

Implementing an Education and Resilience Center for the Northern King Range NCA and Rural Coastal Communities



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ESM 475

April 13, 2022

Acknowledgements

We would like to thank all the people involved in this project. A special thanks goes to Flora Brain from the Mattole Restoration Council for taking the time to share her vision, experience, and time with us. We would also like to thank our professor, Laurie Richmond, for the guidance and encouragement she gave us during this project. Yvonne Everett, co-founder of the Watershed Research and Training Center, Sarah Burak, Director of Education for Cedar Mesa Friends, Jason Wallace, Field Station Manager at the CSU Desert Studies Center, and Laura Perry, a National Park Service Ranger gave their time for us to interview them about education centers and programs they are involved in, so we would like to thank them as well for their insight and expertise. We would also like to thank Julian Lang, Berkeley Language Archive for sharing their resources with us.

Disclaimer

This report is the culmination of work conducted by Cal Poly Humboldt Students enrolled in the Environmental Science and Management Planning and Policy Practicum Class over the spring semester 2022. This work was completed for Flora Brain, their community client. The views and analysis expressed in this report are solely those of the authors and do not necessarily reflect Flora Brain. Care should be taken when using the results from this work for planning purposes and readers should be aware that these findings stem from student analysis. If you have any questions regarding the content of this report or the analysis, feel free to contact the instructor of the course: Dr. Laurie Richmond; email: laurie.richmond@humboldt.edu

Table of Content

1. Executive Summary
2. Introduction
 - a. Project Introduction
 - b. A Quick History
 - c. Where are they today?
 - i. Mattole Watershed Council
 - ii. Local Bear River Band Tribe
 - iii. Town of Petrolia
3. Methods
 - a. Maps and Site Analysis
 - b. Case Studies
 - c. Interviews
 - d. Language Research Guide
4. Maps and Analysis
 - a. Locator Map
 - b. Regional Map and Setbacks
 - c. Natural Resources Map
 - d. Hazard Map
5. Case Studies
 - a. Wolf Creek Education Center, CA
 - b. The Watershed Research and Training Center (WRTC), CA
 - c. Siskiyou Field Institute, OR
 - d. Goodwin Education Center, CA
 - e. Spring Creek Project, OR
 - f. Bears Ears Education Center, UT
 - g. Desert Studies Center, CA
 - h. Grassland Environmental Education Center
 - i. Waipa Foundation, HI
 - j. Southern Nevada Conservancy, NV
 - k. Pacifica: A Garden in the Siskiyou, OR
6. Recommendations For the Center For the King Range
7. Language Guide/Future Tribal Engagement Recommendations
8. Flow Charts of Next Steps
9. References
10. Figures:
 - a.
11. Appendix A Interview Resources
12. Appendix B Case Studies Table

Executive Summary

Introduction

The northern King Range Conservation Area (King Range NCA) is experiencing increasing levels of visitation that is beginning to negatively impact the area. The goal of this report is to make recommendations about how a center could be implemented in the King Range NCA to educate visitors about visiting the area respectfully as well as supporting education and resilience in the nearby community of Petrolia.

Methods

We selected 11 different education centers and programs to use as case studies and draw recommendations from by researching each center and obtaining interviews with four of them. We also analyzed a potential parcel for the center in Petrolia to see what hazards and natural resources might limit development on the parcel. Also, we reached out to the Berkeley Language Archive and other language speakers/resources to create an excel spreadsheet of the Mattole language for future reference and after tribal engagement when the process of naming the center comes around.

Maps and Analysis

The parcel identified as Assessor's Parcel Number (APN) 105-051-009, located in Petrolia, is a potential parcel for the center to be developed with a visitor center, resilience and education center, overnight accommodations, parking, and a community garden. Natural resources that were identified in the parcel include prime agricultural soil, streamside management areas, and wetlands in the form of the North Fork Mattole River. Hazards that were identified in the parcel include 100 Year FEMA Flood Zones and slopes.

Case Studies

We reviewed 11 case studies in the states of California, Oregon, Nevada, Utah, and Hawaii that had unique qualities relevant to the center for the King Range NCA. For each case

study, we provided information about what programs and facilities each center has, how it is funded, where the workforce comes from, how the center engages with the local community, and how local Tribes are involved.

Recommendations For the Center For the King Range

Amenities/Facilities/Programs

Since the King Range NCA is such a remote area, offering short-term housing in the center would allow local students to stay on overnight trips to participate in programs or conduct research, while offering long-term housing would remove the housing barrier for staff. Insulating housing would allow the housing to be utilized year-round rather than seasonally. Adding a community garden would contribute towards food security, and incorporating a commercial kitchen would provide a space for the local community to hold events. Many community members in Petrolia have an interest in art and creative writing, so offering artistic events, opportunities, and spaces to display art could be a way to engage people. Furthermore, incorporating renewable energy into the center would make it more sustainable. Since the King Range NCA is such an educationally-rich area, the center could offer programs that utilize the natural area. Also, a focus on programs that engage the local youth will help teach them stewardship skills. As far as visitation management, incorporating educational and interactive displays in the center would help to educate visitors about how to respect the area.

Workforce/Partners

One potential partner and source of workforce for the center is to work with local non-profit organizations such as the Mattole Restoration Council. Another option is to use the local community as a source of workforce to provide local job opportunities. Several of the case studies work with nearby colleges, so the center for the King Range NCA could explore a partnership with Cal Poly Humboldt and College of the Redwoods to increase resources and provide students with the opportunity to come conduct research in the area. Some of the case studies also work with federal agencies, so the center for the King Range NCA could also explore working with the Bureau of Land Management to see what resources they may be willing to contribute. Furthermore, volunteers could be a big source of workforce by either finding local volunteers or providing housing and other incentives for out-of-area volunteers to stay in the area for a certain period of time.

Funding Sources

One potential source of funding is donations, which can be obtained in a variety of ways: developing a strong mission statement to foster stronger donor support, having appeals once or twice a year to actively seek donations, and seeking out any potential large donors or repeat donors. Another potential source of funding is grants, and several of the case studies stressed the importance of having a staff member that has strong grant-writing skills. If the center were to work with the Mattole Restoration Council or another local non-profit organization, this could be another potential source of funding. Also, if the center were to work with Cal Poly Humboldt or College of the Redwoods, they might be willing to provide funding. The Bureau of Land Management could be another potential avenue of funding if they are willing to contribute towards the center. Furthermore, several case studies obtain funds by hosting events and leasing their facilities, which is another avenue the center could explore if additional funding is needed.

Community Engagement/Involvement

One way the center for the King Range NCA could engage the community is by engaging schools, both by hosting local k-12 schools for day trips or overnight trips and by allowing Cal Poly Humboldt or College of the Redwood students to come conduct research at the center. Another way the center for the King Range NCA can engage with the community is by identifying issues the community may have with the center and discussing ways to overcome these issues and bridge the gap to have stronger community support. The center can also engage the community by hosting events such as educational speakers or dark sky programs for the community to attend. It may be beneficial to speak with community representatives to see what kinds of events the community would be most interested in attending. Another important aspect of engagement is how the center will engage with visitors. Educational displays could be installed in the center to teach visitors about how to visit the King Range NCA without harming it. Furthermore, the center could focus on only advertising locally so people already visiting the area will stop by without attracting additional visitors. Also, financial accessibility is an important aspect of community engagement, so the center for the King Range NCA could consider applying for grants or other methods to make it more financially accessible to the community and visiting schools.

Tribal Involvement

The center for the King Range NCA would like to see engagement with the local tribes. The center should talk to the Tribes early in the process to gauge their interest in working with or even helping to manage the center. Furthermore, the center should consult and work with local Tribes when integrating tribal information in educational displays and educational programs for schools to ensure their story is told the way they want it to be told. The center for the King Range NCA should encourage Tribal engagement by identify potential barriers, such as nearby housing or transportation.

Language Guide/Future Tribal Engagement Recommendations

Having tribal engagement and partnership is an important aspect to have when planning for the center. All tribes are unique in their language, ceremonies, traditions, and tribal governing style and so when you are looking at the northern King Range area it would require and be important to ensure that contact is made with all of the tribes that have ties and shared resources to the land. The two tribal entities specific to contact in the Northern King Range area are the Bear River Band and InterTribal Sinkyone Wilderness Council. Building a relationship with any tribe can take time and require multiple attempts, and allowing tribes the opportunity to to build resiliency and engage themselves in the center and area is an important opportunity for any tribal community. Doing as much research before engaging or demanding any information from the tribe is important to do as a respect for the tribal community and history. Tribes are not responsible for educating people on their involvement with the land, language and culture. An example of a center with tribal partnership for more reference is The Stone Lagoon Center which is under Yurok tribal Stewardship is an excellent case study to refer on tribal engagement and education through a Yurok perspective.

Introduction

Project Introduction

The northern King Range National Conservation Area (King Range NCA) is along the most undeveloped coast in California (Wilderness Connect, n.d). In recent years, the visitation in this part of the King Range rose from 118,590 in 2018 to 203,233 in 2021 (Miles, 2021). Due to a lack of infrastructure and services, the northern area of the King Range NCA is not currently equipped to deal with the increasing amount of use it receives, yet the local coastal community's commitment to its stewardship and capacity to provide interpretation are great assets. The area is currently undergoing high visitation, dispersed camping with improper human waste disposal, and rapid expansion of a new elephant seal colony on the increasingly popular Lost Coast Trail. In addition, opportunities for deeper engagement with King Range NCA visitors, leading to further appreciation of the area's uniqueness, are being missed. The rural nature of this area and surrounding communities like Petrolia contribute to the need for an education/ resilience center that can offer visitor information, environmental education, economic development, and tribal support.

The goal of this project is to create a guide for how a center in or near the northern King Range NCA could be implemented so as to increase education and resilience for communities including King Range NCA visitors and surrounding local and tribal communities. The goal of increasing resilience is to be understood broadly and includes ecological, economic, social, and climate resilience for the coastal communities as well as the lands/waters themselves.

This project involves the research of eleven visitor and educational/resilience centers in remote areas around the United States and information from four interviews with people who are directly involved in the researched models. The objective was to gain an understanding of what kinds of services these centers provide to their local rural communities, how they are funded, how they continue to be self-sustaining and how they engage with their local stakeholders. The findings of this research are summarized into recommendations for how a center in or near the northern part of the King Range NCA could be implemented. Recommendations will include community/tribal engagement pathways, possible workforce pathways, funding, amenities, program suggestions, and facility recommendations. The document also contains GIS maps and analysis to better understand the best uses and hazards of potential sites for a center within the project area. Notably, there is also a language guide and future tribal engagement recommendation included in Appendix C.

