaries at a regional level. [45]

It will be necessary for the tribes in this region to be more proactive in this process, because the CA Water Resources Control Board has passed and continues to pass regulations that steer vineyard owners to operate their farms more sustainably. The tribal "beneficial uses" consultation process may represent the start of a longer-term conversation with the state Water Board that that tribes could build upon to establish a broader framework for resource quality protections for tribes and to further increase incentives for the agricultural community to work with local tribes to help them meet new requirements.

Since many conservation projects are funded at the state and local level through bonds related to water quality protection, being strategic about how beneficial uses are defined may allow tribes to incorporate greater considerations about protections for subsistence resources in the grants that are made available to the agricultural community to pursue land improvement projects. For example, the Maidu have pursued water quality improvement projects and frequently collaborate with other groups leading projects funded through Proposition 84 (2006). Formally known as the "*Water Quality, Safety and Supply. Flood Control. Natural Resource Protection. Park Improvements. Bonds. Initiative Statute.*", CA Prop 84 provides $5.388 billion in general obligation bonds to fund projects related to safe drinking water, water quality and supply, flood control, waterway and natural resource protection, water pollution and contamination control, state and local park improvements, public access to natural resources, and water conservation efforts.

Some members of the tribal community have expressed concern about whether the Water Resources Control Board will integrate their comments and findings with fidelity into future state water

---

[43]"Proposed Beneficial Uses: Tribal Traditional and Cultural, Tribal Subsistence Fishing, and Subsistence Fishing." CA Water Resources Control Board. http://www.waterboards.ca.gov/about_us/public_participation/tribal_affairs/beneficial_uses.shtml

[44] The project in question would involve the construction of a tunnel system that would route water from the Sacramento-San Joaquin Delta, east of the San Francisco Bay Area, to San Diego in Southern California (a controversial project called the "California WaterFix").

[45] Interview with Lorena Gorbet (Maidu Summit Consortium and Conservancy)

quality planning. Despite these concerns, the consultation process presents an opportunity for tribes in the region to increase the clout of their community in these negotiations and in future discussions about policies impacting vineyard management. Tribes who are not currently as active in this process should consider working with the existing coalition of North Coast tribes (including those in Mendocino County) to become more active participants in the consultation process.

(C) CONDITIONAL—Develop a tribal eco-label for wine growers who have developed long-term co-stewardship partnerships with local tribes.

The vineyard community indicated that being able to incorporate the story of their partnership with local tribal communities in their marketing strategy would make them much more receptive to entering into co-stewardship agreements with tribes.

However, understanding that this option is very politically sensitive, the tribes in the region should be consulted on their feelings about this option before moving forward with any further considerations.

It may be possible to move forward with a more "watered-down" version of this option. For example, instead of developing a formal eco-label, a tribe might establish an agreement with a vineyard owner outlining terms by which the vineyard owner is permitted to incorporate the story of their partnership in their broader marketing strategy in exchange for the vineyard owner's participation in a co-stewardship agreement (ex. MOU).

The negotiations for this potential agreement might also include terms that could provide additional benefits to tribal communities. For example, a tribe might request that an agreement include terms dictating a small percentage of the profits from wine grapes sold under the tribal-ecolabel be returned to the tribe to support tribal community development projects. Such an agreement would provide tribes a modest financial bonus in addition to stewardship access to lands, provide vineyard owners another positive marketing opportunity for their wine grapes, and provide both partners the opportunity to educate the public about the importance of sustainable agriculture and Native American TEK.

Addressing Structural Challenges: Policy-level Considerations (TIER III)

What is possible for the tribal community to accomplish as they attempt to increase their tribal stewardship role on private lands at the local level depends on a couple policy-level challenges around the regulations and programs that have been developed to manage natural resources.

The CIMCC may be required to address these challenges simultaneously as it implements **Tier I** and/or **Tier II Recommendations** for its efforts to gain traction.

Address the fundamental misunderstanding between the tribal community and the general public around the term "right to gather" in technical documents.

One of the most challenging aspects of negotiating access agreements in technical documents is that the term "gather" is often thought of as a one-time activity. Tribal communities have a more expansive conception of "gather" that is often more narrowly defined in standard conservation easements. "Gathering" has many implications involving the active, continual environmental management that occurs naturally through the "gathering" process. The act of gathering is a form of cultivation that supports the healthy growth and balance of native plant species in an ecosystem—similar to how the grazing of vegetation by wildlife helps to propagate certain plant species while also creating space for other species to flourish. The general public does not realize that "gathering" encompasses an ongoing, wild agroscaping of the land, which can lead to confusion and apprehension during formal discussion when tribes and landowners convene to negotiate "gathering rights" in technical documents.

Due to this cultural disconnect about what the term "gather" means, tribes are not currently able to practice tribal stewardship on lands they have purchased or have received via donation. The public agencies and land trusts that often help them acquire or place easements on lands operate under policies that only permit passive "leave it alone" conservation practices that are contrary to the active "gathering" practices of tribal stewardship. Any land acquisitions or easements that they help to fund can only be managed in a manner consistent with their policy-mandated organizational directives. There is always additional work required to allow tribes to utilize the land in a manner consistent with tribal stewardship.

If successful, tribal-vineyard owner access agreements fundamentally change the relationship between the land, the landowner, and the tribe: the resources on the land would belong collectively to both the landowner and the tribe. However, this relationship is not possible without vineyard owners or the general public having a better understanding of the tribal "right to gather".

This fundamental misunderstanding between tribes and the general public about the rights that certain terms encapsulate in contracts and in regulations leads to policies that fail to incorporate tribal land use needs. It is essential that the tribal community educate vineyard owners about what

"gathering" means before agreements are drawn. Failing to address these inherent differences in understanding beforehand may lead promising discussions to stop at a standstill and to conflicts resulting from unintentional breaches of contract.

Expand the definition of "cultural resources" in existing legislation requiring state, county, and city level agencies to consult with tribes on land use and development planning that impacts "culturally significant" sites.

California has legislation in place, like CA SB52 and CA SB18, that gives tribes more formal right to voice their concerns about developments that impact sites of importance to them and opportunities to work with the entities overseeing proposed projects to develop corrective measures to address their concerns.

The Kumeyaay Nation in San Diego have relied primarily on tribal consultation rights under CA SB18 and CA SB52 to participate in public consultation processes to mitigate the impacts of developments on culturally significant sites for their tribes. They are consistent, active participants in public consultation processes.

However, the tribal consultation right conferred to tribes under these laws is not as meaningful in practice as it is as a legal concept, since many projects move forward without steps being taken by project developers to mitigate the disturbances identified by the tribal community. These rights tend to be most useful for tribal groups that have the legal resources and capacity to oppose developments that have not properly mitigated the disturbances their developments will have on culturally and biologically important resources for tribes. These laws may not be as useful for tribes who are small and geographically-dispersed and who do not yet have the infrastructure or the political clout to handle legal disputes or larger negotiations with developers that may arise from their participation in these consultation processes.

While CA SB18 and CA AB52 have carved out some space for tribes to insert themselves in land use planning processes, the laws should extend beyond merely accepting tribes as expert witnesses to requiring their consultation in the planning and review processes for all land use projects impacting sites of significance to them. Ideally, tribes might push the state to amend CEQA so that it requires that environmental impact reports (EIRs) include a tribal perspective section written by the impacted tribes to include in the EIR's "Ethnology" section. However, opponents of CEQA—primarily land and housing developers—who believe the law allows environmental interests to blockade housing and business development are continually pressing the state to reform CEQA to allow for more leniency around the requirements developers must satisfy to move a project forward. Moreover, while AB52 has institutionalized a prescribed process for institutions to consult with tribes on land use matters, it has also resulted in tribes being inundated with AB52 requests. Tribes (particularly those with fewer resources) must sift through and identify which requests to prioritize.

Given the legal and political turmoil surrounding CEQA at the state level, it may be a better use of resources for the tribal community instead to press locally to strengthen their influence on local land use decisions by widening the scope of CA SB18. Some public agencies in the region have been very

responsive to CA SB18 and consult with local tribes when they are aware that land use activities may impact tribal "cultural resources". However, at present, SB18 only requires cities and counties to contact and consult with California tribes prior to amending or adopting any general plan or specific plan or designating land as open space only if the site is either (1) on or eligible to be on the CA Register of Historical Places or (2) defined as a "Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine."[46] As it is currently defined, "cultural resources" does not acknowledge that, historically, ecological resources and cultural resources have been one and the same for tribal communities.

The tribal community should consider lobbying to expand the definition of cultural resources to include specific ecological, subsistence resources. Tribes might be able to use the "beneficial use" categories that are being defined in the ongoing CA Water Resources Control Board's beneficial use consultation process with California tribes as a starting point for clearly defining which ecological resources would qualify as "cultural resources" in an expanded definition of the term.

