

Practice Notes From Indigenous Food Sovereignty Projects

Enhancing Indigenous Food Sovereignty and Community Health Through the Karuk Agroecosystem Resilience Initiative: We Are Caring for It: xúus nu'éethi

Jennifer Sowerwine, PhD¹

Megan Mucioki, PhD²

Daniel Sarna-Wojcicki, PhD¹

Kathy McCovey, BA³

Lisa Morehead-Hillman, MA⁴

Leaf Hillman⁴

Frank K. Lake, PhD⁵

Vikki Preston, MA⁶

Shawn Bourque, MA⁶

Indigenous communities in the United States experience some of the highest rates of food insecurity and diet-related diseases despite an abundance of food assistance programs and other public health interventions. New approaches that center Indigenous perspectives and solutions are emerging and urgently needed to better understand and address these challenges. This Practice Note shares lessons learned from ongoing collaboration between the Karuk Tribe and University of California, Berkeley researchers and other partners to assess and enhance food sovereignty among Tribes and Tribal communities in the Klamath River Basin. Through two participatory research and extension projects, we demonstrate the importance of centering Indigenous knowledge to strengthen research findings and identify more culturally appropriate solutions to community identified food access, health, and ecosystem challenges. Key findings suggest that approaches to food sovereignty and community health must emanate from the community, be approached holistically, reflect community values and priorities, and center Indigenous land stewardship.

Health Promotion Practice

November 2023 Vol. 24, No. (6) 1096–1100

DOI: 10.1177/15248399231190368

Article reuse guidelines: sagepub.com/journals-permissions

© 2023 Society for Public Health Education

¹University of California, Berkeley, Berkeley, CA, USA

²The Pennsylvania State University, University Park, PA, USA

³Karuk Cultural Practitioner, Happy Camp, CA, USA

⁴Karuk Cultural Practitioner, Orleans, CA, USA

⁵US Forest Service, Arcata, CA, USA

⁶Karuk Tribe, Orleans, CA, USA

Authors' Note: This work was supported by the Office of Minority Health Grant 1 CPIMP211317-02-00. This research was funded by the USDA—National Institute of Food and Agriculture-Agriculture and Food Research Initiative—Food Security Grant 2012-68004-20018 and Resilient Agroecosystems in a Changing Climate Challenge Area Grant:2018-68002-27916. Address correspondence to Jennifer Sowerwine, Department of Environmental Science, Policy, and Management, University of California, Berkeley, 130 Mulford Hall #3114, Berkeley, CA 94720-3114, USA; e-mail: jsowerwi@berkeley.edu.

Supplement Note: This article is part of the Health Promotion Practice focus issue titled, “Indigenous Food Sovereignty as a Path to Health Equity.” The issue presents community-academic partnerships that advance health guided by a decolonizing and Indigenous framework. We are grateful to the Center for Indigenous Innovation and Health Equity, funded through the Office of Minority Health (CPIMP211317), for providing support for the issue. The entire issue is available open access at: <https://journals.sagepub.com/toc/hppa/24/6>.

Keywords: Indigenous food sovereignty; food security; community health; agroecosystem resilience; Karuk Tribe; Native American; community-academic partnerships; community-based participatory research; health equity; traditional foods; Indigenous communities; Indigenous knowledge; community-academic partnership; decolonization

Colonization disrupted native foodscapes and ancestral practices of caring for the land, through dispossession and imposition of regimes of resource extraction (Carroll, 2015; Coté, 2019; Sowerwine et al., 2019; Todd, 2017). Decades of food assistance programs rooted in efforts of forced assimilation promoted highly refined and processed foods, which have contributed to high rates of diet-related diseases and other health challenges in Indigenous communities (Mucioki et al., 2018). Since 2008, the Karuk Tribe-UC Berkeley Collaborative (KBC) has been working together to support the Karuk Tribe's eco-cultural revitalization goals through collaborative research, education, and outreach. Using principles of community-based participatory research, we co-create research questions and methodologies that center Indigenous perspectives. Our process integrates Indigenous and Western science to address Tribal concerns and priorities related to food security, climate and land management effects on cultural landscapes, strengthening knowledge and data sovereignty, and youth development and leadership opportunities (see, for example, KBC, 2023; Kim et al., 2020; Sowerwine et al., 2019). This Practice Note shares practical steps and lessons learned from working collaboratively with the Karuk Tribe through two U.S. Department of Agriculture (USDA)-funded projects to support food sovereignty, promote healthy ecosystems, and advance Tribal community health. The process, findings, and lessons learned in our projects closely align with many of the values that guide the Center for Indigenous Innovation and Health Equity (CIIHE) which frames this special issue (Jernigan, Demientieff, et al., 2023). In this article, we describe the importance of listening to and learning from Indigenous communities in identifying and addressing community health and food system challenges. Key learnings highlight the importance of revitalizing Indigenous land stewardship to advance community well-being and ecosystem health and resilience.