The project area has a tribal presence and many interested local organizations, notably the Mattole Restoration Council and Mattole Salmon Group, who have been working in collaboration with US BLM to preserve and restore the northern King Range NCA. The Mattole Restoration Council and Mattole Salmon Group, along with the land and water trust Sanctuary Forest, Inc., constitute the Mattole River and Range Partnership (MRRP.) Working together with dozens of federal, tribal, state, and local agencies, private foundations and consultants, landowners and residents, and multiple Cal Poly Humboldt departments, the MRRP possesses significant experience and capacity for collaborative ecological restoration, education, economic development, and land stewardship. It is joined by additional local organizations including the Mattole Valley Community Center, Mattole Valley Resource Center, the Mattole Grange, and local Volunteer Fire Departments. Lost Coast Camp, and the Mattole Unified School District in its desire to deepen resilience for the local area.

This broadly shared interest creates an opportunity for a designated collaborative space for tribes, community members, students, and visitors. Short-term benefits include providing more visitor information and environmental awareness. Long-term benefits include rural economic development, provision of field-based environmental programs, and serving as an environmental research/restoration site for diverse communities including universities and k-12 schools. This could help preserve the economic and ecological health of the Mattole Valley, uplift youth, create career pathways for local community members, deepen field-based education opportunities for students, and provide a space for tribal members to expand the stewardship of their ancestral lands.

History of the Area

The King Range National Conservation Area is made up of 68,000 acres along 35 miles of the Northern California coast. Its ecosystem consists of rugged coastlines rising into forests, prairies and coastal scrub, with high peaks just three miles from the ocean.

The lower Mattole Valley and the northern King Range NCA are the ancestral homes to the Mattole and Sinkyone tribes. The Mattole were said to number about 1,200 when colonists first made contact in the mid-1880s. Within just a few years, their numbers were down to 200. Within 20 years, there were less than 50 Mattole natives left (North Coast Journal, 1995). Today,

the revitalization of language and culture is a growing interest and initiative of the descendants of tribal members. There are more than 20 archeological sites along the King Range, primarily mounds of shells or middens discarded by Sinkyone and Mattole tribes (North Coast Journal, 1995). Both tribes gathered in this area in the spring and summer months to harvest shellfish, seals and other food provided by the sea. Recently, descendants have been holding ceremonies at the Mattole Beach.

Facilities and Services in the Area

At the southern end of the King Range NCA there is a Bureau of Land Management (BLM) King Range Project Office, a Visitor Center, a Fire Station, and the nonprofit Friends of the Lost Coast which maintains a native plant garden and the Lost Coast Education Center in a historic barn located at the BLM King Range NCA Project Office. Shelter Cove, the nearby town in the southern end of the King Range, has the infrastructure to offer basic visitor services and lodging.

The northern end of the King Range NCA is noticeably more rural. The nearby unincorporated town of Petrolia has a post office, a volunteer fire department, a working payphone booth, one café, and a general store with a gas pump in what is considered downtown. Despite a notable lack of lodging and visitor facilities, the presence of multiple grassroots community-based organizations (see list above in Project Introduction, page 8), as well as the Mattole Elementary School and Triple Junction High School, that strive to keep the small unincorporated community vibrant and serving many needs.

Where The Mattole Restoration Council, Local Tribe and Petrolia are Today

Mattole Restoration Council:

“The Mattole Restoration Council is one of North America’s oldest community- led watershed restoration organizations. Established in 1983, the Council’s primary mission is to

understand, restore and conserve the ecosystems of the Mattole River watershed, with attention to threatened coho and Chinook salmon and steelhead” (Homepage, 2021).

“We are a non-profit, 501c3 that works with hundreds of private landowners, resource management agencies, and other local conservation and education organizations such as the Mattole Salmon Group, Sanctuary Forest, and Friends of the Lost Coast. These four groups work together to support the Mattole Watershed and King Range National Conservation Area as the King Range Alliance” (Homepage, 2021)

Their four current major programs are the Ecosystem Restoration Program, Education and Outreach, Watershed Information Systems, and Working Lands and Human Communities. They provide internship opportunities, field experience, youth outdoor learning activities, and promote landscape restoration efforts against invasive species.

In the spring of 2012, the Mattole Restoration Council launched the Mattole Field Institute with the aim of providing place-based, hands-on instruction in topics related to Mattole watershed restoration. Courses encompass a broad range of curriculum areas, recognizing that ecological restoration is most effective when in collaboration with studies from various fields including sociology, history, politics, and literature. Since 2012, the Mattole Field Institute has steadily grown. Its offerings have included:

- Immersive, weeklong field courses for Cal Poly Humboldt and College of the Redwoods students
- Free, half-day and one-day field courses and guided hikes open to the local community and general public
- Workshops and skills-building courses with guest instructors/presenters

The Mattole Field Institute’s goal is to expand and deepen its collaborative educational, research, and resilience-building opportunities to local community and tribal members, students, and visitors.

Tribes:

The biggest tribal presence in the northern region of the King Range is the Bear River Band of the Rohnerville Rancheria that currently holds land in Loleta, California. The Bear River Band has over 600 tribal members made up of a majority of the Mattole and Wiyot Tribes (*Bear*

River Band of the Rohnerville Rancheria: Ca tribe, 2021). There are also members originating from the Yurok, Hoopa and Tolowa tribes. The Mattole Tribe historically lived along the Mattole River which makes up the northern border of the King Range National Conservation Area but when the tribe's numbers were decimated because of colonists they lost much and survivors dispersed across Northern California. Bear River Band of the Rohnerville Rancheria became a federally recognized tribe in December of 1983 (*AAA Native Arts*). In November 2020, the Bear River Band was able to host its first Salmon Ceremony on the mouth of the Mattole river in over 100 years (*Redwood Community Radio Archive 2021*). Around the same time, the Bear River Band purchased roughly 160 acres of private land southeast of the Mattole River estuary (Flora, 2022). This plus the revival of their ceremonies were very significant events for the local tribes and represent the start of bringing back sacred practices for the descendants of the region.

Petrolia:

There is currently a population of around 1,000 residents living in the unincorporated rural area of Petrolia. Petrolia is a community with one county road, Mattole Road, which serves as the primary way in and out of the area. Rural residences are spread out across roughly ten square miles in the low elevation mountainous region just northeast of the northern King Range NCA. All the land that makes up Petrolia is private so it is up to the locals to build and provide facilities. There is one local grocery store that also serves as the only gas station within 30 miles of the town, with the exception of a similar one-pump store located 15 miles upriver in Honeydew. Petrolia has an elementary and high school located next to each other. There is currently no hotel in the area but there are a couple Airbnbs with generally slim availability. The only restaurant-like option in the area is a cafe in a mobile trailer that sits at the corner of Front Street and the historic road leading to the Petrolia Pioneer Cemetery. A local of the area plans to use her newly bought land in the center of town to provide a small, privately funded, public park.

Community Events

The only location in downtown Petrolia for events is the Mattole Valley Community Center, whose upstairs office space houses the Mattole Restoration Council. The Mattole Valley Community Center typically hosts weekly Sunday Farmers Markets and Cafes; three annual Cabaret fundraisers for itself (MVCC), Lost Coast Camp, and the local preschool program; as

well as hosting regular fundraisers for the many local nonprofit organizations, plus birthday parties, shows, and private rentals. Pre-COVID, the heavy use of this one central space suggested an additional event area may be beneficial to the community.

Methods

Maps and Site Analysis

There is roughly 70 acres of land in Petrolia that the Mattole Restoration Council is currently in negotiations to purchase for the development of the center for the King Range NCA; it is comprised of multiple small parcels and portions of a larger, main parcel. We analyzed portions of the main parcel using the Humboldt County GIS Portal to find what developable areas are in the main parcel and what other sections of the parcels could potentially be used for. Using the GIS Portal, we created a locator map to show where the main parcel is in Humboldt County and a regional map to show where the parcel is in relation to Petrolia and other nearby features. We then created a map showing natural resources on the main parcel and a map showing hazards within it. For both the natural resource and hazard maps, we drew the areas of the parcel that the Mattole Restoration Council are considering purchasing and developing on. For the natural resource map, we used the prime agricultural soils, streamside management areas, and wetlands layers to show where these natural resources occur within the parcel. For the hazard map, we used the FEMA flood zone and slope layers to show where these hazards occur within the parcel. For both of these maps, we used the Humboldt County Code and General Plan to analyze whether these areas of the parcel are developable and what barriers there might be to developing.

Case Studies

For this document, we researched a variety of education centers and non-profit organizations that had elements relevant to the envisioned center for the King Range. While looking for case studies, we considered the following elements to be relevant:

- Rural community connections
- Types of programs
- Types of facilities
- Overnight lodging
- Funding sources
- Creative workforce sources
- Tribal involvement

- Partnering land management agencies and non-profit organizations

After gathering eleven relevant case studies, we researched information through online websites and archives for each center. We also reached out to staff/individuals connected to all of the case studies to request interviews, but we were only able to obtain interviews with people connected to four of the case studies. Table 1 summarizes the case studies utilized in this report and whether we were able to obtain an interview with them. We wrote a spotlight on each case study summarizing interesting points, then included a comprehensive list of recommendations for the center near the northern King Range NCA. We generated the recommendations by picking out interesting programs, workforce sources, funding, sources, and other relevant information that could be considered for the implementation of the center for the northern King Range NCA.

Case Studies	Interviewed
1. Wolf Creek Education Center, CA	Yes
2. The Watershed Research and Training Center (WRTC), CA	Yes
3. Siskiyou Field Institute, OR	No
4. Goodwin Education Center, CA	No
5. Spring Creek Project, OR	No
6. Bears Ears Education Center, UT	Yes
7. Desert Studies Center, CA	Yes
8. Grassland Environmental Education Center	No
9. Waipa Foundation, HI	No
10. Southern Nevada Conservancy	No

11. Pacifica: A Garden in the Siskiyou, OR	No
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Table 1: Case studies of centers and programs analyzed in this report and we obtained an interview with a representative from each case study.

Interviews

We reached out to each case study by email and phone. If an email could not be found for a case study, or if an email was not responded to, we reached out by phone. If a case study agreed to an interview, we established a date and time and sent them the consent form beforehand. We then sent them a Zoom link through Google Calendar. At the beginning of each interview, we reviewed the consent form with them and obtained consent as to whether or not they were ok with being recorded, and having their name or positions cited. The interview questions we used are included in Appendix A. The topics we asked about included what role the interviewee has in the center or program, where the funding of the center has been coming from and what worked and didn't work in regards to operation of the center. These interview questions served as a guide, and we added follow-up questions during the interview when necessary. Notes were taken during each interview by a designated note taker and then the recordings were placed into a separate google folder. We reflected on the research we did for the center before the interviews and then we considered the direct perspective and experiences that the center representative provided. Key elements from each interview were pulled and then used in our recommendations section.