[46] California SB18 (2004)

REFERENCES

"XIV. Status and Needs of Unrecognized and Terminated California Indian Tribes." A Second Century of Dishonor: Federal Inequities and California Tribes. Prepared for the Advisory Council on California Indian Policy, Community Service/ Governance/ Census Task Force Report. American Indian Studies Center. UCLA. March 27, 1996.
https://www.aisc.ucla.edu/ca/Tribes14.htm

"Agriculture in Sonoma County: A Story of Change." Sonoma County Master Gardeners. University of California Cooperative Extension.
http://ucanr.edu/sites/scmg/files/36511.pdf

"American Viticultural Areas of California." The Wine Institute.
http://www.wineinstitute.org/files/AVAs_for_California_Copyright_2016_Wine_Institute_3.21.16.pdf

"Expansions of the Russian River Valley and Northern Sonoma Viticultural Areas." A Rule by the Alcohol and Tobacco Tax and Trade Bureau. U.S. Federal Register.
https://www.federalregister.gov/documents/2011/11/16/2011-29519/expansions-of-the-russian-river-valley-and-northern-sonoma-viticultural-areas

Native Americans: California Environmental Quality Act (2013-2014). SB52.
https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201320140AB52

"Native Land Law: Can Native American People Find Justice in the U.S. Legal System?" Indian Land Tenure Foundation. Pg. 1-16.
https://www.iltf.org/sites/default/files/native_land_law_2010.pdf

"Proposed Expansions of the Russian River Valley and Northern Sonoma Viticultural Areas (2008R-031P)." A Rule by the Alcohol and Tobacco Tax and Trade Bureau. U.S. Federal Register.
https://www.federalregister.gov/documents/2008/08/20/E8-19327/proposed-expansions-of-the-russian-river-valley-and-northern-sonoma-viticultural-areas-2008r-031p

"Sonoma County Water Agency Water System Diagram." Sonoma County Water Agency.
http://www.scwa.ca.gov/lower.php?url=water-system

"Sonoma County Winegrowers' 3rd Annual Sustainability Report." Sonoma County Winegrowers Commission. January 2017.
http://sonomawinegrape.org/sites/default/files/2017-SoCoWinegrowers-Section-LR.pdf

"The Regions of Sonoma County." Sonoma County Vintners. http://sonomawine.com/avas/

Traditional tribal cultural places (2004). SB18.
http://www.leginfo.ca.gov/pub/03-04/bill/sen/sb_0001-0050/sb_18_bill_20040930_chaptered.html

Altieri, Miguel A. et al. "Designing biodiverse, pest-resilient vineyards through habitat management." Practical Winery & Vineyard: Grapegrowing. May/June 2005. Pg. 1-6.
http://agroeco.org/wp-content/uploads/2010/09/PWV_05_light.pdf

Altieri, Miguel A. et al. "Manipulating vineyard biodiversity for improved insect pest management: case studies from northern California." International Journal of Biodiversity Science and Management. Vol 1(2005): 1-13.
http://agroeco.org/wp-content/uploads/2010/09/Int.J.Biodiv-Mgmt.pdf

Altieri, Miguel A, Clara I. Nicholls, Houston Wilson, and Albie Miles. "Habitat Management in Vineyards: A grower manual for enhancing natural enemies of pests." Laboratory of Agroecology. College of Natural Resources, University of California. 2010.
https://agroecology.berkeley.edu/resources/Altieri_2010_habitat_management_in_vineyards.pdf

Alvarez, Annette. "Native American Tribes and Economic Development." Urban Land: The Magazine of The Urban Land Institute. April 19, 2011.
http://urbanland.uli.org/development-business/native-american-tribes-and-economic-development/

Babey, Susan H. and Joelle Wolstein, Allison L. Diamant, and Harold Goldstein. “Prediabetes in California: Nearly Half of California Adults on Path to Diabetes.” Health Policy Brief. UCLA Center for Health Policy Research. March 2016.
http://healthpolicy.ucla.edu/publications/Documents/PDF/2016/prediabetes-brief-mar2016.pdf

Baughman, Adam T., Elizabeth Joy Brown, Willie Brummet, Joanne M. Dramko, Jamie Goldstein, and Barry E. Hooper. “California Winemaking Impact Assessment.” University of California, Santa Barbara. Masters Thesis. May 2000.
http://www.esm.ucsb.edu/research/2000Group_Projects/Wineries/wineries_final.pdf

Bersamin, Andrea et al. "Westernizing Diets Influence Fat Intake, Red Blood Cell Fatty Acid Composition, and Health in Remote Alaskan Native Communities in the Center for Alaska Native Health Study." Journal of the American Dietetic Association, Vol. 108.2 (2008): 266-273.
http://www.andjrnl.org/article/S0002-8223(07)02075-5/fulltext

Burns Kraft, Tristan F. et al. “Phytochemical Composition and Metabolic Performance Enhancing Activity of Dietary Berries Traditionally Used by Native North Americans.” Journal of agricultural and food chemistry, 56.3 (2008): 654–660.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2792121/

Cordain, Loren et al. "Origins and evolution of the Western diet: health implications for the 21st century." The American Journal of Clinical Nutrition, 81(2005): 341–54. http://ajcn.nutrition.org/content/81/2/341.full

Elkins, Rachel B. et al. "Sample Costs to Establish and Produce Pears, Green Bartlett: North Coast Region, Lake and Mendocino Counties." UC Cooperative Extension. UC Davis Agricultural & Resource Economics: Current Cost and Return Studies. 2012. http://coststudyfiles.ucdavis.edu/uploads/cs_public/f9/c1/f9c1777a-1c0e-4231-9d59-15e5aa3da588/pearsnc2012.pdf

Grismer, Mark and Caitlin Asato. Converting oak woodland or savanna to vineyards may stress groundwater supply in summer. California Agriculture Vol 66.4 (2012). https://ucanr.edu/repositoryfiles/ca6604p144-97600.pdf

Hoover, Katie. "Forestry Provisions in the 2014 Farm Bill (P.L. 113-79)." Congressional Research Service. March 21, 2014. http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R43431.pdf

Johnston-Dodds, Kimberly. "Early California Laws and Policies Related to California Indians." California State Library. California Research Bureau. September 2002. https://www.library.ca.gov/crb/02/14/02-014.pdf

Klonsky, Karen M. and Don Stewart. "Sample Costs to Produce Organic Processing Apples, Various Varieties: Central Coast–Santa Cruz County, Freedom Region-Pajaro Valley." UC Cooperative Extension. UC Davis Agricultural & Resource Economics: Current Cost and Return Studies. 2014. http://coststudyfiles.ucdavis.edu/uploads/cs_public/fe/91/fe916bab-978e-474f-ac30-30ff498aa569/apples-santa-cruz-org-processing.pdf

LeBeau, Michelle L. "Federal land management agencies and California Indians: a proposal to protect native plant species." *Environs: Environmental Law & Policy Journal,* 21 (1998): 27. https://environs.law.ucdavis.edu/volumes/21/2/articles/lebeau.pdf

Low, Tina J. and Michael Napolitano. “Appendix D: Sonoma Creek Watershed Sediment TMDL and Habitat Enhancement Plan: Staff Report.” California Regional Water Quality Control Board, San Francisco Bay Region. 2008. http://www.waterboards.ca.gov/sanfranciscobay/board_info/agendas/2008/december/6/appendix_d.pdf

Merenlender, Adina. “Mapping vineyard expansion provides information on agriculture and the environment.” California Agriculture, Vol 54.3 (2000). http://calag.ucanr.edu/Archive/?article=ca.v054n03p7#fig5403p10a

McGourty, Glenn et al. "Sample Costs to Produce Wine Grapes: Using Biodynamic Farm Standard-Principles, Red & White Varieties: North Coast Mendocino County, Crush District 2." UC Cooperative Extension. UC Davis Agricultural & Resource Economics: Current Cost and Return Studies. 2016. http://coststudyfiles.ucdavis.edu/uploads/cs_public/62/3a/623a8e4d-ba4c-4c7b-9f13-389e17fd1928/16winegrapebiodynamicmendocinofinaldraft61416-1.pdf

Middleton, Beth Rose. Trust in the Land: New Directions in Tribal Conservation. Tucson: University of Arizona Press, 2011.

Miller, Larisa K. "The Secret Treaties with California's Indians, PROLOGUE MAG., Fall/Winter 2013, at 38. https://www.archives.gov/files/publications/prologue/2013/fall-winter/treaties.pdf

Mohan, Geoffrey. "Sonoma County residents' battle with wineries is about more than water." Los Angeles Times. August 31, 2015. http://www.latimes.com/business/la-fi-wineries-water-20150831-story.html

Mohatt, Gerarld V., Rosemarie Plaetke, Joseph Klejka, Bret Luick, Cécile Lardon, Andrea Bersamin, Scarlett Hopkins, Michelle Dondanville, Johanna Herron, and Bert Boyer. "The Center for Alaska Native Health Research Study: a community-based participatory research study of obesity and chronic disease-related protective and risk factors." International Journal of Circumpolar Health, Vol. 66.1 (2007): 8-18. http://www.tandfonline.com/doi/abs/10.3402/ijch.v66i1.18219

O'Connell, Joan M. et al. "The Costs of Treating American Indian Adults With Diabetes Within the Indian Health Service." *American Journal of Public Health* 102.2 (2012): 301–308. *PMC*. Web. 12 Dec. 2016. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3483981/

Patterson, Amy. Christine Brennan, Wendy Blocker, and Rachel Harvey. "California Area Report: Government Performance and Results Act (GPRA)." Tribal Urban Health Program. Indian Health Services. 2015. https://www.ihs.gov/california/tasks/sites/default/assets/File/2015_California_Book.pdf

Rossier, Colleen and Frank Lake. "Indigenous Traditional Ecological Knowledge in Agroforestry." Agroforestry Notes, General-14. National Agroforestry Center. United States Department of Agriculture. https://nac.unl.edu/documents/agroforestrynotes/an44g14.pdf

Samson, Colin. "Reversing the Nutrition Transition among Native North Americans." A policy position paper prepared for presentation at the conference on Food Safety, Security, and Defense (FSSD), titled Equitable, Sustainable, and Healthy Food Environments, convened by the Institute on Science for Global Policy (ISGP), May 1 – 4, 2016, at Simon Fraser University, Vancouver, British Columbia, Canada. http://scienceforglobalpolicy.org/wp-content/uploads/5718fdf039e4a-Samson%20policy%20position%20paper.pdf

Schulz, Leslie O., Peter H. Bennett, Eric Ravussin, Judith R. Kidd, Kenneth K. Kidd, Julian Esparza, Mauro E. Valencia. "Effects of Traditional and Western Environments on Prevalence of Type 2 Diabetes in Pima Indians in Mexico and the U.S.". Diabetes Care, Vol. 29.8 (2006): 1866-1871. http://care.diabetesjournals.org/content/29/8/1866

Street, Richard Stevens. Beasts of the Field: A Narrative History of California Farmworkers, 1769-1913. Stanford: Stanford University Press, 2004.