► TENDING THE LAND FOR FOOD SOVEREIGNTY

From 2012 to 2018, the KBC carried out a Klamath Basin-wide food sovereignty project, aimed at assessing and addressing the experiences of and Tribal solutions to food insecurity. Listening to our Tribal colleagues, we adapted USDA household food security modules to be more culturally responsive, asking questions about access to native foods, intergenerational knowledge sharing, and barriers to healthy and native food access (Sowerwine et al., 2019). Our findings were striking—in a survey of 711 Karuk, Yurok, Hoopa, and Klamath Tribe households, 64% relied on some form of food assistance, yet 92% of all households still experienced some level of food insecurity, demonstrating that conventional solutions to food insecurity were insufficient. We found that having access to native foods was a strong predictor of food security, yet only 7% had reliable access to native foods at all times. Tribal-identified barriers to native foods centered around both policy and environmental factors, namely poor quality and condition of their native foods due to a legacy of land dispossession and colonial resource management including logging, fire suppression, and mining, as well as risks posed by climate change (see Figure 1).

We learned that by centering Indigenous voices in the assessment process, our findings and thereby solutions to food insecurity were vastly different than had we utilized Western research methods alone. While food assistance was critical, Tribal priorities centered on restoration of the land and waterways through cultural stewardship to increase access, availability, and quality of cultural foods and thereby restore healthy relationships among people, plants, animals, and place.

► WE ARE CARING FOR IT: XÚUS NU'ÉETHTI

Building from what we learned from our Tribal partners about strategies for strengthening food sovereignty, we collaborated on a follow-up USDA grant (2017–2022), the “Karuk Agroecosystem Resilience Initiative: *xúus nu'éethti*—we are caring for it,” to assess the health and condition of 20 cultural use species such as tanoak acorns, huckleberry and hazel, and the habitats in which they grow (KBC, 2023). The overall quality, yield, and condition of the majority of the cultural use species we assessed reflect both the devastating impact of colonial land management practices and clear evidence of climate stress such as premature senescence