Language Guide

When the time comes for naming the center, our group has created a small list of references and resources of the Mattole Language in an excel spreadsheet also included in Appendix C. The first place that was reached out to was the Berkeley Language Archive, we received links to three recordings of the Mattole language. The links are pasted into the excel spreadsheet. There are no other digitized language resources available as of now, but the Archive does have plans to digitize the recordings within the next month. The other contact we reached out to was the Karuk Language teacher Julian Lang, he was able to help by providing other resources to talk to about finding more language resources aside from the Berkeley Archive,

those references are listed in the Excel spreadsheet as well. This is just a starting point of how the partners aside from the Tribe itself can help find language resources.

Maps and Site Considerations

Background Information

This section of the report displays several maps of a potential parcel to develop a center near the northern King Range NCA. The section will explore the feasibility of developing a center on the potential parcel and discuss potential barriers, benefits, and considerations that might be encountered.

The map to the right, Figure 1, is a locator map showing that the potential parcel is located in southern Humboldt County, near the King Range National Conservation Area. The parcel is identified by Assessor's Parcel Number (APN) 105-051-009 and is approximately 80 acres in size. Its zoning designation is Unclassified, and the Humboldt County General Plan Land Use is mostly Agricultural Grazing with a small amount designated as Rural Community Center in the top right corner of the parcel (County of Humboldt, 2021).

It is of the utmost importance to underscore that the Mattole Restoration Council is in active discussions with the landowners concerning the potential for lot line adjustments such that the MRC could purchase a portion of this parcel. As such, the included maps reflect our best effort to reflect information pertinent to the potential future development of this area, but are not to be seen as a final reflection of what the MRC may obtain.

The current owner seeks to retain the southern portion of the parcel but is considering selling part of the northern portion of the parcel to the Mattole Restoration Council. It is still uncertain exactly how much and what areas of the parcel the Mattole Restoration Council might purchase, so the maps in this section of the report merely represent a possible location for the center. The Mattole Restoration Council is considering developing three separate facilities on the parcel. The first area would have a small visitor center with a reception area, educational displays, and bathrooms, as well as water storage and a parking lot. The second area would make up a resilience and education center that includes a central meeting room, classrooms, a kitchen, bathrooms and showers, parking, overnight accommodations such as free-standing cabins, and water storage. The third area would be a resilience food farm to encourage community-driven food production. The following maps and discussion analyze the feasibility of developing these facilities on the parcel.



Figure 1: This map shows that the potential parcel for the center for the northern King Range NCA occurs near the coast in southern Humboldt County (County of Humboldt, n.d.).

Regional Map and Setbacks

Region Surrounding Parcel

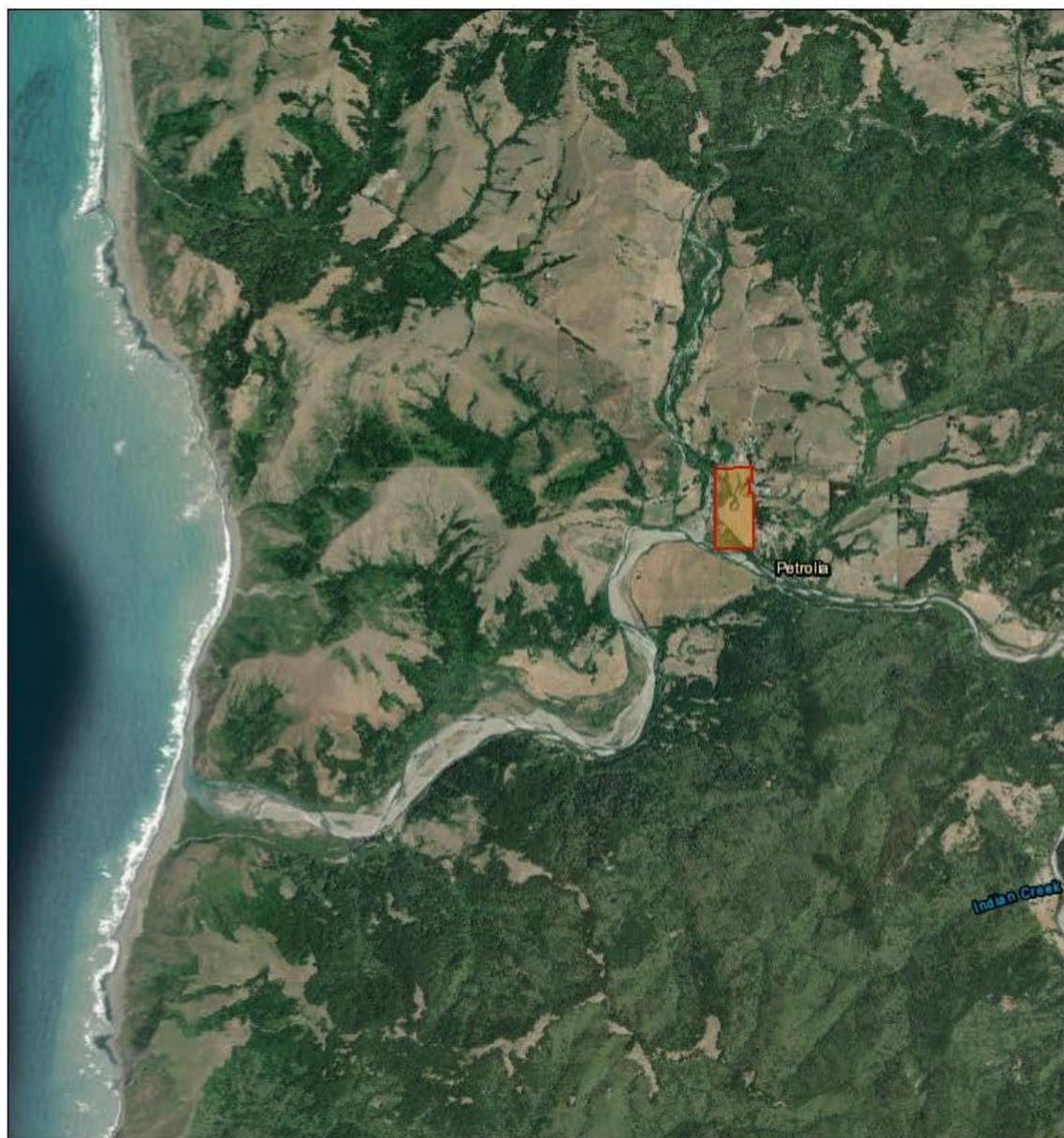
The map to the right, Figure 2, shows the parcel and the region surrounding it. It is approximately six miles from Mattole Beach in the King Range National Conservation Area. It is located in the community of Petrolia, and the Mattole Valley Community Center is located directly on the eastern border of the northern end of the parcel. A historical cemetery is located in the middle of the parcel. The Mattole River runs East to West near the southern border of the parcel, intersecting the southwestern corner of the parcel. The North Fork Mattole River runs North to South along the western border of the parcel, intersecting the northern end of the parcel.

314-8.1	U: UNCLASSIFIED ZONE Principal Permitted Uses
One-family dwelling. General agriculture. Rooming, and boarding of not more than two (2) persons. Manufactured home.	
	Uses Permitted with a Use Permit
All other uses not specified in the subsection, Principal Permitted Uses, may be permitted upon the granting of a Use Permit.	
Other Regulations for All Permitted Uses	
Minimum Lot Area	6,000 square feet.
Minimum Lot Width	Fifty feet (50').
Maximum Lot Depth	Three (3) times the width.
Minimum Lot Depth	One hundred feet (100').
Minimum Yard Setbacks*	
Front	Twenty feet (20').
Rear	Ten (10) feet.
Side	Five (5) feet.
Minimum Distance Between Major Buildings	Twenty feet (20').
Maximum Ground Coverage	Forty percent (40%).
Maximum Building Height	(None specified.)
Other Regulations for Uses Permitted with a Use Permit	
The building height, site area, setbacks and other requirements for all other uses shall be as required by the Planning Commission in the granting of a Use Permit.	

*Note: Setbacks may be modified by other provisions of this Code or State law. For example, see Section 314-22.1, "Alquist-Priolo Fault Hazard" and the "Fire Safe" Regulations at Title III, Division 11.
(Former Sections INL#314-2(b)(1-4); INL#314-2(c); INL#314-3(a)(1-4); INL#314-3(b))

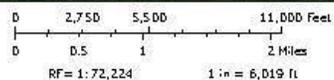
County Setbacks

As stated before, the parcel's zoning designation is Unclassified, so it is subject to the Unclassified regulations in the Humboldt County Code (2021), which are shown to the right. It shows that the front of any building has to be at least 20 feet from the parcel boundary, the rear has to be at least ten feet from the parcel boundary, and the side has to be at least five feet from any building. It also shows that any other setbacks will be granted by the Planning Commission in the form of a Use Permit.



Regional Map

Humboldt County Planning and Building Department



Printed: March 24, 2022

Web AppBuilder 2.0 for ArcGIS

Map Disclaimer:
While every effort has been made to assure the accuracy of this information, it should be understood that it does not have the force & effect of law, rule, or regulation. Should any difference or error occur, the law will take precedence.

Source: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Areas

-  Override 1

Figure 2: This map shows the area surrounding the potential parcel for the center for the northern King Range NCA (County of Humboldt, n.d.).

Natural Resources Map

Prime Agricultural Soils

As shown in the map to the right, Figure 3, Prime Agricultural Soil covers the southern portion of the parcel and the middle of the northern portion. Since the MRC's Mattole Field Institute would like to establish some type of community garden or food farm on the parcel, it could be a good idea to locate it in an area with Prime Agricultural Soil. Furthermore, general agriculture is a permitted use in the Unclassified Zone, so it would be permissible to place a garden within the parcel (County of Humboldt, 2021).

Streamside Management Areas

Streamside Management Areas (SMA) are areas along streams and wetlands in which development is limited and must be permitted to reduce adverse effects to fish and wildlife and protect against erosion and runoff. For any development to occur within an SMA, it must be permitted by the County of Humboldt. Additionally, the development must be consistent with Policies BR P-4 and BR S-7 of the Humboldt County General Plan, and follow all standards and mitigation measures in policies BR P-8, BR P-9, and BR P-10 (County of Humboldt, 2017). An SMA is located in a large portion of the west end of the area the Mattole Restoration Council may purchase. The Mattole Restoration Council does not currently intend to develop within any SMAs, but can find these policies in the Conservation and Open Space Element of the Humboldt County General Plan if needed.

Wetlands

Wetlands, in the form of the North Fork Mattole River, cover the western border of the parcel. These wetlands are protected by the SMAs mentioned above. The presence of the North Fork Mattole River could offer educational opportunities near the center as well as recreational opportunities for the nearby community of Petrolia.