Wood, Mary and Zack Welcker. "Tribes as Trustees Again (Part I): The Emerging Role of the Tribe in the Conservation Movement." Harvard Environmental Law Review, Vol. 32 (2008). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2190881

Wood, Mary and Matthew O'Brien. "Tribes as Trustees Again (Part II): Evaluating Four Models of Tribal Participation in the Conservation Trust Movement." Stanford Environmental Law Journal, Vol. 27.479 (2008). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2190968

Zimmet, P. (2001), Globalization, coca-colonization and the chronic disease epidemic: can the Doomsday scenario be averted?. Journal of Internal Medicine, 249: 17–26. http://onlinelibrary.wiley.com/doi/10.1046/j.1365-2796.2001.00625.x/full

APPENDIX

(A) List of Data Sources

Precipitation and Snowmelt Data. Data Tools: Find A Station. National Centers for Environmental Information (NCEI). National Oceanic and Atmospheric Administration.
https://www.ncdc.noaa.gov/cdo-web/datatools/findstation

Sonoma County Crop Reports (1970 to 2014). Sonoma County Agricultural Commissioner.
http://www.sonoma-county.org/agcomm/crop_report.htm

Mendocino County Crop Statistics (1985 to 1998; 2000 to 2014). Mendocino County Agricultural Commissioner.
http://www.co.mendocino.ca.us/agriculture/cropStats.htm

Mendocino County Crop and Livestock Statistics (1960 to 1984). California Department of Food and Agriculture. (Public Records Request).

"Publications by Crop Year." USDA National Agricultural Statistics Service, Pacific Regional Field Office. County Ag Commissioners' Data Listing. United States Department of Agriculture National Agricultural Statistics Service.
https://www.nass.usda.gov/Statistics_by_State/California/Publications/AgComm/Detail/

E-6 Population Estimates and Components of Change by County: 1970 to 2016. Population Estimates and Components of Change by County: 1970 to 2016. CA Department of Finance.
http://www.dof.ca.gov/Forecasting/Demographics/Estimates/

E-4 Population Estimates For California Counties And Cities: 1970 to 2016. Population Estimates and Components of Change by County: 1970 to 2016. CA Department of Finance.
http://www.dof.ca.gov/Forecasting/Demographics/Estimates/

Surface Water Data (stations in Sonoma and Mendocino County). National Water Information System: Mapper. United States Geological Survey.
http://maps.waterdata.usgs.gov/mapper/?state=ca

Water Quality Data (stations in Sonoma and Mendocino County). National Water Information System: Mapper. United States Geological Survey.
http://maps.waterdata.usgs.gov/mapper/?state=ca

Ground Water Data. Water Data Library. California Department of Water Resources. http://www.water.ca.gov/waterdatalibrary/groundwater/index_new.cfm

Water Quality Data. Water Data Library. California Department of Water Resources. http://www.water.ca.gov/waterdatalibrary/

(B) UNABRIDGED Stakeholder Analysis

TRIBAL COMMUNITY

This section identifies the current interests and existing work of some tribes in the region. The interests and existing efforts can be folded into (or further developed) in a regional food sovereignty initiative.

The findings in this section do not represent the opinions of all tribes in the region, since not all tribes in the region could be reached to complete an interview.

Tribal Interests & Capacities

Tribes vary in their government infrastructure and capacity to pursue issues of interest to their community—by size, by tribal status (recognized or unrecognized), and by landholding status (landlessness to holding sizable acres of land). Since tribes are smaller in this region, there are fewer resources and funds and staff available to devote to all issues of interest to the tribe. The tribe must allocate its resources toward the most pressing issues. Historically, some tribes have not had time or resources to proactively pursue measures to expand their aboriginal territory and rights to manage those lands.

A number of tribes mentioned that considerations about land use are tied centrally to economic development—in particular, housing and agriculture projects that would simultaneously support development. At present, some of the rancherias are not large enough to house all tribal members who would like to live on the rancheria, so obtaining land for housing is often a top priority.

Tribes mentioned that water access, for drinking and sanitation purposes, is common issue, since many tribes in the region are allocated only a certain amount of water annually, and it is often not enough for the residents of the rancherias. Some tribes having been required to transport water from outside sources to the rancherias during the summer.

One of the common environmental issues that were mentioned by tribes is mitigating illegal dumping. Other tribes mentioned dealing with pesticide drift, other chemical contamination of water and plant sources, and mitigating the increasing reduction of wetlands in county.

Tribes interested in sustainable agriculture aim to identify crops that are not water intensive though they noted that they would need to develop infrastructure to manage such projects. Tribes that do not have the land to cultivate crops are interested in becoming agriculture processors or distributors.

Several tribes in the region have established or are looking to establish vineyards in the area. Hopland Rancheria has revitalized and is actively managing 10 acres of historically dry-farmed vineyard. The Lytton tribe has also acquired substantial vineyard holdings in the last several years and are

managing wine grape production by contracting with/consulting farm advisors in the region. A majority of their vineyard acres have been certified sustainable. Dry Creek Rancheria also farms wine grapes and has their own wine label.

In Lake County, tribes have been preoccupied with natural resource restoration work in the aftermath of two big fire events that took place in 2015 and 2016.

Existing Natural Resource Management Efforts

A few tribes are actively working on addressing access issues to land and natural resource quality.

In Sonoma County, Graton Rancheria has worked with the Sonoma County Regional Parks to co-plan a park. The Kashia Pomo at Stewarts Point Rancheria are currently managing several projects related to their recently acquired Kashia Coastal Reserve.

In Mendocino County, Sherwood Rancheria's environmental department has engaged in restoration planning for endangered species, fish habitat restoration projects, oak restoration and habitat restoration for culturally significant plants. At the policy level, Sherwood Rancheria, along with several other tribes in California, are engaging with the California Regional Water Quality Control Board to define "beneficial use" for tribes. They are also interested in acquiring funding to explore natural resource quality issues.

The Cahto tribe at Laytonville Rancheria has a cooperative/general service agreement with the Redwood Forest Foundation (RFFI), a local nonprofit holding a conservation easement over portions of the Usal Redwood Forest. The agreement enables them to participate in sustainable forestry projects and to access a portion of the forest for gathering purposes. Sherwood Rancheria is interested in replicating this agreement with a local timber company—Lyme Forestry Company. The Cahto tribe also holds cooperative service agreements with federal agencies to complete forest maintenance service projects on BLM lands that the BIA oversees in the area.

In Lake County, Big Valley Rancheria has been actively engaged in efforts to change policy at local and state level to protect tribal resources—primarily related to pesticide drift mitigation and general water quality. They have worked with the Kashia Pomo in Sonoma County to develop a pesticide assessment questionnaire and have been active in pursuing water monitoring grants. They have also partnered with the CA Department of Food and Agriculture on a study monitoring pesticides contamination of Tule reeds in Clear Lake—a study that eventually became a risk assessment study after significant traces of contaminants were found. Their work around pesticide drift mitigation and water quality has led to their reputation as environmental "watchdogs" in the community. The tribe has also done research around how genetically modified organisms (GMO) agriculture may contaminate native plant life in the area.

Preferences for a Food Sovereignty Initiative

Several tribes have expressed interest in establishing conservation easements and other kinds of agreements with private landowners, counties, and other land management agencies and in working with land trusts to establish these agreements. They acknowledge that at present, some tribes have limited resources to initiate, develop, and manage such agreements on an individual basis. One EPA representative working for a tribe expressed an interest in collaborating with tribes to develop a tribal consortium or land trust model like the Intertribal Sinkyone Wilderness Council to secure tribal stewardship rights and to establish easements on lands of interest.

Tribes also expressed interest in specific types of native foods to which they would like increased access. One EPA representative working for a tribe suggested that it would be useful to establish a co-management agreement with the Mendocino Redwood Company that would grant tribes access rights to gather acorns in the fall on the company's land. At present, the company has a practice of simply removing the tanoaks producing acorns on their land.

Another tribe expressed interest in increasing the accessibility of coastal resources like seaweed. One tribe was interested in furthering their existing pesticide drift mitigation work with pear orchards—which are more prominent than vineyards in Lake County.

PUBLIC AGENCIES: PROGRAMS & EXISTING RELATIONSHIPS

This section identifies the existing programs under specific public resource management agencies and the working relationships they have with each other and with the tribal and wine grape community. These programs and relationships represent existing "points of entry" for tribes to initiate or develop existing partnerships with vineyard owners. Tribes may consider reaching out to and partnering with these agencies and/or participating in existing projects and programs as part of their partnership-building efforts with vineyard owners. They may also be useful to tribes as a reference point for developing project proposals and outreach strategies to connect with vineyard owners.

Federal

USDA National Resource Conservation Services (NRCS)

The NRCS houses several programs including easement programs for landowners who want to maintain or enhance their land in a way that is beneficial to agriculture and/or the environment. Their Agricultural Lands easement program helps Native American tribes, state and local governments and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land.

Culturally, the NRCS in the North Coast of California is more open to supporting regenerative agricultural practices and biodiversity efforts, despite the NRCS historically having been less receptive to outreach from and engagement with civic environmental groups/interests around these issue areas.

Vineyard and other property owners from the agriculture community tend to reach out to the NRCS (which at this point has a more developed program) for cost-sharing support on projects to increase sustainable practices and conservation on their properties, since they have the most developed programs for those purposes. The NRCS offers landowners the opportunity to place 30-year or "in-perpetuity" (permanent) easements on their properties. The latter type of easement has more benefits and is likely more popular. The NRCS also operates a conservation funding program (Equipment and Environmental Quality Incentives Program) that generally covers 50% of the cost of approved conservation projects. The NRCS often partners with local RCDs (who are also developing agricultural support programs) on cost-sharing projects to increase the amount of funding available to landowners on projects.

The NRCS operates under a mandate that encourages working with tribes on conservation projects. The grant system established for allocating monies awards extra points to grant applicants partnering with tribes on conservation/restoration projects. This incentive provides an opportunity for tribes to identify projects where their interests and needs overlap between wine grape grower and (same geographic area or type of preservation/restoration work being done)

The NRCS on the CA North Coast has developed funding partnerships with local Resource Conservation Districts (RCDs) to support projects involving the tribal and/or agricultural community (ex. In the northernmost areas of California, projects where native lands and properties of dairy farmers intersect). There may be opportunities for tribes to develop similar project funding proposals that meet the needs and interests of both vineyard owners and local tribe

Regional

Sonoma County Agricultural Preservation and Open Space District (SCAPOSD)

The SCAPOSD is tasked with carrying out Sonoma County's Open Space component of its General Plan. It is also guided by a directive under Measure F (a ballot initiative authorizing its existence) and the agency's land acquisition plan. It works primarily with public and with private landholders to preserve open-space and/or agricultural use of lands within the county—with conservation easements as their primary mechanism. It acts primarily as funders to acquire lands on which they are entitled to place conservation easements. They utilize different categories of conservation easements in their work (agriculture, natural resource, scenic/greenbelt and open space, and timber easements).