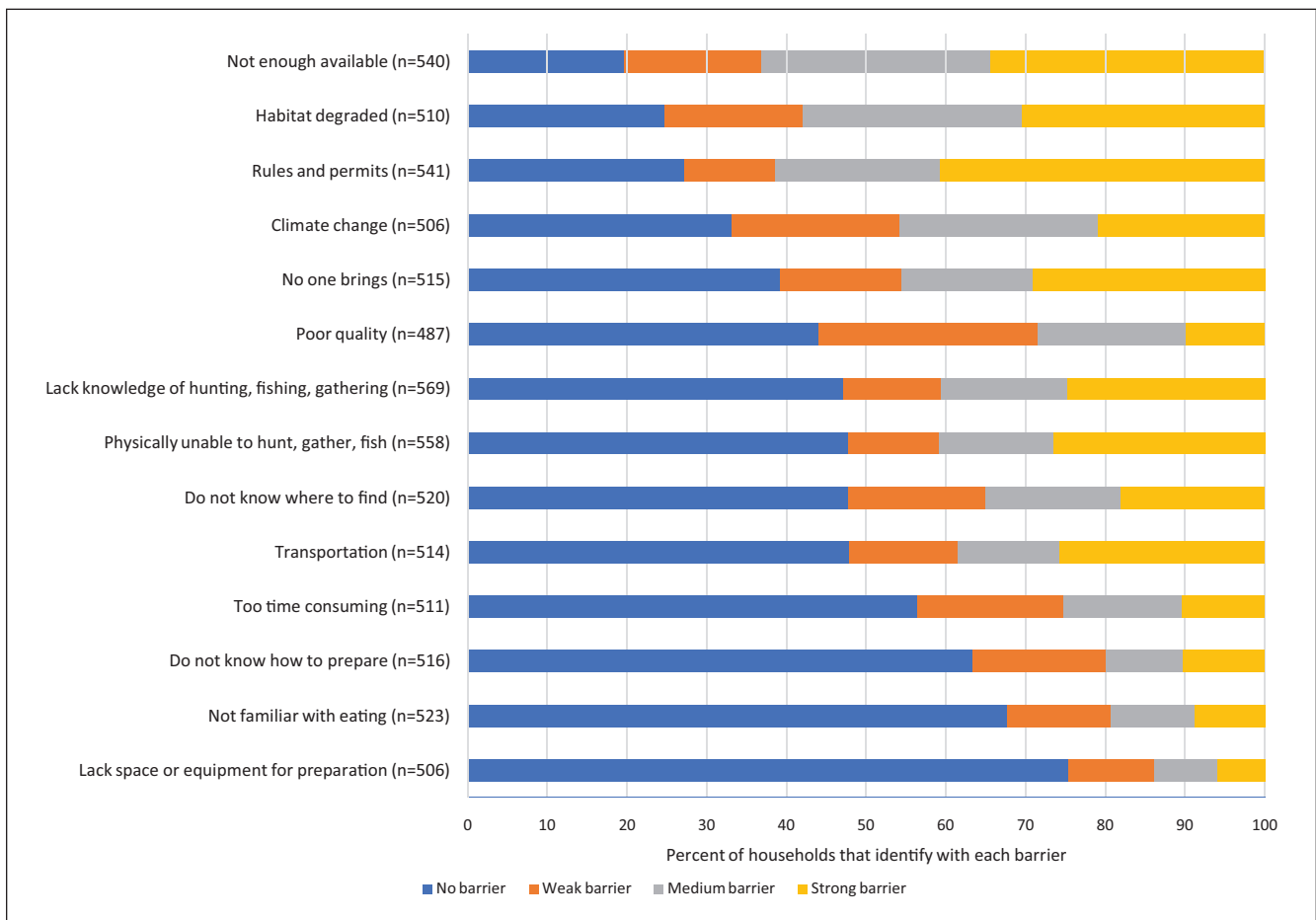


FIGURE 1 Barriers to Native Foods

and aborted fruits. Forced exclusion of cultural management is reflected in encroachment of invasive and less fire adapted species, inappropriate canopy cover (i.e., less sunlight), and poor quality harvests. The findings suggest an urgent need for active cultural management to restore healthy ecosystem processes and increase the consistency and quality of harvests, as well as ongoing monitoring of species experiencing climate stress to inform future management. Cultural practitioners' knowledge and perspectives were vital to understanding land use history, climate observations over time, and observations of plant and habitat quality and condition from knowledge accumulated through intergenerational learning (KBC, 2023). We used our co-produced findings to make policy, management, and monitoring recommendations to enhance the health and resilience of these agroecological cultural landscapes and the people that steward them.

➤ CARING FOR PEOPLE AND PLACE: LESSONS FOR FOOD SOVEREIGNTY AND HEALTH

Indigenous peoples are central actors in promoting ecosystem health and the abundance and resilience of native food species (Jernigan, Maudrie, et al., 2023). Cultural practices such as low-intensity fire, weeding, pruning, and transplanting improve the health and resilience of environments and, in turn, enable food security, sovereignty, and healthy people as tangible outcomes of these reciprocal relationships (Halpern et al., 2022; Marks-Block et al., 2021). Law and policies, such as the Kaurk Land Back Bill (H.R. 6032, 2022), that support not only Indigenous relationship with land but also jurisdiction and agency connected to Indigenous lands and stewardship are essential to this process (Mucioki et al., 2021).

TABLE 1
Key Considerations When Working in Partnership for Indigenous Food Sovereignty

Centering Indigenous knowledge and experience in food sovereignty work is key to asking the right questions, generating more meaningful data and informing more culturally relevant community-identified programmatic and policy solutions.
Advancing food sovereignty requires strengthening familial and community relationships with land and food and removing policy barriers to enable long-term land stewardship.
Healthy food access interventions must take into consideration holistic community values and priorities associated with self-determination including the ability to procure, share, and exchange culturally appropriate foods, strengthening family and community relations and intergenerational knowledge exchange.
Academic–community food sovereignty partnerships require deep listening to and learning from Indigenous communities, equitable commitment of funding to Indigenous partners to enable full participation, co-creating research agendas, and facilitating community-identified solutions.
There is an inextricable link between food sovereignty, ecosystem health, and Indigenous health, which requires taking a critical look at ongoing harms caused by Western scientific colonial food and land management policies and practices, and approaching inquiry and healing in a more holistic, transdisciplinary way, centering Indigenous knowledges, experiences, priorities, and wisdom to restore healthy relationships.

Engaging in climate monitoring and restoring cultural stewardship practices enhance the quality and abundance of cultural foods, promote climate adaptation, and also support mental, physical, and community health. For example, they promote intergenerational knowledge transfer, physical activity, strengthening social relationships, and (re)connecting Tribal people with culturally important places (see also Jernigan, Maudrie, et al., 2023). Kathy McCovey (Indigenous traditional ecological knowledge, personal communication, February 15, 2023), a Karuk cultural practitioner, archeologist, forest ecologist, and project collaborator, explains,

Through this project we are learning how to reconnect with place. In learning about and tending these areas, we are tending our family gardens. It's all about people in place . . . We're rediscovering their Karuk names and how those names signal traditional uses of plants in those places. That way we can reconnect with the places our families come from.