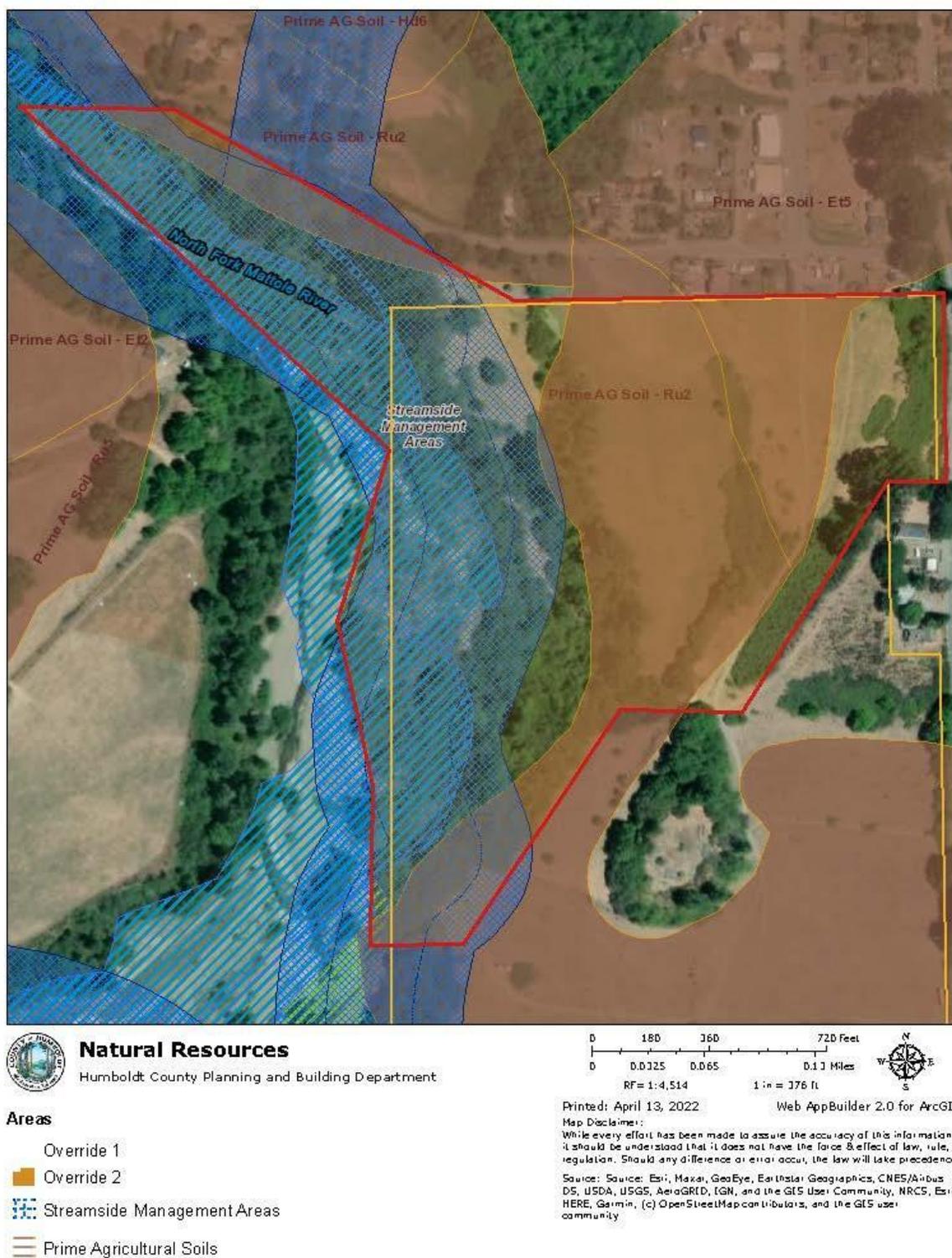


Figure 3: This map shows natural resources that occur in the potential parcel for the center for the northern King Range NCA (County of Humboldt, n.d.).

Hazard Map

Flood Zones

The Federal Emergency Management Agency (FEMA) has identified and mapped areas that are of special flood hazard. As shown in the map to the right, Figure 4, a 100 Year FEMA Flood Zone covers nearly half of the western portion of the parcel. A Flood Plain Development Permit must be obtained to develop in a flood zone. While The Mattole Restoration Council does not currently intend to develop the portion of the parcel that is in a flood zone, the standards for developing in an area of special flood hazard can be found in the Humboldt County Code, Title III Division 3 Chapter 5 Section 335-5 (County of Humboldt, 2021). Although the flood zones within the parcel may not be ideal for development, they are rich with educational opportunities in the form of extensive riparian and stream habitat and may be fit for trail development.

Slope

At the historical cemetery, there are areas of slope from 15-30%, 30-50%, and over 50%. The eastern edge of the northern portion of the parcel, near the Mattole Valley Community Center, also has some sloped areas ranging from 15-30% and 30-50%. Very little of the area that the Mattole Restoration Council is considering purchasing contains slopes of 15% or greater. However, the seismic safety of the entire parcel is designated as Low Instability (County of Humboldt, 2021). The Humboldt County Code and Humboldt County General Plan do not specify what slope ranges are allowed to be developed.

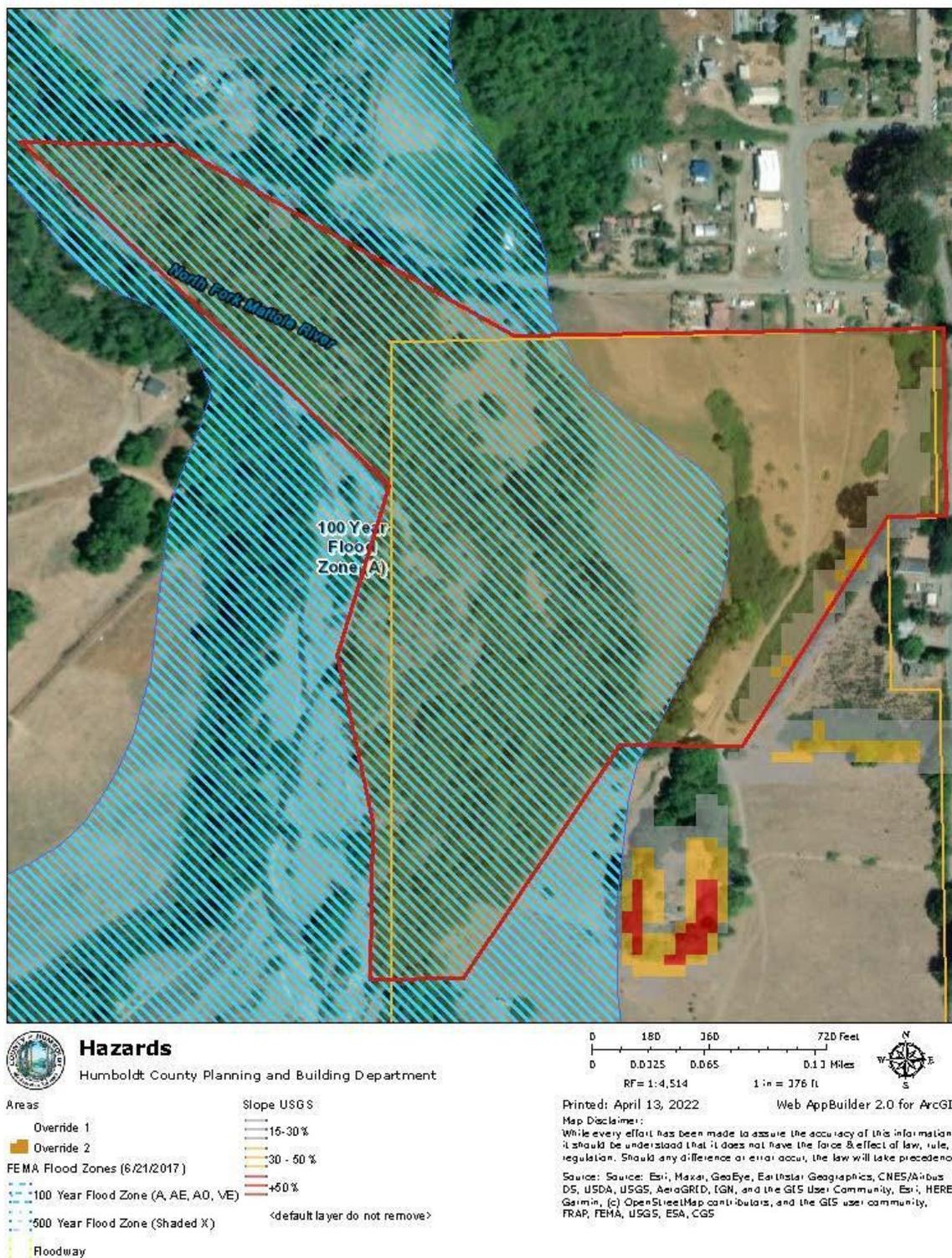


Figure 4: This map shows hazards that occur in the potential parcel for the center for the northern King Range NCA (County of Humboldt, n.d.).

Case Studies



Figure 5: This map displays the 11 case studies described and analyzed in this report.

WOLF CREEK EDUCATION CENTER

Redwood National and State Parks, California

Background Information

Since the early 1970's the Wolf Creek Education Center (WCEC) has provided elementary school students with the opportunity to visit the Redwood National and State Parks. The WCEC gives students the chance to learn through curriculum-based environmental education programs while staying in the program's lodging facilities during the two and a half day field trips. WCEC also offers their facilities to be rented during the summer time to other groups such as girl scouts.

During our interview with Ranger Laura, she stated that the WCEC was created because a group of local teachers from Orick wanted a space in the Redwood National and State Parks for educational purposes. The park offered an old logging site that already had some housing facilities. Teachers from other schools in Humboldt County began to use the space as well. As the program grew, the school district was no longer able to maintain the facilities, so the NPS took over the center while still allowing local schools to use it.

The Wolf Creek Education Center is located 13 miles from the nearest town of Orick and sits on federal land inside of the Redwood National and State Parks.

Amenities/Facilities/Programs

Programs

The WCEC hosts a two and a half day program in which the students are taken through ranger-led activities. The program contains three different curricula: the watershed curriculum, the prairie curriculum, and the old-growth redwood forest curriculum. In these curricula, students learn about old-growth forest adaptations and interdependence, hands-on stream and water related activities including a talk on Salmon habitat, and they will learn about nutrient recycling, and energy flow. Skits, storytelling and group activities are also a part of the program for students to enjoy.

Amenities/Facilities

The Center provides five cabins with 16 in beds each, adding up to 80 total beds including the supervising adults. There is an Amphitheater and a fire ring. Facilities include a kitchen with a commercial dishwasher and gas stove. Showers and bathroom facilities are also on site. Ranger Laura conveyed that the cabins are not insulated, so their programs cannot run year-round.



The inside of the Lodge at Wolf Creek Education Center.



The Restroom facilities at Wolf Creek Education Center .

Workforce/Partners

The staff of the Wolf Creek Education Center are national park rangers and volunteer parents and teachers of the schools that visit.