The district often collaborates with the Sonoma Land Trust (SLT), since the easements that they establish and hold share the same purposes. The SLT holds and manage properties and has fundraising expertise, while the district tends to retain properties temporarily before but they are transferred to the final title owner. The district and the SLT often share information with each other about upcoming projects, and the district often reaches out to the SLT when they need assistance fundraising for a project.

Members of the agricultural community can apply to have agricultural easements and/or natural resource easements placed on their lands. SCAPOSD does not always have the funding to move easement applications to active status projects. The district has a list of criteria to prioritize easement applications. It tends to prioritize easement applications involving lands that are adjacent to a property on which the district has already placed an easement, lands containing wildlife corridors, threatened and endangered species, priority watersheds, and groundwater recharge areas. The district also prioritizes projects that cover a larger area of land (on average 300 acres) that serve multiple purposes over applications for projects on lands that serve only a single purpose.

The exception to this rule is projects that focus on preserving old-growth redwoods, since the district also prioritizes projects on lands where there is an imminent threat to a resource that is rare or considered essential to a habitat. SCAPOSD has made protecting old-growth redwood commonly found in the northwest region of the county a priority since there is so little of it left in the county. This priority was a point of common interest between the district and the Kashia Pomo tribe. In collaboration with the tribe, it negotiated a timber easement as a funding partner and project manager on the Kashia Coastal Reserve project.

SCAPOSD has completed several working forest projects involving timber easements that focused on restoring timberland to a level that would allow sustainable timber harvest to continue. These projects include the Buckeye Forest, Jenner Headlands, and a project on land west of Dry Creek. The Kashia Coastal Reserve was the one project in which the objective of the timber easement was to return the forest to old-growth redwood.

In the easement projects involving forest management, where the properties acquired already have a state-approved forest management plan in place, the SCAPOSD consults with foresters to create language to place in timber easements that reconciles the “gaps” between state and their own requirements regulating timber harvest and forest management.

The consulting relationship that SCAPOSD has developed with foresters could serve as a model for tribes to insert themselves into the contact-writing process SCAPOSD must undergo for all its land management projects. Once tribes have developed a working relationship with SCAPOSD, it may be possible for tribes to negotiate with the SCAPOSD to develop language that would be included into their (agriculture, natural resources, and/or open-space) easements to enable access to lands protected by easements for gathering, harvesting, and affirmative management of native plant resources.

SCAPOSD often acts as a facilitator to connect private landholders they work with to the Sonoma RCDs, particularly if a natural resource issue arises on a property with an easement on it that

requires technical assistance to resolve (ex. water quality or riparian forest restoration; measures to ensure the terms of the easement are not being violated).

Resource Conservation Districts (RCDs)

In Sonoma County, there are two RCDs (Sonoma and Gold Ridge). Mendocino and Lake Counties, are each covered by one RCD—Mendocino RCD and Lake RCD respectively.

Resource Conservation Districts (RCDs) help private landowners manage/conserve the soil and water quality on their properties. They are "special districts" within counties that were created to be the local implementing arm of the U.S Department of Agriculture's Natural Resources Conservation Service (NRCS). They function as leaders in the conservation community and sponsor educational efforts to teach the public (young and adult alike) the importance of conserving natural resources. RCDs provide "free, non-discriminatory assistance and educational opportunities to agricultural producers, land users, educators, and anyone with land-based resource conservation needs, on a strictly voluntary basis." [47]

RCDs work on many conservation projects, which may include conservation education, soil erosion control, water quality enhancement, range management, vineyard development, woodland, forestry and wildlife management, and watershed and stream enhancement, and recently carbon farm planning/carbon sequestration. They also provide technical assistance, access to funding, facilitate communication and work within the community, natural resource planning, voluntary natural resource monitoring, and coordination of funding between different partners (including landowners, land managers).

An RCD's directives are determined by (1) the board members (many of which are prominent landowners in the community) who convene with the district staff during the strategic annual planning meetings to share with them the conservation needs and interests of the broader landholding community and (2) the public grants that are available during a given period to meet the needs identified. RCDs often employ specialists and contractors to carry out board policies and projects, which may address a broad array of conservation issues.

For RCDs, project opportunities often emerge when landowners reach out them to utilize their cost-sharing programs. Vineyard and property owners tend to reach out more often to the NRCS (which at this point has a more developed agricultural support program), though the RCDs have been developing local agricultural support programs (including a Land Smart Program, soil health programs, and other programs to conserve water) to help landowners defray the costs of implementing farm practice improvements (ex. installing cover crops, going organic, etc.). On cost-sharing conservation/farm operation improvement projects funded by the NRCS, RCDs often partners with landowner to help with project design and technical support (and occasionally additional funding)

[47] Gold Ridge RCD: Mission http://www.Gold Ridgercd.org/htm/mission.htm

RCDs are now expanding their focus from ranches and large-scale forest systems to vineyards—where they have observed most of the damage to local waterways (sediment and runoff posing dangers to fisheries). In recent years, RCDs have developed a new Land Smart Program to help vineyard owners develop farm plans that evaluate the environmental condition of their properties and their current land management practices. The program arose as a result of a previous State Water Resources Control Board waterways assessment in the region that found excessive sediment in the water system. The assessment identified several different emitters, but vineyards were one of the primary sources. Wanting to better enforce the regulations reducing the amount of sediment coming into creeks, the board decided to establish a permit system to reduce the amount of sediment being dumped into the local waterways by vineyards. The Land Smart Program was developed as a result of increased need for technical assistance from vineyard owners on how to comply with the new permit process. Moreover, some of the RCDs in this region (in Sonoma and Mendocino Counties) are partnering with vineyards to explore carbon sequestration on vineyards.

RCDs also collaborate frequently with local land trusts. In Sonoma County, the RCDs collaborate with the SCAPOSD, who fund their outreach, while they provide the SCAPOSD assistance on technical projects. The SCAPOSD and the RCDs in Sonoma will have greater opportunity to collaborate in the next couple years since they have recently secured a large USDA grant allowing them to collaborate to purchase agricultural easements in the county. RCDs also engage in cost-sharing collaborations with land trusts on grassland (non-wetlands, focused on agricultural lands or open-space) conservation easements.

Gold Ridge RCD & Sonoma RCD

Both RCDs in the county house various initiatives that focus on improving water and soil quality and reducing the water use by improving water use efficiency. They play a role in helping the county achieve its 100% sustainable vineyards objective by providing vineyard owners technical expertise about moving toward more sustainable practices—like adopting more rigorous integrated pest management practices (reducing the use of chemical pesticides on their crops).

Most vineyard owner who have reached out to the RCDs have done so to access technical or cost-sharing assistance on water efficiency or storage projects, to help them address a natural resource concern (like erosion or creek work), and to help them comply with or get ahead of regulations. However, there are also a small minority of vineyard owners that reach out to RCDs because they are interested in habitat restoration and preserving wildlife on their lands. Sonoma RCD generally refers these owners to the local land trust.

The RCDs are currently focused on helping agricultural landowners with “whole farm” or “whole ranch” planning. The RCDs are helping landowners identify natural resource issues and goals on their entire properties and pairing them with services they need to address those issues and meet those goals.

Gold Ridge RCD has consulted with and pursued contract work with Graton Rancheria on projects that involve moving earth that might disturb cultural sites. Gold Ridge RCD also operates a

youth education program that brings students from grades 3 to 6 out to local farms to teach them about natural resource stewardship. They are also managing a new program for vineyards that experiments with methods to increase carbon sequestration, which involves the installation of additional riparian habitat, sedge rows, and restoration of wildlife habitat.

Mendocino RCD

Mendocino RCD hosts various services and projects similar to those provided by the Sonoma RCDs, though they also have programs that focus on timber and forest assessment planning (Forest Management Plans and Assessments) and a native plants assessment and planning program (Native Plant Assessment and Planting Plans).

The native plants program helps landowners with the removal of invasive plants and native plant regeneration on their properties. The native plants program manager and project staff often complete plant inventories and assessments on properties with active projects on them.

Mendocino RCD has completed a project involving riparian restoration and sedge bed replanting/restoration with the Yokayo tribe. A small crew of individuals from the tribe worked with a few staff members from Mendocino RCD to complete the work. The program coordinator for the native plants program indicated that despite limited funds that have prevented the work on this project from moving beyond that point, the RCD might be receptive to a more consistent and engaged partnership between local tribes in their work.

The coordinator mentioned that because RCDs are always looking to contract with work crews that have knowledge about habitat restoration for agency projects, there could be a long-term business opportunity for tribes to develop natural resources work crews to work on restoration and resource management projects (modeled off the CA Conservation Corps crews). Some of the economically and politically robust tribes on the Pacific Northwest coast have adopted this model. For example, in Washington, the Nisqually and Tulalip tribes' Departments of Natural Resources house restoration crews—a group of tribal members and/or staff who complete restoration activities throughout the year—who may be contracted out to complete plantings on properties on watershed where agencies and land trusts need to do habitat restoration work (like riparian reforestation). In California, the Maidu have a few tribal natural resource crews funded by the BIA (starting in 2011), that complete projects on tribal as well as private and land trust land. Land trusts and other public agencies have been known to help secure funding for tribal work crews (for staff salaries and training). Tribes may be able develop work crews as work-education programs allowing tribal members to learn about tribal stewardship while being paid for their work.

Mendocino RCD often provides technical expertise and information about resource/watershed management to the Mendocino Land Trust (MLT). Mendocino RCD is currently working with MLT to assess high priority agricultural areas throughout the county on which they can place protective agricultural easements. This may present an opportunity for tribes to insert themselves into planning/easement negotiation process. Tribes might be able to work with the MLT to help introduce

the concept of "right of access to gather" to landowners and to work with the RCD to develop language that can be inserted in the easements to be negotiated with private landowners.

Lake RCD

Lake County RCD has very little contact with vineyard owners or the local tribes. Most of their work has been focused on educating the public about conservation and resource stewardship and natural resource restoration in the aftermath of two large fires that took place in the county in 2015 and 2016.