Reconnecting people with place is a tangible step toward healing from the legacy of colonialism and honoring the resilience of ancestral knowledge of caring for the land, which supports both community and ecosystem health. Kathy McCovey elaborates,

This community has knowledge that's developed and evolved with these lands and we have a responsibility to support the plants in these areas. We had our land stolen out from under us, but we still live here, we still know how to tend and gather plants, we still have our knowledge and our ceremonies. We still have the ability to go out and gather from the

land. We still know how to take care of this place. We take care of the land and it takes care of us.

Through our collaborative process, we have learned the importance of centering Indigenous knowledge, and engaging Indigenous people directly in design, implementation, and interpretation of the results to strengthen our research findings and identify more culturally appropriate solutions to community-identified health and ecosystem challenges. This process centers partnerships and relationships and decenters top-down governance and expertise. It prioritizes the responsibility we have as land grant university partners to ensure ongoing reciprocity, accountability, and humility. Additional recommended practices and lessons learned for academic–community partnerships to advance food sovereignty are found in Table 1.

➤ CONCLUSION

Indigenous health is intimately tied to ecosystem health. Programs that support familial and community relationships with land and food and facilitate long-term place-based community stewardship must be integrated into approaches of Indigenous food security, food sovereignty, and health as an essential paradigm shift in how chronic disparities are addressed. Through the KBC partnership, we have demonstrated the importance of centering Indigenous knowledge in community–academic partnerships focused on advancing Indigenous food sovereignty and will continue to leverage UC resources in support of community desires for increased availability, accessibility, sharing, and

consumption of healthy traditional foods through landscape restoration—key elements for self-determination of healthy bodies, minds, and environments.

REFERENCES

- Carroll, C. (2015). *Roots of our renewal: Ethnobotany and Cherokee environmental governance*. University of Minnesota Press.
- Coté, C. (2019). Hishuk'ish tsawalk—Everything is one: Revitalizing place-based indigenous food systems through the enactment of food sovereignty. *Journal of Agriculture, Food Systems, and Community Development*, 9(A), 37–48.
- Halpern, A. A., Sousa, W. P., Lake, F. K., Carlson, T. J., & Paddock, W. (2022). Prescribed fire reduces insect infestation in Karuk and Yurok acorn resource systems. *Forest Ecology and Management*, 505, 119768.
- H.R. 6032. (2022). Katimiin and Aamekyáaraam Sacred Lands Act.
- Jernigan, V. B. B., Demientieff, L. X., & Maunakeah, A. K. (2023). Food sovereignty as a path to health equity for indigenous communities: Introduction to the focus issue. *Health Promotion Practice*, 24(6), 1066–1069.
- Jernigan, V. B. B., Nguyen, C. J., Maudrie, T. L., Demientieff, L. X., Black, J. C., Mortenson, R., Wilbur, R. E., Clyma, K. R., Lewis, M., & Lopez, S. V. (2023). Food sovereignty and health: a conceptual framework to advance research and practice. *Health Promotion Practice*, 24(6), 1070–1074.
- Karuk Tribe-UC Berkeley Collaborative. (2023). *Karuk Agroecosystem Resilience and Cultural Foods and Fibers Revitalization Initiative: xúus nu'éethiti—we are caring for it*.
- Kim, K. K., Ngo, V., Gilkison, G., Hillman, L., & Sowerwine, J. (2020). Native American youth citizen scientists uncovering community health and food security priorities. *Health Promotion Practice*, 21(1), 80–90. <https://doi.org/10.1177/1524839919852098>
- Marks-Block, T., Lake, F. K., Bliege Bird, R., & Curran, L. M. (2021). Revitalized Karuk and Yurok cultural burning to enhance California hazelnut for basketweaving in northwestern California, USA. *Fire Ecology*, 17(1), 1–20.
- Mucioki, M., Sowerwine, J., & Sarna-Wojcicki, D. (2018). Thinking inside and outside the box: Local and national considerations of the Food Distribution Program on Indian Reservations (FDPIR). *Journal of Rural Studies*, 57, 88–98.
- Mucioki, M., Sowerwine, J., Sarna-Wojcicki, D., Lake, F. K., & Bourque, S. (2021). Conceptualizing Indigenous cultural ecosystem services (ICES) and benefits under changing climate conditions in the Klamath river basin and their implications for land management and governance. *Journal of Ethnobiology*, 41(3), 313–330.
- Sowerwine, J., Mucioki, M., Sarna-Wojcicki, D., & Hillman, L. (2019). Reframing food security by and for Native American communities: A case study among tribes in the Klamath River basin of Oregon and California. *Food Security*, 11, 579–607.
- Todd, Z. (2017). Fish, kin and hope: Tending to water violations in Amiskwaciwâskahikan and Treaty Six Territory. *Afterall: A Journal of Art, Context and Enquiry*, 43(1), 102–107.