Funding Sources

Originally, the Humboldt County School District paid for the facility, but once it grew to be too big for them the federal park system took it over. After the NPS took over, they built new facilities, which were paid for by an anonymous donation. The facilities and buildings are currently maintained with NPS funding, and the Redwood Parks Conservancy partner handles incoming donations the park receives. The NPS funds the rangers salaries.

Main Workforce

The workforce is currently made up of two or three paid NPS rangers doing mostly virtual work during the pandemic. Ideally, they would like to have four rangers to run the WCEC. The lead

ranger would handle phone calls and local inquiries, while the other three would be education technicians, one for each curriculum, that could take students out for the fieldwork.

Community Engagement/Involvement

The center has been working in close collaboration with the regional schools in Humboldt County as well as schools in the surrounding states. WCEC is popular as a day time visit and as an overnight children's camp which has had long lasting positive effects on all visitors. Ranger Laura who oversees WCEC mentioned that she finds it very important to keep in touch with the many schools, individuals, and organizations that the WCEC has built up connections to over its many years of existence. The pandemic made that difficult, but they were able to continue reaching out and convert some of their curriculum to virtual classroom lessons.

Tribal Involvement

The WCEC has had an elder Yurok tribe staff member who comes and talks about his regalia and teaches educational classroom materials on occasion to the children. Ranger Laura expressed an interest in seeing more tribal representation and engagement happen into the future.

Resources

[Wolf Creek Education Center National Park Service Website](#)
[Link to their Multiple day Children's Field Trip](#)

THE WATERSHED RESEARCH AND TRAINING CENTER (WRTC)

Hayfork, California

Background Information

The Watershed Center is an important nonprofit organization with county, state, and national efforts. They partner with the forestry service in maintaining the watersheds of the region. They collaborate with the Trinity County River Conservation District . They are located in the Hayfork community of 2,711 residents (2019 census). Their location of operations is on private property in a building that was repurposed after being a grocery store.

Their website mission statement:

“We strive to create and sustain healthy lands and healthy communities. We work **locally, statewide, and nationally** to steward our natural resources and support community resilience.

Through partnerships with community members, organizations, public agencies, tribes and businesses, we care for our forest and rivers, create jobs, and connect people to the land and each other.”

“The Watershed Research and Training Center is a non-profit organization located in the heart of Trinity County, California. We conduct the full gamut of land and watershed management services, lead state biomass and fire resilience partnerships, and through partnerships with communities, organizations, and public agencies we steward our landscape, create and sustain quality jobs, and connect people to the land and each other.” (Watershed Research and Training Center, 2022)

Amenities/Facilities/Programs

The building itself is one story tall and is composed of office spaces. Most of the work is contracted to sites outside the town. The building acts as the central hub of all their operations.

Some of their big points of focus include “Forestry, Fire and Land Management”, “Watershed Stewardship”, and “Youth Programs”.

Relating to fire, they offer Technical Forestry Services, and Prescribed Fire Services. They help locals wishing to practice fire management by showing them the steps and giving

them the assistance to do so. They have a Hayfork Youth Conservation Crew and an adult Field Crew. Among their many watershed-related activities they develop plans for restoration work in the region, perform monitoring and outreach. They have seasonal jobs in various environmental fields and are a great source of field work experience for both adults and some youth opportunities. Relating to water, they implemented water conserving plans with the Ewing Reservoir, which removes water from Hayfork Creek during the spring so no water is taken out of the river during the summer, and that way Chinook Salmon have the ability to travel upstream. They also develop site assessments, grow support and funding for watershed treatments and, in recent years, implement on-the-ground restoration projects. They seek to improve the local wetlands and are currently advocating for Chinook Salmon.

The WRTC also engages with the local youth by hosting the two week long Indian Valley Summer Camp for the last twenty years. This camp is for ages 8 - 15 and provides kids with exposure to camping, learning about public lands, natural resources, natural resource careers, as well as other topics. The WRTC also has the summer Hayfork Youth Conservation Crew where “high school students (ages 15-18) who learn stewardship skills by implementing conservation work such as trail maintenance, noxious weed management, fuels reduction, native plant protection, stream monitoring, rangeland fence repair, and much more.” (Watershed Research and Training Center, 2022)

“The Watershed Center supports a number of additional youth enrichment projects, such as:

- Trinity County Environmental Camp for fifth graders at Bar 717
- Youth Salmon Gathering event for fourth & fifth grade students
- Science field trips to the Hayfork Community Wetlands for seventh through 12th graders”

Funding Sources

The WRTC initially got funds from the Ford Foundation to fund its organization, facility and works. The organization started at a time where lots of grant funders and donors were offering funds for community forestry and rural development, so the WRTC was able to obtain a lot of funding from the Ford Foundation and other grants. Currently, the WRTC obtains funding from two main avenues: grants from the federal or state government and contracts for specific

restoration projects. A WRTC board member conveyed that rural communities often do not have a strong capacity for grant writing, but the WRTC had someone with that skill set, so they were able to obtain lots of grant funding.

Their main styles of workforce

Administration is all local. After the sawmill in Hayfork closed down, the area experienced economic hardship from the decline in the timber industry. The WRTC benefited the local community by providing job opportunities. The center has also provided the youth of Hayfork an outlet for their future

- i. They could go on to work on youth trails
 - b. Summer youth program, two weeks of outdoor education by the Trinity River or learn about plants, traditional practices, interaction with environment, space for those with troubled homes (Helps spark ideas for their future)
 - c. Helps bring support by helping kids and giving opportunity to them to stay in the area which is difficult in rural areas

This center now has 4 million dollar budget linked to 100s of people working each year out of this “little tiny town” (Yvonne Everett, 2022)

Community Engagement/Involvement

The WRTC gives back to the community and keeps the local kids on a path to successful, fulfilling futures. They want to provide education and opportunities for the locals and address the most important issues the area fills need to be addressed like fire management and watershed management. The schools of the area from elementary through college have the chance to engage with the center and spread awareness of the relevant land swordfish efforts going on. This includes Cal Poly Humboldt, which had the opportunity to visit the site during the 2022 spring semester to learn about what the organization is planning and implementing.

Resources

[The Watershed Research and Training Center website](#)

SISKIYOU FIELD INSTITUTE

Selma, California

Background Information

“The mission of the Siskiyou Field Institute is to increase the understanding of, and connection to the Klamath-Siskiyou ecoregion through education, scientific research, and public engagement.

We are proud to offer high quality programming for all ages. SFI provides a wide variety of courses on topics from climate science to mushrooms.”

“Siskiyou Field Institute also facilitates researchers and other academic groups during the field season. Our location allows all students and scholars immediate access to the world-famous serpentinite and old-growth forests of the Klamath-Siskiyou.”

<https://siskiyoufieldinstitute.org/mission-vision/>

The Siskiyou Field Institute is on private land in the unincorporated community of *Selma, Oregon*.

Amenities/Facilities/Programs

The Siskiyou Field Institute hosts many outdoor events. People can pay to take a range of short field courses including mushroom hunting, learning about the geology of the region, and focusing on every ecosystem of the area. They offer classes on amphibians and birds and currently have a field course on native plants used in natural and indigenous history of the Illinois Valley. They currently have 12 listed field courses.

They have single-night and two-night school trip opportunities for kids to participate in place-based educational programming. Their programs are offered for ages four years and up.

The Siskiyou Field Institute offers a variety of overnight options for lodging. One options includes camping sites for cars, RVs, and trailers at the price of \$15 a night with not hook up but access to a povlian and bath house. They also have a small (sleeps 12) or large yurt (sleeps 18) at \$20 a night per person. They have other private room options with prices ranging from \$55 to \$75 a night. The daytime and nighttime visitor parking fee is five dollars.

Funding Sources

With funding from the Gray Family Foundation, the Siskiyou Field Institute completely updated its outdoor school curriculum in 2018 to align with Next Generation Science Standards, common core and the [Oregon Environmental Literacy Plan](#). They are run as a private business and make money off offering their many programs at prices ranging from \$30 to \$180.

Main Workforce

They have regular staff but are currently under staffed. Details on the number of staff members could not be found.

Community Engagement/Involvement

Lots of schools come to take their programs, and others pass through for the smaller day courses.

Resources

<https://siskiyoufieldinstitute.org/mission-vision/>

[Oregon Environmental Literacy Plan](#)

GOODWIN EDUCATION CENTER

Background Information

The Goodwin Education Center is located in San Luis Obispo County and Kern County, California, in the Carrizo Plain National Monument. Since the center is located within the actual monument, it is on federal land. The center is approximately an hour and a half away from any larger cities, including San Luis Obispo to the west and Bakersfield to the east, though there are several smaller communities surrounding the center, approximately an hour away.

Amenities/Facilities/Programs:

The Goodwin Education Center has educational and interpretive displays to inform visitors about various topics regarding the Carrizo Plain National Monument, including endangered species found within the monument, geology and the San Andreas Fault, and Indigenous history. Maps and brochures are available inside the center. A ranger is available to answer any questions, and the Resource Management Plan for the monument states the intent to schedule tours of the monument guided by docents. The plaque shown to the left is displayed outside the building and describes Indigenous history of the area.



Workforce/Partners

Friends of the Carrizo Plain is a local nonprofit organization that helps run the Goodwin Education Center. They run the gift shop within the center and assist with facilitating outreach. It is likely that the ranger available at the station is provided by the BLM, but this could not be confirmed.



Funding Sources

Friends of the Carrizo Plain provides funding to help run the Goodwin Education Center. In the past, they have provided funding for things like computerized kiosks, educational displays for the natural history of the monument, educational signage, and field trips. Since the center is physically located on the monument, it is possible that funding also comes from the BLM, but this could not be confirmed.

Community Engagement/Involvement

With the assistance of Friends of the Carrizo Plain, the Carrizo Plain National Monument hosts field trips for students in K-12 schools. Other community engagement activities of the center are unknown.

Tribal Involvement

There is no known Tribal involvement with the Goodwin Education Center.

Resources

Carrizo Plain National Monument Approved Resource Management Plan and Record of Decision

[Goodwin Education Center](#)

[Friends of the Carrizo Plain, Educational Support](#)

[Friends of the Carrizo Plain, Outreach](#)

SPRING CREEK PROJECT

Background Information

The Spring Creek Project is a program within the Oregon State University College of Liberal Arts (OSU), which is located in Corvallis, Oregon. There are two other locations with cabins as part of the Spring Creek Program, one located in the Oregon Coast Range, and one located in the H.J. Andrews Experimental Forest. The Spring Creek Project aims to “bring together the practical wisdom of the environmental sciences, the clarity of philosophical analysis, and the creative, expressive power of the written word, to find new ways to understand and re-imagine our relation to the natural world.”

Amenities/Facilities/Programs

Shotpouch Cabin, Oregon Coast Range

The Shotpouch cabin, shown to the right, has two bedrooms, a kitchen, air conditioning and heat, and a phone. This location offers the following programs:



The Collaborative Retreat, a two-week residency program for one or two people working on a project to study and write about the natural world, the Graduate Student Research and Writing Residency, where OSU graduate students can stay at the cabin for one week to work on graduate projects related to the program’s mission, the Trillium Project, where people can stay at the cabin or nearby campsites for one to four days to study the area and record their findings, and the Working and Writing in the Woods Event, where people can come volunteer to help restore the land for the day and attend a writing workshop at the end of the day.