WINE GRAPE GROWERS: OPPORTUNITIES & CONSTRAINTS

PRIMER: Important Trends in the Region's Wine Grape Industry

The present and future wine grape growers

In Sonoma County, the wine grape industry is dominated by small parcel holders (approximately 80%) that are family-farmed. Wine grape farmers as a group buck the national youth in agriculture trend: many of the next generation are likely to be interested in continuing to live on and to farm their family's vineyards, since both the work and the lifestyle has a greater appeal to younger generations than in other agricultural industries. Many educated and affluent retirees opt to join the wine grape community and tend to purchase and/or farm vineyards as a side business. Individuals from the latter community and some of the younger growers may be amenable to education about converting to more sustainable practices if they feel that it aligns with their personal values. In Sonoma County, there is an increasing demand from younger farmers to learn about and practice more sustainable agriculture.

Santa Rosa Junior College, in Sonoma County, has one of the best two-year sustainable agriculture programs in the state. The viticulture curriculum has been designed with the input of local industry leaders to respond to current industry issues and to give its students in-demand skills. Since 2006, the program coordinator has introduced more technology and mechanization in viticultural management, a pest control advisor certificate, and classes about peer-reviewed scholarship around vineyard management and about improving fruit quality to the curriculum.

Though the ages of the students range widely, younger students make up an increasing portion of the program cohort. Many of the students are locals that were born into vineyard owning families. Most students from the program are hired out to big vineyards and wineries in Sonoma County (Kendall Jackson, Constellation, and Gallo) after they graduate from the program.

Growers exist on a spectrum as to how they balance environmental and economic priorities when determining how they will manage their vineyards. Even growers who are more profit-driven

understand that their success as growers is tied to the health of the land. Almost all growers want to be "good neighbors" and good "stewards of the land".

Movement toward more sustainable practices

At present, 80% participation by Sonoma growers in sustainable practices according to most recent annual report (2016) by Sonoma County Wine Grape Association. [48] About 25% of wine grape acres are farmed organically. According to one grower, 3 to 5% of wine grape acres (about 1000 acres) are farmed biodynamically in Mendocino. In Sonoma, the same number of acres, about 1000 acres, are farmed biodynamically, though Sonoma County has a larger overall number of vineyard acres. Vineyards tend to be between 10 acres to 100 acres in size on average in the North Coast, whether they operate biodynamically or conventionally.

Efforts are currently underway in both Sonoma and Mendocino counties to promote soil health and reduce the water used for irrigation. In Sonoma County, the Sonoma County Winegrowers Commission is leading an effort to push for 100% participation in sustainable viticultural practices by 2019. The standard for "sustainable" is now being codified by the commission and The Wine Institute in California for this purpose. Mendocino County (and Sonoma County to a lesser extent) is also focusing on developing soil health initiatives, which include efforts to support carbon-farming and general regenerative agricultural practices that will mitigate climate change and enrich the soil.

Institutions that support wine grape growers are working to develop the science for technologies that would reduce the use of pesticides and water. One of the more substantial moves toward sustainability in the region involve relying less on groundwater in the spring for frost protection. There is currently a project underway to target ice-nucleating bacteria on wine grapes so that they are less vulnerable to frost. UC Davis is working with growers to develop a program to cultivate rootstock that can thrive on fewer pesticides.

One grower characterized the sustainable movement in Mendocino as moving from "sustainable", which is reactionary and about mitigating negative impacts to local ecosystems, to "post-sustainable", which characterizes a preventative land management approach focused on returning the land back to health through regenerative farming.

Wine grape premium in region

Wine grapes grown in the North Coast region receive a higher price premium than grapes grown in the Central Valley. Growers in the Central Valley tends to grow wine grapes in bulk that use more water (through the availability of flood irrigation). In the North Coast, less water is available since the

[48] "Sonoma County Winegrowers' 3rd Annual Sustainability Report." January 2017.

aquifer basins do not replenish themselves very quickly, and wine grapes—that are of a higher quality—are grown in smaller quantities. Wine grapes that are grown with less water tend to be smaller but more flavorful.

According to one grower, wine grapes from the Central Valley might sell for $150-200 per ton while a ton of wine grapes from the North Coast might sell for between $2,500 to $30,000. The price differential is widely attributed to the quality premium of wine grapes grown in the North Coast. Some of the premium can be attributed to the business model and marketing strategy that wine grape growers and wineries in the region employ to sell their grapes and their wine (*more on this in later sections*).

The new generation

There is dawning realization in the wine grape community that how growers choose to manage their vineyards does not simply boil down to weighing just the "economics" against the environmental impacts of growing. The "economics versus the environmental impacts" of growing is becoming an archaic way of thinking about the incentive structures that determine how a vineyard should be managed. Some growers feel that, in the long-term, growing wine grapes more sustainably can reduce some of the costs associated with farming conventionally, since the improvements in soil health can reduce the need for water and fertilizer and overtime reduce naturally occurring pests.

Some growers hope that the next generation of wine grape growers will be able to better balance both the environmental and economic priorities of growing wine grapes. Some growers hope that the new generation will help to reverse the trend of smaller growers in the region being bought up by larger companies—who they feel prioritize maximizing profits at the expense of both the quality of the wine and the impact on the land of their high yield growing practices. A couple growers believe that sustainability in the wine grape industry should not simply be defined by the type of growing practices being employed by vineyard owners but the availability of younger growers coming into the industry who can turn their idealism into action on the ground.

Native American vineyards in the region

Several Native American tribes in the region are looking to or have already started the process of operating vineyards. In Mendocino, the Yokayo tribe, near Ukiah, is considering establishing a vineyard near their rancheria. Hopland Rancheria has acquired and has been working to restore 10 acres of historically dry-farmed vineyard. In Sonoma, the Lytton tribe has acquired a large holding of vineyards near the Healdsburg and Windsor area that are managed by a few local farm advisors. Dry Creek Rancheria operates and manages its own vineyard and has its own wine label— Mihila Kawna Wines.

INTERESTS: Needs as Wine Grape Growers & Interests in Sustainability

Sustainability: compatibility with wine grape grower needs

Growers' livelihoods often depend to some degree on adopting practices that align with sustainable principles. One environmental manager noted that because grape growers are paid once a year for a crop they have been tending to all year, the viability of their crops can be endangered by the overuse of pesticides. If trace amounts of pesticides are detected during an inspection of each block of wine grapes, growers cannot sell them.

Wine grapes tend to have fewer natural pests and diseases to account for and require less water than other fruit crops. Water is one of the costliest inputs in the wine grape growing process, and it is in the best interest of growers to be efficient with their water use. Consequently, growing sustainably may require a less precipitous tradeoff between economy and environmental impacts for vineyard owners.

Degree of sustainability

How sustainably a grower can operate their vineyard depends on the grower's situation and the consequences of negotiating certain tradeoffs in vineyard management. Retirees who are engaging in growing in their later years as a "side enterprise" are generally less concerned about the cost and time tradeoffs of growing wine grapes more sustainably. However, most growers in the region are small-scale farmers, and they rely on wine grapes to provide a living for their families.

How sustainably a grower wants to or can manage their vineyards depends on both (1) their personal understanding of what "sustainable" means and (2) their willingness and ability to navigate certain barriers to grow sustainably at a particular level. To some growers, sustainability is defined not as a rigid set of practices but any set of practices appropriate for the circumstances on a particular vineyard that would, in the aggregate, allow them to mitigate the negative environmental impacts of their practices—whether or not those practices are "organic". This may change, since "sustainable" as a standard is currently being codified by The Wine Institute and Sonoma County Winegrowers Commission.

The organic and biodynamic standards involve a prescribed set of practices and requires undergoing a certification process to determine the fidelity to which growers have adhered to prescribed practices—overseen by institutions like the USDA and the Demeter Foundation. Moreover, the biodynamic standard is an "all-or-nothing" model, whereas the organic and sustainable standards give growers the leeway to slowly "opt-in". Growers can farm portions of their overall vineyard organically or sustainably but must farm either all or none of their vineyard biodynamically.

Not all growers in the wine grape community are convinced about the actual mitigated environmental harms associated with more sustainable growing practices. In practice, even organic compounds may not be as harmless than they are believed to be compared to some systemic/synthetic

pesticides. Organic compounds tend to require multiple applications, because their protection period is lower than the protection period for synthetic pesticides. It is possible for multiple applications of organic pesticides to have a similar level of toxicity to one application of a carefully applied systemic/synthetic pesticide. Moreover, while some systemic/synthetic pesticides are designed to target a single species, organic compounds tend to target a wider base of insect species. Consequently, some organic pesticides may be more harmful to potentially beneficial insects than synthetics— resulting in unintentionally negative effects on biodiversity in vineyards.

Returns on investments: premium for sustainably grown wine grapes

Some growers are aware that sustainable wine grape growing practices are likely to result in better quality wines that can be sold at a premium price while allowing a grower to use fewer inputs. A grower can obtain decent wine grape yields that are of a better quality if they are more judicious about the amount and timing of water use.

CONSTRAINTS: Limits & Risks to Their Business Operations

The old ways

One of the biggest challenges to convincing vineyard owners to adopt more sustainable practices is the difficulty of changing mindsets when many of the older generation are accustomed to farming a certain way and a certain aesthetic on their vineyards. Some vineyard owners continue knowingly to use less efficient and environmentally-conscious vineyard management practices because they prefer the aesthetic of a vineyard that has been tilled of all weeds and other plant matter—even though it decreases soil health, requires more water use, and decreases biodiversity.

Moreover, the emergence of land trusts and public land conservation entities represents a change in land ownership regime that has historically been private, with little to no public access. This renewed public ownership of lands (or, more accurately, the return of communally-owned land) and the new conservation-adjacent models of farm operation that are promoted by this new land management regime can be difficult for some private landowners to understand and accept.

Real and perceived fixed costs of growing sustainably

When growers were asked about how sustainably they were willing to manage their vineyards and whether they would be willing to work with tribes to develop access agreements on their properties, they mentioned two common constraints: (1) costs (including time and additional labor) and (2) liability.

Growers agreed that conventional pest control practices— which include chemical management— is more time-expedient and perceived to be less costly. Mechanical methods are more time and labor-intensive and wear more quickly on the equipment. Though integrated pest management (IPM) is widely practiced by almost all vineyard owners in the region, the degree to which individual growers hold off on utilizing chemicals after proceeding through the other non-chemical pest control options varies with the grower. Some growers are very risk averse and are more willing to advance to the chemicals and synthetics phase of the program for pest control to avoid having to deal with any pest outbreaks.

Natural farming requires long-term commitment, since it would take a few years after adopting a more natural pest control regimen to see the effects. Generally, it takes 3 to 5 years for growers to establish the necessary conditions on their vineyards to be certified organic or biodynamic, and growers must find a way to absorb the fixed costs during those years before they can be recouped. Biodynamic growers can grow wine grapes in small batches and are able to recoup the added costs by charging a higher price for their wines. Customers are willing to pay for the higher quality wine produced. This option may not be available to some growers, because the economies of scale in this situation does not allow them to farm in such a way without greater losses to their profit margins.

Moreover, some growers noted that the premium for organic grapes may be decreasing or that organic wine grapes do not receive the same premium as other kinds of organic produce in the first place. In the case of the former, this can be attributed to several developments. (1) The premium growers receive on wine grapes depends largely on the price of a bottle of wine that can be obtained in each region. (2) Some of the larger wineries that purchase grapes from growers in the region have monopoly power and are depressing the prices they are paying for organically grown wine grapes. (3) There may be an influx of growers joining the ranks of organic producers, and the increase in supply of organic wine grapes in the regional market is resulting in less competitively-priced wine grapes. As an example of (3), Franzia Wines, one of the largest growers in the Central Valley (and the proprietor of the renowned “Two-Buck Chuck”), may simply be moving with the market by converting a sizeable portion of his vineyards (1,000 acres) to organic production.

Support systems inherently cater to conventional growers

At present the curriculum in schools and technical support systems for individuals looking to establish vineyards are developed around conventional growing methods. Those who want to farm more sustainably must go out of their way to find resources to do so.

There are emerging studies about how the quality of wine differs between wine that is produced by organically- or biodynamically- versus conventionally-grown grapes. A study from Harvard found that organic and biodynamic wines scored higher in taste by measurable amount. However, there is not a critical mass of studies confirming this conclusion, so it is less compelling as evidence to growers and consumers about the merits of more sustainably-grown wine grapes and wine.

More to the point, many growers do not have better information about the impacts and potential gains from transitioning to more sustainable growing practices. At present, there is a dearth of research in sustainable and organic agricultural practices, with about 1 to 2% of all funding being allocated to research about organic agriculture. This funding gap can be attributed to the fact that big companies like DOW and Monsanto are typically the largest funders of agricultural research. At present, there is not enough research conveying to growers the impact of organic practices on long-term wine grape yields or on wine grape and wine quality. Without more hard evidence to support claims about the benefits of sustainable agriculture, wine grape growers as a community will continue to subscribe to dogma that the risks involved in growing more sustainably and organically outweigh the potential benefits.

Limited interactions between tribes and wine grape community

There is limited interaction between tribes and growers in the region—a likely legacy of the historic hostility from settlers toward tribes in the region. This lack of engagement at present will present a challenge to the partnership-building that is necessary for the prospective co-stewardship agreements with vineyard owners to take place. Private landholders need to feel that they know and trust the individuals they would be allowing onto their properties.

Generally, though not in absolute terms, the wine grape community has little experience or understanding about how to initiate conversations with and invite indigenous groups to collaborate on projects. Some growers would have been open to collaborating with tribal communities, had they known sooner that tribal communities were interested in working with them.

Legal liability

Many growers are inherently averse to the risks of opening private lands for public access to tribal communities (and just the general public). As property owners, they are legally liable for any harm that comes to visitors and want to avoid lawsuits resulting from accidents on their properties.

INCENTIVES: Pursuing Land Management Partnerships with Tribes

Social equity in the "sustainability" movement

While "organic" and "biodynamic" as standards focus primarily on the process of growing wine grapes and the direct impact of those practices on the land, they are silent about the other implications of a vineyard's operations. In Sonoma County, the sustainability movement aims to compel growers to

look beyond the impacts that growing has on the environment to include the human relations impacted by vineyard operations.

The movement aims to promote the "triple-bottom-line" as a business model that focuses on the economic, environmental, and social equity impacts of vineyard practices. The Wine Institute in California has assembled a "Sustainability Code" (a comprehensive handbook) used by growers to assess their sustainability and determine their certification eligibility. The Sustainability Code contains several subsections with guidelines pertaining to certain areas of sustainable practice and provides examples of opportunities for growers to increase their sustainability score in a particular section. A grower's total sustainability score will be the sum of the composite scores in each section.

The "Social Equity" section governs primarily relationships between vineyard owners and their employees but also relationships between vineyard owners and the larger community. It is possible to promote the practice of entering into co-stewardship agreements with tribes as a way for growers to elevate their "Social Equity" score in the overall sustainability rating system.

Wine grapes in the region are sold with a story

All growers acknowledge the market power and cultural cache of wine grapes. Wine and wine grapes tend to attract both growers interested in telling a story and consumers interested in hearing the story while their wine. Growers are aware that their neighbors prefer to live next to organic growers, since everyone is afraid, with cause, of the negative health impacts of pesticides.

Most growers believe that the greatest challenge lies in communicating to consumers that it is worth spending more on sustainably-grown wine due to the benefit to their health, the environment, and their larger community.

Maintaining the value of the land

Landowners from the agricultural community have an interest in ensuring that they can profit from their land—whether it is by deriving income through agriculture or from investments on the land that offer them an alternative income stream. Landowners also value being able to control the fate and character of the land beyond their tenure as active title holders. Many growers see "sustainability" as a means to ensure that their vineyards have the potential to be farmable within their families for future generations.

Conservation easements enable landowners to dictate the use of land after a private land holder's death. Easements are a kind of contract between an easement holder and a landowner that enables the holder to restrict certain land uses in perpetuity on lands owned by landowners in exchange for an annual property tax deduction for the landowner. The value of the use rights ceded are subtracted from the overall land value once an easement is placed on them. The land is appraised at a lesser value, since there is less that a property owner (present and future) can do with the land. Easements therefore allow landholders to obtain monetary value from their land that they can reinvest elsewhere (as capital for their farming business or for other personal reasons).

Often, landholders will opt to have easements placed on their land for one or all of these common reasons. (1) They want to free up capital to invest in other aspects of their business; (2) For estate planning purposes, they want to ensure the smooth transfer of property among heirs who may not all want to continue farming the land but who still want to receive their fair share of the land's value, and easements are a way to avoid subdivision of properties and to keep it in agricultural use. (3) They no longer want to actively manage their property, but still want to live on land and have it provide them an active income stream. (4) They have a love of agriculture and their properties and see an easement as a means to help them preserve this way of life for the next generation.

In this region, wine grape growing is a prosperous industry, so the latter situation is more common and vineyard owners are beginning to explore the possibility of having agricultural easements (a type of conservation easement) placed on their lands. Moreover, while some of the sustainable growers have or are interested in placing easements on their lands, vineyard owners as a majority are not rushing to put easements on their lands, given that most vineyard owners want their children to have flexibility with how they will utilize the land.

Existing work and opportunities to work with vineyard owners

Property owners usually often work with public resource management agencies—like the Natural Resources Conservation Service (NRCS) and county Resource Conservation Districts (RCDs)—who support land and agricultural operation improvement projects they are interested in pursuing. Both the NRCS and the local RCDs have well-developed or are developing agricultural support programs to defray the costs for farmers of transitioning to more sustainable growing practices—many of which focus on improving irrigation efficiency and promoting soil health.

Local land trusts are now expanding their mission to protect lands for agriculture alongside wild spaces with the aim of scaffolding the agriculture community into their broader conservation work. The mission expansion provides opportunities for farm owners to work with nonprofits to offset the costs of farming more sustainably and managing conservation and agriculture easements on their properties.

The Wild Farm Alliance (WFA), a national coalition of growers and ecologists, was established in 2000 to promote biodiversity in open spaces alongside with sustainable farming practices. The WFA (1) educates farmers about more sustainable practices that promote biodiversity, (2) has worked with organic certifiers nationwide to modify the organic certification process so that it better examines and verifies that farmers are faithfully adopting organic practices, and (3) supports policy development that promotes biodiversity in farming. Several WFA board members are from the counties in the North Coast.

WFA's latest project in the California North Coast region involves identifying vineyards that have adopted best practices to enhance biodiversity on their lands. They are currently mapping wine grape growers by eco-label (sustainable, organic, biodynamic). While the project is still developing, WFA hopes the project will promote awareness and wider adoption of best biodiversity enhancing practices in the region and that it will drive the direction of their policy work in the future. One grower from the region, as a board member of WFA, aims to help the farm community think beyond the type (sustainable,

organic, biodynamic) of farming that they practice and focus instead on designing farm operations that support rather than detract from wildlife.

The mapping project may present an opportunity for tribes to identify and connect with growers who may be amenable to co-stewardship agreements on their vineyards. There may also be an opportunity for tribes to serve in an advisory capacity to the work (which happens both directly with growers on the ground and at a policy level) if they choose to develop a relationship with WFA and involve themselves in WFA's work in this region.

(C) Examples for OPTIONS (A) & (B) from Stakeholder Interviews

Tribe purchases land in fee (with the help of a land trust)

In 2015, the Kashia Pomo completed the purchase of 688 acres of land (known as the Kashia Coastal Reserve) with the help of The Trust for Public Land—an undertaking that took several years and the collective fundraising and administrative efforts of several county agencies, private donors, and local nonprofits.

Establish conservation easements on (a portion of) private land with a tribe as the easement holder

Even tribes in the Pacific Northwest, whose rights to cross over private land to access tribal sites have been enforced by federal courts, have needed to take additional measures to allow them to practice more active access rights—their management responsibilities including river restoration and fish recovery. One of these measures are conservation easements. The Nez Perce tribe utilized conservation easements to prevent housing development on certain lands on which they wished to complete river restoration and fish recovery work in McCall, Idaho.