H.J. Andrews Experimental Forest

The cabin in the H.J Andrews Experimental Forest, shown to the right, has apartments, a kitchen within each apartment, wireless internet, a computer lab, a phone, a conference room, classrooms, and a cafeteria. This location offers two programs: The Andrews Forest Writing Residency, where OSU students can come to the cabin



for one to two weeks to explore the area, work with research scientists, and write about their experiences and findings, and the Blue River Writers Gathering, where nature writers can gather twice a year, share experiences, and experience the forest.

Workforce/Partners

OSU runs the Spring Creek Project and hosts its programs in the Oregon Coast Range and H.J. Andrews Experimental Forest. It is unknown whether the workforce for programs come from OSU, the forests where the cabins are located, or elsewhere.

Funding Sources

The Spring Creek Project accepts donations, which in the past have helped to fund fellowships, programs, and events. It is unknown whether additional funding comes from OSU, the forests where the cabins are located, or elsewhere.

Community Engagement/Involvement

Some of the programs offer events at the cabins by the Spring Creek Project, so the community has a chance to be involved by attending these events.

Tribal Involvement

There is no known Tribal involvement with the Spring Creek Project.

Sources

[Spring Creek Project, About Us](#)

[Spring Creek Project, Donations Page](#)

[Spring Creek Project, Programs and Residencies](#)

BEARS EARS EDUCATION CENTER

Background Information

The Bears Ears Education Center (BEEC) is located in Bluff, Utah, approximately three miles South of the nearest entrance to the Bears Ears National Monument (BENM). It is located on private land. The center is in a fairly rural area, as the town of Bluff only has about 200 people and the county, San Juan County, is about the size of Rhode Island but only has a density of two people per square mile. The BENM has experienced skyrocketing levels of visitation without a similar increase in management resources, so the goal of the BEEC is to teach visitors how to visit the BENM with respect and avoid harming the area.



Workforce/Partners

A local non-profit organization, Friends of Cedar Mesa, created and runs the Bears Ears Education Center. They coordinate with local Tribes, the BLM, and the U.S. Forest Service to help respect cultural artifacts and add educational signage within the actual monument. An FCM staff member provided insight on the workforce for the BEEC. Finding an adequate number of people to work at the center is difficult because it is a very rural area, and there is a lack of housing. The center has two long-term staff members: a manager, who is provided an apartment, and an education director, who already lives in Bluff. Friends of Cedar Mesa also hired a member of the Hopi Tribe to help facilitate Tribal communications. The rest of the workforce is made up of volunteers. Several local community members volunteer regularly at the center. Other volunteers will travel from other areas and stay in Bluff to volunteer at the center for a month or so at a time. Since there is a lack of housing, volunteers are instead provided a stipend

to rent a parking space for an RV during their stay. Friends of Cedar Mesa would like to purchase or build an additional apartment for housing to help draw in more volunteers.

Amenities/Facilities/Programs

The building for the BEEC used to be a bar, but it was purchased and refurbished as an education center. The center now has many educational displays, maps and pamphlets, a space for hosting educational events and presentations, office space, and an outdoor classroom.

Visit With Respect Campaign

One focus of the BEEC is to teach visitors how to respectfully visit the BENM without harming the area. One of the tools to do this is their Visit With Respect Campaign.



The Visit With Respect Campaign is a toolbox of tips that educate people on how to the monument while respecting the natural cultural resources. The BEEC is continually

adding to these tips and has coordinated with the BLM to install signs displaying the tips within the actual monument.

Educational Outreach

The BEEC is looking to expand their educational outreach. They already host speakers at educational events for the community and further engage the community with other events such as dark sky programs. The BEEC also recently built an outdoor classroom and plans to facilitate field trips with local schools to provide hands-on learning opportunities, educate children about how to visit respectfully, then take them on a tour of the monument.

Managing Visitation

According to an FCM staff member, an issue the BEEC struggles with is how to run the center without driving visitation levels. Visitor centers typically increase visitation levels because it establishes the area as more of a destination. Rather than advertising the center and monument as an area to come visit, FCM merely tries to attract people who are already in the area and planning on visiting BENM to come by the BEEC to learn how to visit respectfully. FCM does

visit
and

this by only advertising locally rather than advertising nationwide, taking school groups to the BEEC before going to the BENM, utilizing Google and Facebook advertisements that only trigger when a person is in the area, and managing their social media sites by posting educational tips on how to visit respectfully rather than posting pretty images that would attract visitors.

Community Engagement/Involvement

According to an FCM staff member, the BEEC and FCM have faced some county-wide controversy for being conservation-based organizations in a conservative county. For example, some members of the county worry that FCM wants to decrease road access for ATVs. FCM is planning on sponsoring an annual ATV event to show that they are not against ATVs if they are handled responsibly, and this helps to repair relationships county-wide and gain support. Another important aspect of gaining county-wide support is maintaining good person-to-person relationships, which FCM struggles with due to a high rate of staff turnover.

While the BEEC has experienced some controversy at the county level, it benefits from being in a supportive local community. The center engages with the community by hosting events with one or two speakers a month to educate the community and hosting dark sky programs. The center is also looking to expand their community outreach by working with local schools and hosting field trips. The local schools are generally economically disadvantaged, so this outreach program benefits schools by increasing their capacity for supporting sciences and social sciences.

Tribal Involvement

An FCM staff member provided insight on Tribal involvement with the BEEC. The BEEC works closely with the Inter-Tribal Coalition, which are the five tribes that petitioned for the establishment of the BENM. The center has lots of educational displays with Indigenous knowledge and consults with the Tribes to get their approval and ensure that their story is told the way they want it to be told. Furthermore, the Tribes contribute to the Visit With Respect Campaign. The Tribes requested the addition of a new tool, “view from a distance,” to the Visit With Respect toolkit. The “view from a distance” tool encourages visitors not to go inside cultural sites and structures to respect cultural heritage and help preserve the sites.

The BEEC is working to increase Tribal involvement with the center. They hired a person from the Hopi Tribe to help navigate connections with the Tribes and would like to hire more

Indigenous staff, but have not received enough interest. FCM has also added representatives from multiple Tribes to their volunteer board. One noticeable barrier to increasing Indigenous volunteers and staff is a lack of housing, which FCM is working on providing more housing options.

Funding Sources

The BEEC is solely funded by the non-profit organization and donations, so it does not use any federal funds. Funding to initially purchase the bar and refurbish it as an education center was obtained with a Kickstarter campaign. Since they own the building, they do not have to pay rent, but they still do have to pay for utilities and staffing.

Donations

The primary source of funding for utilities and staff is from donations. The BEEC does about two appeals a year to request donations, and they continuously ask for donations on their website. They also have the option for people to make repeat donations, such as every month or every year. Additionally, they have some key donors that are able to donate significant amounts, such as hundreds of thousands of dollars. A FCM staff member conveyed that these donations go a long way towards funding the center. The staff member also conveyed that it is very important to have a clear mission of what the center is for and what it will do in order to gain donor support from people that believe in that mission.

Grants and Non-Profit Funds

Another big source of funding for utilities and staff is from grants and non-profit funds. The Education Director of the center is in charge of writing and obtaining grants for the center and expressed that it is very important to the center to have a strong grant writer involved. They also said they have been able to gain even more funding through grants by planning ahead and organizing the plans for the center in phases of what is needed for each year. This has allowed them to apply for the same grants multiple times because they can apply for different phases. Furthermore, since the center is run by the FCM, they can pull from their non-profit funds to contribute to the center.

Resources

[Bears Ears Education Center](#)

[Friends of Cedar Mesa - Bears Ears Education Center Main Page](#)



DESERT STUDIES CENTER

Right Photo: An aerial view of the Desert Studies Center at Zzyzx. [Photo courtesy of the DSC website](#) Left photo: Soda Springs, in Baker CA sits within the land that the Desert Studies center is located on. Photo licensed under a creative common license.

Background Information

The mission of the DSC is to encourage the understanding of, and appreciation for, the California deserts by developing student academic skills and public awareness through a desert studies program which includes instruction, research, and special programs. The Center is located at Soda Springs in Baker CA. It is located on federal land in the Mojave National Preserve, and is primarily run by a consortium of southern California CSU campuses: Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona, and San Bernardino.

The DSC works in partnership with the National Park Service to manage approximately 1,280 acres of the Mojave National Preserve while also offering research opportunities for CSU and international researchers.

Amenities/Facilities/Programs

The DSC hosts 2,500 students and researchers a year. The center has day-use meeting rooms, labs, and classrooms. Overnight accommodation includes bunkrooms, single rooms, and private cabins. The DSC is off-grid, but full utilities, including wifi, standard cell service, solar power, and on-site well and septic are available. A Desert Studies Center staff member stressed the importance of providing housing for a center in a rural area to avoid limiting available workforce.

Funding Sources

Since the DSC is made up of a consortium of CSUs, each school involved in the center puts in \$3,000 for operation costs. Also, they charge a maintenance and upkeep fee for the overnight housing. Additionally, the NPS will sometimes provide funding for bigger projects.

Workforce/Partners

Workforce for the center mainly comes from California State University staff. Volunteers are not common. The National Park Service has a ranger come out every weekend.

Community Engagement/Involvement

The station manager shared that some community members were a little suspicious about the work the center was doing. With some community outreach and events, they were able to share their research findings with local community members. This ultimately strengthened the trust between the center and local community.

Tribal Involvement

The Desert Studies Center at Soda Springs is located within Chemehuevi territory. Historically the Shoshone tribe has ties to the land but the DSC does not actively engage with the tribe. The area has been found to have some cultural significance, and the DSC helps as needed with any research.

Resources

[About the Desert Studies Center](#)

[Facilities at the DSC](#)

[Bringing classes to the DSC](#)

[Doing Research at the DSC](#)



GRASSLAND ENVIRONMENTAL EDUCATION CENTER

Right Photo: Classroom suits up in waders so they can examine a marsh. Photo courtesy of the Grassland RCD. Left Photo: High school students with the Center for Land Based Learning's Student and Landowner Education and Watershed Stewardship Program partner with the Grassland RCD. The class "adopts" a site, takes part in restoration activities, and hears from guest speakers with different resource conservation backgrounds. Photo courtesy of the Grassland RCD.

Background Information

The Grassland Environmental Education Center is a no-fee field trip facility that was established in 1995 by the Grassland Water District and the Grassland Resource Conservation District. It has

become a place for school students to learn about the ecologically significant wildlife habitats located in the San Joaquin Valley's Grassland Ecological Area. It is located at the Los Banos Wildlife Area in the central valley.