Establish conservation easements on (a portion of) private land with a public agency or a private organization the easement holder

As one of the public funders of the project, SCAPOSD holds two easements over certain segments of the Kashia Coastal Reserve. The Kashia Pomo worked with The Trust for Public Land to broker the land acquisition between a private landowner and the tribe to create the Kashia Coastal Reserve. TPL functioned as a fundraiser and facilitator who negotiated the terms of the overall land acquisition as well as the conservation easements that were placed on portions of the land with multiple public stakeholders (funders and easement holders, including SCAPOSD).

In California, certain members of the Mountain Maidu tribes have been able to access lands held by local private land trusts in their area for gathering purposes. This access has not yet been officially recorded in the conservation easements the trust holds over those lands. The Maidu Summit Consortium's work with landowners, up to the present, has primarily involved helping landowners manage lands to comply with the conservation easements placed on them. Because the Maidu have developed good working relationships with the local land trusts, who are sensitive to the Maidu's needs, often involve them in the work to maintain lands they oversee that are protected by easements.

The Maidu are often consulted by the local land trusts to help them decide what measures to take to protect and manage lands with sacred sites on them. The local land trusts have consulted the Maidu throughout all phases of a conservation easement—during the negotiations and establishment of an easement and/or after an easement has been formally placed on land.

The Maidu Summit Consortium has also expressed interest in developing conservation easements (that would ensure their right of access and an increased co-management role) with timber groups in the Sierra Nevada region who are interested in cultivating sustainable forestry practices that align with tribal resource management principles.

In Mendocino County, the Cahto tribe at Laytonville Rancheria has secured a cooperative/general services agreement with the Redwood Forest Foundation, Inc. (RFFI). RFFI holds a conservation easement over portions of the Usal Redwood Forest (established in 2011) with the aim of preserving the area as a working community forest on which they would pursue sustainable forestry and carbon sequestration projects. The board members of the RFFI initially reached out to the tribe about providing them access to an oak grove in an area of the forest that has cultural significance to the tribe (for acorn gathering) in 2009, but through the general service agreement, the tribe has since become more involved in the forest management work, participating in commercial thinning projects. Sherwood Rancheria has begun negotiations with Lyme Forestry Company about an access agreement using the cooperative/general services agreement that the Cahto tribe has developed as a template.

Both the Jamestown S'Klallam Tribe and the Nisqually Tribe in Washington have developed strong relationships with their local land trusts that have enabled them to access and complete fish and wildlife habitat restoration projects on easement lands and that have helped them identify future land acquisition opportunities.

In Washington, the Jamestown S'klallam Tribe works closely with the North Olympic Land Trust (NOLT) who assists their watershed restoration efforts by reaching out to landholders residing on the lower half of the Dungeness River, working in concert with the Tribe to secure easements along the floodplain and riparian zones extending past their properties. In practice, the Tribe purchases lands along the Dungeness River for habitat protection and restoration purposes. Both NOLT and the tribe hold and manage conservation easements. Often, the Tribe's Natural Resources Department (DNR) could not pursue these watershed and salmon restoration projects in those areas without placing the riverbeds back into public ownership. The Tribe refers landowners to NOLT who works with landowners to establish and maintain easements (with the Tribe's input) on their properties. There is no formal MOU between the Tribe and NOLT.

The Nisqually Tribe works with the Nisqually Land Trust (NLT) to maintain lands under the four easements the land trust holds. The Tribe has an MOU with the NLT that allows the Tribe's Department of Natural Resources (DNR) to complete restoration projects on lands that NLT holds. The Tribe does not currently have a formal agreement with the NLT, because they have agreed it is not necessary for the partnership to continue. This partnership has advanced opportunities for the Tribe to acquire lands that the land trust might acquire in the future. However, it is important to note that the land trust was developed as an arm of the Nisqually consortium (the Nisqually River Council) that

works with private landowners to buy back lands with the express possibility of those lands being eventually transferred to the Tribe if and when the DNR determines it has the capacity to oversee them.

Tribes form a nonprofit consortium to hold conservation easements (and/or land in fee)

In Northern California, the Maidu realized they needed to form a consortium after their experience working with public agencies on a landmark land costewardship project. Starting in 1998, the Maidu co-led a pilot land stewardship project with the USFS on 2,100 acres of land in Plumas and Lassen National Forests near Greenville, California that was meant to restore an ancestral Maidu village and to demonstrate the practice of TEK on national forest land. The project was one of 28 national USFS stewardship pilot projects testing experimental management techniques and the only project co-led by a tribal entity. However, their efforts to manage lands using TEK principles was often impeded by the bureaucracies within their public agency partners. The tribe came to the realization that they needed to have more unfettered access to land to demonstrate and validate the efficacy of TEK unimpeded.

The Maidu Summit Consortium & Conservancy began as an informal convening of local tribal groups strategizing around how to reclaim land and to increase tribal stewardship of ancestral lands. The consortium formally convened in 2009 after learning of a precipitous opportunity in 2003 for the Mountain Maidu tribes to purchase parcels of their ancestral territory from PG&E. (After a bankruptcy scandal in the 1990s resulted in a court settlement requiring the agency relinquish and make their surplus public lands available for donation/distribution for public benefit.) The stewardship council, a body established for the express purpose of overseeing the PG&E land transfer process, was reluctant to transfer stewardship of the land to the Maidu, since they were a seen as a collection of fractionated and dispersed tribes in the region that were not capable of holding, managing, and raising the funds necessary to do the restoration work on the land.

Once the consortium was formed, it gradually developed relationships and standing in the community that enabled them to be considered as serious contender by PG&E for the lands (their competition included the U.S. Fish and Wildlife Services). After a couple rounds of applications and reviews from the Stewardship Council, a body appointed to oversee the land transfer process, the consortium was recommended in 2013 for donation of six parcels of land (totaling over 3,100 acres—consisting of a 2,340-acre parcel commonly known as Humbug Valley and five parcels amounting to 800 acres located around Lake Almanor). At present, they are in the final phases of the transaction and will have access to the lands to begin their planned restoration projects by late 2017 to 2018.

In San Diego, the Kumeyaay Nation has chosen to pursue its land acquisition projects for cultural resource protection purposes through a consortium model, because the process of purchasing land and placing it into trust through the CFR process is "expensive, political, and contentious". (That

being said, holding land jointly in a land trust or conservancy does not replace the need for the "land into trust" process, which is essential for individual tribes to expand their land base to accommodate housing, economic development and governmental services).The Kumeyaay bands felt that they could still protect their ancestral lands by placing them into a conservancy—rather than going through the trust process—and went on in 2005 to form the Kumeyaay Diegueno Land Conservancy (KDLC), a nonprofit consisting of 9 Kumeyaay bands. The land conservancy also allowed them to raise their public profile collectively in public forums (public consultation hearings set up by developers mandated by CA SB52 or CA SB18) where they resisted against development projects that would impact sites of importance to them.

For the KDLC in San Diego, given how widely spread the 12 Kumeyaay bands 12 Kumeyaay bands are across San Diego—with their traditional territory ranging from the Pacific Ocean to the Colorado River and 75 miles north and south of the international border with Mexico—and due to the need to respect the sovereignty of the individual bands, the land trust structure and nonprofit status provided an additional mechanism to pool their resources and to concentrate their efforts collectively to conserve cultural and biologically important places and a joint vision for conservation and cultural preservation.

In San Diego, some public agencies have developed dynamic government-to-government relationships with local tribal communities. While federal law requires public agencies, like the San Diego Association of Governments (SANDAG) and California Department of Transportation (CALTRANS), to consult with tribes in their work, tribal consultation is not always practiced in good faith. The ex-director of CALTRANS Region 11 (San Diego) saw the need for more substantive engagement with tribal communities and pushed for the development of tribal consultation processes at the agency, hiring the first tribal liaison at CALTRANS. After he was transferred to SANDAG, he pushed for similar tribal consultation processes to be developed at SANDAG.

The government-to-government relationship that has since been established between tribes in the region and SANDAG began developing in 2004, when the SANDAG tribal liaison became involved in a project funded by CALTRANS and led by the now defunct Reservation Transportation Authority (an intertribal organization that use to consist of 14 federally-recognized tribal governments), to explore the tribal consultation process. SANDAG became formally involved after the organization, who was having challenges getting the project up and running, requested assistance from SANDAG. As SANDAG developed relationships with the tribes in this region, it realized that it needed to identify a counterpart at the Southern California Tribal Chairmen's Association's (SCTCA)—an intertribal consortium of tribal chairpersons in Southern California—who would be able to speak to the collective concerns of tribes in the region. The SCTCA responded by hiring their own liaison who would be responsible for communicating the tribes' collective concerns to the SANDAG's tribal liaison, who would then pass these concerns on to the leadership at SANDAG. SANDAG continued growing the relationship by developing trust with the chairperson of the SCTCA and establishing the buy-in of local elected officials in San Diego. This process culminated in the first intertribal summit about issues of concern to tribal communities in the region. Eventually, SANDAG signed an MOU formalizing their government-to-government relationship with the SCTCA in 2007.

The government-to-government model between SANDAG and SCTCA allows tribes to send representatives to the SANDAG board and advisory committees and place their transportation needs on SANDAG's agenda. Prior to this relationship, tribal interests were underrepresented, since the Regional Transportation Plan (RTP) dictates that public agencies prioritize their efforts in more heavily-populated areas—urban areas. Under this plan, rural and tribal areas are often underserved and unable to compete for resources to address their transportation concerns on par with urban communities.

Tribes cultivate informal access agreements with individual landowners (and cooperative agreements with timber companies)

In Washington, the Nisqually tribe and the partnerships they have cultivated has made possible all the salmon recovery and watershed restoration work they have been able to pursue through the Nisqually River Council. The tribe's Department of Natural Resources (DNR) has led this work in the region for over 30 years. In the 1970s, Nisqually tribal leader Billy Frank decided to forego the "rights-based" adversarial approach to achieving the tribe's watershed and salmon recovery goals in favor of developing voluntary partnerships with the private landholder community based on a platform of "shared values"—about how the tribe and the non-native community wanted their homes to look in 50 years. This tactical decision was especially meaningful since the tribe's restoration efforts took place shortly after the SCOTUS ruling in United States v. Washington (1974)—commonly known as the Boldt Decision—that reaffirmed the fishing rights of treaty-tribes to half of the total available annual fish harvest.

What followed was the development of a wide network of relationships between the local agricultural community and the Nisqually tribe that began with the friendship that Frank developed with local dairy farmer Jim Wilcox. Wilcox proved to be a critical friend and asset to the tribe—spending much of his life working with the tribe to develop stronger ties to the local private landholder community and securing their cooperation to support the tribe's watershed and salmon restoration work. The tribe's Department of Natural Resources (DNR) has been able to establish buy-in gradually from local farmers to support salmon recovery restoration by (1) capitalizing on the informal relationships they have developed with the farm community and (2) developing these relationships through their mutual interest in preventing urban sprawl or urban development from encroaching on their lands.

For the most part, the Nisqually tribe has chosen to keep the working relationships they have developed with the non-tribal community informal rather than formalizing them through MOUs. They have decided to treat each other as neighbors, rather than contracting parties, that work on a "a project-to-project basis" with a shared understanding that there is an open-door access policy for collaboration in the future. However, the durability of their relationships and the continued access they provide to privately-held lands are possible, because the institutions that oversee the natural resource

management in this area (the Nisqually River Council and the Nisqually Land Trust) have, since their inception, integrated both tribal and non-tribal leaders in their decision-making bodies.

In Hawaii, a stewardship agreement between a native nonprofit and the private landowner of property with a culturally-significant spring site paved the way for The Trust for Public Land—who was working with the native nonprofit at the time—to acquire the land on their behalf. The native nonprofit initially approached the landowner about establishing a stewardship agreement that would allow them to provide free maintenance services—removal overgrown vegetation—on and near the spring on his land. The agreement gave them access rights to care for the spring and cultural sites around the spring. The relationship this landowner had with the native nonprofit eventually played a role in his decision to sell their property to TPL.

The recent Kashia Coastal Reserve land acquisition project in Sonoma (688 acre) also started with a personal relationship that the Kashia Pomo tribe had with the landowners. This relationship made the acquisition easier to complete, since there was wide support in the community and from the private landowner—leaving the time and work of drawing up the terms of land use in the agreements and fundraising for the purchase as the primary hurdles.

In Mendocino County, the Intertribal Sinkyone Wilderness Council (ISWC) was given 164 acres of land owned by Save the Redwood League in 2012. The parcel of land served as an important cultural site that the ISWC had been attempting to reacquire for 15 years from Save the Redwood League before they finally relented and gave the land to the ISWC. The ISWC had to overcome the initial doubts Save the Redwood League had about whether the ISWC could properly care for the land—a doubt which may have diminished over time as it saw the ISWC successfully pursuing and managing various land stewardship projects.

One vineyard owner in Mendocino is part of an informal agreement with a small group (~20) of basket weavers from a local tribe (Yokayo) allowing them access his property to collect grass for basket-weaving. However, he was only comfortable enough to agree to this arrangement, because he had a friend who was a basket-maker who could vouch for the individuals seeking access.

Similarly, a vineyard manager at Bonterra/Fetzer Vineyards agreed to provide access for a local tribe to a burial ground on/near the vineyard in the 1990s. The manager has since left the company but still lives and grows in Mendocino County as a prominent member of the wine grape community.

Other tribes in the region (from Sherwood Rancheria in Mendocino County and Big Valley Rancheria in Lake County) also spoke of these kinds of informal agreements being common among specific tribal members and the private landholders (usually from the ranching community).

In the Bay Area, Valentin Lopez, chairman of the Amah Mutsun tribe (a federally-unrecognized tribe), has developed a partnership with Pie Ranch, a working farm that aims to promote healthy food systems by hosting farm-based programs and activities. The partnership began when Lopez first met

Jared Lawson, executive director of Pie Ranch, at a meeting hosted by the Midpeninsula Open Space District (MOSD). The two were among a group of community members that were invited by the MOSD to sit on the oversight committee during a revision of the district's General Plan. The conversations that began during the meeting eventually progressed into an enduring partnership culminating in an agreement between the tribe and Pie Ranch to develop a Native Plants Garden on a portion of their farm—a permanent demonstration and teaching space for the Amah Mutsun tribe.

Elsewhere in California, the Maidu Summit Consortium has been actively cultivating relationships with local timber companies. Collins Pine Company has invited the Maidu Summit Consortium to consult on Native American Traditional Ecological Knowledge principles and general land stewardship—providing them with the opportunity to incorporate comments in the company's forest management plan. The company has also elected for one of its biologists to serve as a member of the consortium's ecological resources group. The Consortium aims to begin conversations with another company—Soper-Wheeler Company—and generally believes these relationships will pave a gradual path to their increased influence over forest and overall land management planning in the wider region over time.

INDIRECT ACTION: IN-ROADS TO THE PRIVATE LANDHOLDING COMMUNITY

Special collaborative projects to depolarize the relationship between tribes and the landholding agricultural community

In Washington, the Tulalip tribe worked with local dairy farmers to develop a cooperative clean energy biogas facility that transformed cow manure (among other natural wastes) into methane gas. The project addressed tribal concerns around protecting water quality in the watershed (by preventing livestock waste from contaminating the river) while offering an income generating opportunity for dairy and livestock farmers in the area (where dairy farming was becoming increasingly less profitable).

In California, the Karuk tribe has been a partner for several years in a large salmon recovery project involving the removal of four hydroelectric dams along the Klamath River in two different states. The negotiation process involves a large swath of stakeholders—including commercial fisherman and other corporate agricultural interests along the Upper-Klamath Basin that are reliant (as is the regional economy) on access to water. After a period of intense fear and tension, driven more by ideological misconceptions than real differences in interests, the tribal community has developed a tentative working relationship with the agriculture community to move forward on dam-decommissioning for salmon recovery efforts—based on the understanding that they share a common future that involves ensuring that water is accessible for all.

On a smaller scale, the Karuk tribe has also co-led with the non-tribal community an effort to revitalize local orchards spread across both privately-held land and federal land (that either belonged to a former homesteader or was individually allotted to a member of the tribe). The orchard is now a fixture in the community where people can pick fruit and juice.

The Maidu Summit Consortium has plans to pursue hydrology planning and extensive meadow restoration on a large parcel of land (over 2,000 acres) that they will acquire from PG&E by the end of 2017—a large-scale project that will require the cooperation of many stakeholders, including adjacent private property owners. They are devising a plan to allow the some of the money to help an adjacent rancher—who owns 100-200 acres of land—improve his ability to feed and water his cattle while also improving the overall watershed quality. The practice of cattle grazing had long been discontinued in the area due to the impact that grazing has had on soil erosion and water quality (livestock waste contamination reducing the quality of the streams for fish). The consortium has offered to improve the stream along the rancher's property by voluntarily completing restoration work on his land. They have also offered to put up a rail fence to prevent the cattle from grazing near the stream complex and to install solar-powered troughs that will draw water from the creeks into the trough, which will allow the stream course to improve over time. The Maidu and local ranchers have mutual interest in meadow restoration, due to the improvements to the increase in water access and water quality that will result. Meadows hold water more efficiently than the encroaching trees/forest lands. Consequently, meadow restoration will increase the reservoirs of water available to ranchers during the late summer.

Work with public agencies and private organizations to connect with the private landowner community

The Midpeninsula Open Space District's (MOSD) (in the Bay Area) outreach to the agriculture community and general private landowner community focuses heavily on educating them about what "restoration" involves—framing "restoration" and "management" as a neutral process that does not favor habitat restoration at the expense of public access rights for non-native community to the lands they manage. The Amah Mutsun tribe have developed a relationship with MOSD that the agency is open to formalizing through an MOU in the future.

In the Sierra Nevada, Bear Yuba Land Trust (BYLT) has had a 10-year working relationship with Tsi Akim Maidu. Their relationship began when the previous landowner of a parcel of land (known as the Burton homestead) gifted the land to BYLT with the express wish for the land trust to use the land to educate children about environmental stewardship and Native American TEK. The Maidu have access to this land through a unique arrangement with the BYLT. In 2008, the BYLT signed a lease

allowing the tribe to pay an annual $10 fee, a portion of the property taxes, and other fees to rent a portion of the land.

Additionally, for the past five years, BYLT has also been developing a relationship with the Nisenan tribe (Nevada City Rancheria). They have offered the tribe access to specific parcels of the lands they oversee to collect native plants. They have expressed willingness to formalize this relationship in the future. BYLT has also expressed willingness to serve as a "proxy" through which tribes can propose potential land stewardship collaborations with private landowner (the land trust would raise the opportunity with landowner they work with).

Similarly, during the late 1990s in Idaho, the Nez Perce relied on their partnership with an education nonprofit—Wolf Education and Research Center—to ease some of the extreme opposition from a very vocally-opposed ranching community against the Grey Wolf Recovery Program. The ranching community, who believed their way of life and safety were being compromised by the reintroduction of the Grey Wolf into regions of Idaho, were completely opposed to efforts by the tribe to fund the program.

After a period of intense opposition, the tribe decided to let the Wolf Education and Research Center lead the efforts to fund and promote Grey Wolf recovery. They were able to raise and contribute funds for the actual helicoptering in and release of wolves into the wild and to lobby the state and federal government to ensure that they would maintain a compensation program for ranchers who lost livestock to wolf depredation—which alleviated some of the opposition by the ranching community. Holt, one of program leads from the tribe, suggested that allowing the nonprofit—as a relatively neutral entity—to take the lead publicly in advocating for the program—was tactically the most effective strategy for the tribe given how much opposition and prejudice tribes still faced in the larger community.

Develop tribal-vineyard-research institution partnerships to study the economic and environmental impacts of more ecologically sustainable agricultural/land management practices

Near the Sierra Nevada in Northern California, the Sierra Streams Institute have helped the Nisenan tribe develop a youth tribal council that will help them develop a management and restoration plan for 80 acres of open space reservation land. This pilot collaboration will allow tribal members, youth, elders, scientists, and landowners to co-create a management and restoration plan for the land. The Sierra Streams Institute also encourages civic groups and organizations to reach out to them about questions that they can include in their watershed and water quality research.