Amenities/Facilities/Programs

The center hosts no-cost field trips for students to help them understand the ecological importance of wetlands. Their activities incorporate Common Core and Next Generation Science Standards (NGSS) for science, math and social studies, as well as, the Environment in Education Initiative (EEI) concepts.

Funding Sources

The Grassland Environmental Education Center is a privately funded non-profit organization. They also work with various partners like the CA Dept. of Fish and Wildlife and the Audubon Society for programming collaboratives.

Workforce/Partners

The workforce for the center is a mixture of city and partnering agency employees. The CA Department of Fish and Wildlife became a partner in 2000, providing a biologist to operate GEEC.

Community Engagement/Involvement

Since 2008, more than 40,000 students, teachers, and adults have attended field trips, in-class presentations and exhibits sponsored by the education center. During the temporary school closures due to COVID-19, the Grassland Environmental Education Center began providing lesson plans for virtual classes.

Tribal Involvement

There is little to no known tribal involvement.

Resources

[Grassland Water District Main Page](#)

[Grassland Environmental Education Center Informational Video](#)

[Article from the California Association of Resource Conservation Districts on the Grassland Environmental Education Center](#)

WAIPA FOUNDATION

Kauai'i, Hawai'i



Left: Laukupu one building includes Waipā's poi mill as well as a state certified commercial kitchen which supports local food entrepreneurs and provides space for training and workshops. The second building is the Hale Imu, an outdoor space which includes a concrete imu recessed into the floor and is used for both cooking and as an outdoor gathering space. (Photo Courtesy of Waipa Foundation) Right: The outdoor cooking/processing space (Photo Courtesy of Waipa Foundation)

Background Information

The Waipa Foundation is a non-profit foundation located in Kauai'i, Hawai'i located along the Hanalei Bay, one of the nine ahupua'a (traditional land sections) in Kauai's Halele'a district. The foundation stewards 1,600 acres under a lease from the landowner, Kamehameha Schools. It was the wish of Pauahi Pākī who comes from Hawai'i royalty that Kamehameha Schools create educational opportunities and promote the well being of Hawai'i people.

Their mission is for Waipā to be a place where folks can connect with the 'āina (that which feeds us – the land and resources), and learn about our Hawaiian values and lifestyle through laulima (working hands/many hands) by providing programs with the youth, university, community farmers, and tourists.

Amenities/Facilities/Programs

The Waipa Foundation provides services to the community and local vendors with a large commercial kitchen and outdoor processing space which, can also be used for training and workshops. Their Keanolani Hale is the multipurpose building and classroom space holding capacity for 48 people. Additionally, their property has extra offices, a warehouse, and additional gathering spaces. For much larger events there are learning sites, campsites and other outdoor spaces.

Funding Sources

The foundation evolved out of a local community initiative in the 1980s and has lots of support from partnerships with institutional, government, and other foundations like the U.S. Fish and Wildlife Service, the National Fish and Wildlife Foundation, NOAA, the State of Hawaii Dept. of Health and the EPA, The Hawaii Community Foundation, Kamehameha Schools, and substantial involvement from partners and volunteers from Kaua`i, Hawai`i and beyond. For example the Stiller Foundation has provided support to the Waipa Foundation for the construction of the community kitchen and poi mill. They have also received funding from NOAA for restoration of a pond, which had been taken over by invasive species in 2002.

Their main styles of workforce

For the first seven years of its existence, the Foundation was an all-volunteer organization, but it has since transformed into a mix of volunteer and paid workers. Their board of directors is all volunteer, and other positions like youth directors or poi director can be the same person who wears many hats and so on throughout.

Community Engagement/Involvement

Community engagement is a large part of the Waipa Foundation. They state that the focus of the programs is to cultivate the next generation of leaders. Their wish is to develop a strong connection to the aina (land and resources) by supporting the youth with programs and internships. They have served over a hundred children and youth from the community through programs after school, on weekends, intersession breaks, and during the summer over the years.

They accept volunteers of all ages and have a community work day established for locals to come and be involved.

Tribal Involvement

When looking at the Waipa Foundation's website, the Aboriginal/Hawaiian people, also known as the Kānaka Maoli's, influence is all throughout the website and their programming. The cultural values of the Kānaka Maoli are the heart of their teachings and programming, even the use of the Hawaiian language is preferred over English. The plants tended are the traditional ones used for weaving, to make dyes, kapa, and for other cultural and medicinal uses.

Resources

[About Pauahi](#)

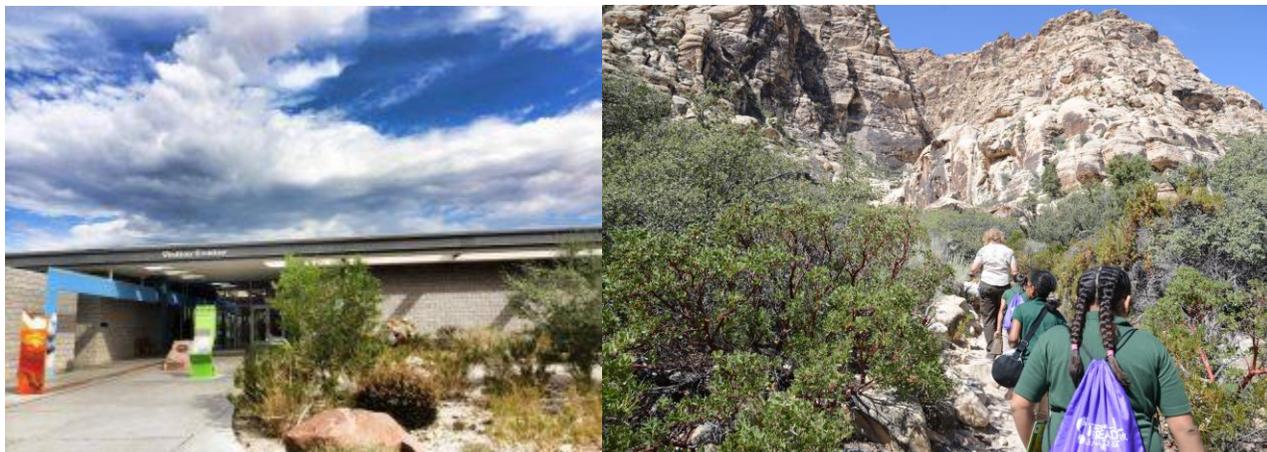
[Waipa Foundation Main Page](#)

[Waipa Foundation Contact Information](#)

[The Stiller Foundation](#)

SOUTHERN NEVADA CONSERVANCY: Red Rock Canyon

Las Vegas, Nv



Left: Front of the Visitor Center (Photo Credit Southern Nevada Conservancy) Right: One of the interpretive trails for students being led by a ranger. (Photo Credit Southern Nevada Conservancy)

Background Information

The Southern Nevada Conservancy aims to create opportunities to discover, understand, and enjoy public lands. They are a non-profit organization based 27 minutes from Las Vegas, Nevada in the Red Rock Canyon National Conservation Area. They have interpretive hikes, environmental education programming, youth programs on- and off-site, a visitor center, and artist in residence programming support. All of these programs and services are to help visitors gain an understanding and appreciation for the Red Rock Canyon's cultural and natural resources.

Amenities/Facilities/Programs

The Southern Nevada Conservancy has one developed campground, which is two miles from their visitor center and bookstore. The visitor center includes indoor and outdoor exhibits, plant specimens, and a tortoise habitat. There are no other further amenities provided. Mainly their programs consist of 1-day activities such as a scenic drive and interpretive hike with a leader for tourist and local schools.

Funding Sources

The Southern Nevada Conservancy is a 501c3 non-profit organization, and they work as a cooperating association partner with federal land management agencies. They have created membership programming which can be paid monthly for an amount of 10-100 dollars or a yearly one-time payment of 25-500 dollars donations. With membership, people obtain a 15% discount at all stores, discounts at 500 Public Lands Alliance partner locations, information early, and a newsletter and proceeds go to the programming along with any location store purchases.

Their main styles of workforce

Through their website, there is an online application for which people can sign up to become a paid staff member along with links to other BLM career options. The positions are listed when available, and can be either part-time or full-time positions. They also accept volunteer work, which people can also sign up for in the online links.

Community Engagement/Involvement

The Southern Nevada Conservancy provides a lot of youth-focused programming to develop their connection to the land and resources by providing hands-on curriculum and homeschooling material in case classes are unable to make it out. By hosting the Artist in Residency program, they build community engagement by having the winner lead a community engagement program as well.

Tribal Involvement

They mention that the area works to protect cultural resources, however not much engagement was expressed in their resources or how.

Resources

[Red Rock Canyon Las Vegas Mission](#)

[About the Southern Nevada Conservancy](#)

PACIFICA: A GARDEN IN THE SISKIYOU



Williams, OR



Right: Apartment with full kitchen and bathroom (Photo Credit Pacifica: A Garden in the Siskiyou) Left:
The great hall which can be used for students to sleep and can also be used for wedding events (Photo
Credit Pacifica: A Garden in the Siskiyou)

Background Information

Pacifica Garden is a non-profit on a 500-acre nature reserve, located in the heart of the Applegate Valley in southern Oregon which is 15 from the next town of Grants Pass. Pacifica provides hands-on educational programs, serving K-6 students across the region, the conservation of 200 acres of land (including four native habitats and hundreds of native plant, animal, and bird

species) as substantially unaltered habitat. They have been serving the community as a free recreational space, botanic gardens, natural education center, and gathering place for events and celebrations of all kinds.

Amenities/Facilities/Programs

Pacifica offers youth camping activities and educational opportunities, along with weddings, horseback riding, and hiking. They also offer facilities available for hosting gatherings, such as community events, small meetings, and private functions, indoors or outdoors. The Great Hall is a two-story building for large gatherings. The pond house is a 4,000 square foot home with kitchen and three and a half baths sleeping up to 14 people. The Steve Miller apartment is available for day use with a full kitchen, bathroom, and large rock fireplace. They also have a conference room seating up to 15, lastly a music studio which is available for recording.

Funding Sources

Pacifica accepts donations, which they state they rely on in order to provide services. They also have memberships where you can make monthly donations to support. Pacifica is dependent upon fundraisers, events, and the generosity of those who can help with their donations of time, goods, and financial support. They also host weddings and other programs, which help fund their projects. Pacifica is also funded by grants, for example, the Gray Family Foundation funds their outdoor school.

Their main styles of workforce

Pacifica relies on volunteer work and welcomes it, stating that it is the primary reason they are able to open their gates to the community and grow their gardens and programs. They also have seasonal paid positions, with applications available online.

Community Engagement/Involvement

Pacifica provides a variety of educational activities and field trips along with summer camps for the youth. They want to push that science and community are important, and they provide a unique mobile science and nature center, taking hands-on programs to budget-tight schools in Josephine and Jackson Counties for over 20 years.

Tribal Involvement

Their website and portional materials state what land they are on and the history of the tribe, but no other information on tribal involvement is available.

Resources

[About Pacifica - A garden in the Siskiyou](#)

Recommendations For a Center For the Northern King Range NCA

Amenities/Facilities/Programs

Housing

Housing has proven to be an important aspect of many of the case studies referenced to in this report. The Bears Ears Education Center and Desert Studies Center are fairly rural locations, so nearby housing is needed for staff; staff connected to the centers also identified building additional housing opportunities as an essential need to keep their center functioning in the long term. The center for the northern King Range National Conservation Area could either offer apartments, cabins, or space to park an RV to remove the housing barrier for staff. Additionally, the Spring Creek Project, Wolf Creek Education Center, and Siskiyou Field Institute offer short term housing for educational purposes so students can stay overnight. While Petrolia has a few Airbnbs, these are often occupied, so offering short term cabins at the center for the northern King Range NCA for students to stay in the area overnight would improve the center's ability to offer educational programs. A staff member from the Wolf Creek Education Center said that a lack of insulation in their cabins prevents them from offering programs year-round, so the center for the northern King Range NCA may prefer to have insulated housing to expand operational times.

Office Space

Having multiple office spaces was an important point made by the majority of our case studies. Many of them had stated that there was a want and need for more office spaces. Some of the programs/facilities that have multiple office and conference rooms are the Waipa Foundation, the Desert Studies Center, Spring Creek, Bears Ears, WRTC, and Siskiyou Field Institute. When considering the design of the center, one case study brought up the problem of not having enough individual office space for private meetings and work. Individual offices can be nicer compared to having divided office space where you can still hear everyone.

Community Gardens

Waipa Foundation was the only case study which placed an emphasis on food security for the local community and even developed a successful community garden allowing them to offer

fresh fruits, flowers and a variety of foods to the local community at an affordable price. Ninety percent of the food consumed on the island of Kaua'i is imported resulting in the highest food prices in the nation, being able to produce their own food allows the island to be self-reliant and better support low-income residents. Since our project faces similar challenges with food security a community garden which can provide food at a cheaper more affordable price with a local food market would be beneficial. One other aspect Waipa focuses on is the youth and inspiring them to grow food for their community and this can be communicated well by having the local schools involved with the garden and exposing them to growing, processing, and eating their own local foods.

Kitchen

The case studies that had a commercial grade kitchen were Wolf Creek Education Center and Waipa Foundation. Pacifica - A Garden In the Siskiyou and Spring Creek, reported to have small non commercial grade kitchens connected to their lodging units. The Spring Creek Project has kitchens located in the individual cabins for students while conducting research. The Waipa Foundation includes a concrete imu, which is an underground oven recessed into the floor and is used for both cooking and as an outdoor gathering space. The kitchen facilities at these case studies have improved their ability to service participants in programs and the local community, and the community of Petrolia has expressed a desire to have a commercial kitchen, so the center for the northern King Range NCA could benefit from having some type of kitchen space.

The Desert Studies Center station manager mentioned during an interview that cooking spaces should be built separate from the living/lodging spaces of people who work at the center. He shared that this helped the workforce's mental health by giving them a space to relax without constantly hearing people come in and out.

Bathrooms

The Wolf Creek Education Center provides a good example of a multi building layout which makes accessibility easily from all buildings to the bathroom on site. It may be beneficial to have an indoor bathroom connected to the housing area and an external bathroom for day time

visitors. Depending on the activities taking place, showers may be a helpful amenity to have access to.

Art/Creativity

The Spring Creek Project encourages people who participate in their programs to document their research in creative ways through writing, photography, drawing, songwriting, or other creative ways. The Southern Nevada Conservancy hosts an Artist in Residency program in which they support an artist to camp out in the area to focus on painting or whatever medium is used.

Petrolia has many residents that are talented artists and writers, and the Bear River Band also has a number of talented artists, so incorporating art and creativity into the center for the King Range NCA would be a natural fit and a rich opportunity to engage the community. Like the Spring Creek Project, the center for the King Range NCA could host a program that allows people to stay at the center or use the facilities to engage with the area and creatively record their findings. Also, the center could provide a space for artists and writers, such as an art exhibition space. Furthermore, incorporating art and creativity into the center could serve as a way to inspire the local youth to view the King Range NCA landscape in a new way. Ensuring that any art and creativity programs are financially accessible will allow more participation from the local community.

Renewable Energy

The Wolf Creek Education Center mentioned that having some type of solar lights in their outdoor classrooms would increase learning ability because it can be difficult to use the outdoor classrooms when it is overcast or raining. Additionally, the Desert Studies Center operates fully off-grid and utilizes solar energy. The center for the northern King Range NCA would greatly benefit from designing its facilities with the use of solar power. This would be in line with its interests in ecological and climate resilience, and the potential for solar power is great within portions of the parcel being considered. Furthermore, the lack of access to new Pacific Gas and Electric Company power in Petrolia underscores the benefits, and may necessitate, a fully renewable off-the-grid power supply for the center. Similarly, water availability is a great concern for the center and Petrolia. The MRC could address this issue by planning for rainwater catchment and storage for its facilities, and for dryland and/or water conservative food farming.

During planning and development of the center, every effort should be taken to develop and model climate-wise practices that can sustain it, and the surrounding communities, into an uncertain future. This necessitates a deep understanding of the potential of the land the center is situated on and the human resources available within the local community, and time should be taken by MRC staff to investigate all areas in which materials, energy, water resources, and ongoing programs can be sourced locally and sustainably.

Outdoor Education/Research

Since many of the case studies are located in beautiful natural areas that are rich with educational opportunities, many of the centers have facilities for outdoor education and research. For example, the Wolf Creek Education Center, the Bears Ears Education Center, and the Waipa Foundation, and Pacifica all have outdoor classrooms. Additionally, programs at many of the centers are designed to go out in the field to learn or do research. The center for the northern King Range NCA has similar opportunities since it is located in such a unique natural area. The center could design programs that incorporate lots of opportunities for field work and design an outdoor classroom to further its ability to engage people with nature.

The MRC's Mattole Field Institute is a great base from which to build out and offer further outdoor education and research opportunities. In doing so, it is recommended that the MRC utilize existing collaborative relationships that the Mattole Field Institute has with educators in the following institutions: Cal Poly Humboldt, College of the Redwoods, Bear River Band's Tribal Historic Preservation Office, Mattole Unified School District, Friends of the Lost Coast, and Lost Coast Camp. It is also possible that collaborating with additional entities, such as the InterTribal Sinkyone Wilderness Council, the River Field Studies Network, the Salmonid Restoration Federation, CA Native Plant Society, and additional universities could lead to productive collaborations for outdoor education and research. However, with its roots firmly in the Mattole River watershed and local communities, the MRC would be wise to ensure there is tribal and community support for expanding collaborative partnerships.

Youth Programs

In rural communities there is the challenge of keeping children and young adults engaged and motivated in their education, local communities, and in their future (Eversole, 2001). Ways to

address this include providing engaging opportunities in which life skills are developed. The Watershed Research and Training Center (WRTC) has done well at providing youth programs for students of the region to work in the field doing important land management activities. Those programs help children expand their interests, learn about their passions as land stewards and keep those locals in the area long term practicing fire resilience, and forestry and watershed management.

Many of the other case studies also have engaging youth programs. The Wolf Creek Education Center was created specifically so that local schools would have more opportunities to engage with nature. The Grassland Environmental Education Center hosts free field trips and takes kids into the field to do hands-on work. A large focus of the Waipa Foundation is to engage the local youth and teach them stewardship skills. Furthermore, the Bears Ears Education Center, the Southern Nevada Conservancy, and Pacifica all make efforts to help connect the local youth to the land. The center for the northern King Range NCA could design programs that are specifically targeted for youth to help teach the youth how to be a steward for the King Range. The MRC already has internships and youth employment programs that serve to inspire and empower local youth, such as the Nicks Interns Programs, StepUp Program, and the Ecosystem Restoration Internship Program. These programs could be continued and/or expanded, and their participants could benefit greatly from the availability of lodging that could be provided for in a center for the northern King Range NCA.

Educational and Interpretive Signage

The Bears Ears Education Center (BEEC) provides one example of using educational signage to educate visitors about how to protect the cultural resources within the monument. This includes the tips for the center's Visit With Respect campaign that teach visitors how to avoid harming cultural sites within the monument. The Visit With Respect tips are on interactive and educational displays within the center, but the BEEC has also worked with the BLM to install these educational signs within the monument itself. Furthermore, the BEEC has educational displays showing the monument's indigenous history. The Goodwin Education Center also has educational displays and provides brochures outside the center. The center for the northern King Range NCA could install educational displays about the area's cultural history and explain how visitors can avoid negatively impacting the area while they visit. The center for the northern

King Range NCA could also possibly work with the BLM to install these signs in areas of the northern King Range NCA that are most heavily impacted by visitation. The BEEC involved local tribes in the development of its educational signage and Visit With Respect tips to maintain accuracy and respect. With respect to cultural history, it would be important for the center to collaborate with and empower the local tribes to develop educational and interpretive signage that is culturally appropriate.

Workforce/Partners

Local Non-Profit Organizations and Local Community

Many of the case studies described in this paper are run by or work with local non-profit organizations. The Bears Ears Education Center, The Watershed Research and Training Center, the Waipa Foundation, and the Southern Nevada Conservancy are all run by local non-profits. For the Bears Ears Education Center, partnering with a local non-profit was useful because it is such a rural area with low work-force availability. The Watershed Research and Training Center was able to teach local children stewardship skills and offer them employment opportunities to help keep youth in the area and promote productive futures. The Mattole Restoration Council could help run the center for the northern King Range NCA and could work to involve the local youth, perhaps particularly tribal youth if they so desire, to engage them in the center and allow them to work at the center later.

Colleges

The Spring Creek Project and the Desert Studies Center work with nearby colleges to provide staffing, engage more of the community, and boost educational opportunities. The center in the northern King Range NCA could explore a partnership with Cal Poly Humboldt and College of the Redwoods for additional resources and to allow students to come study and conduct research at the center.

Federal Agencies

Partnerships with federal agencies have proven to be helpful for education centers in rural areas because they can offer support for salary, building maintenance, specialized staff and historical

information of sites. The Wolf Creek Education Center would be a good case study to review how the NPS maintains the center by providing workers, and maintaining the facilities on a five year rotation. If the center is on private land, federal agencies can benefit from the environmental stewardship that comes from education/resilience initiatives like interpretive signage, visitor engagement, and weekend courses. It is recommended that the center partners with the Bureau of Land Management or National Park Service if finding a reliable workforce becomes a barrier. One option would be to contact the Southern Nevada Conservancy about their partnership with the BLM; we were not able to obtain an interview to ask more questions but they could be a good connection.

Land Managers of Natural Areas

The Spring Creek Project partners with land managers of nearby natural areas so that Oregon State University students can travel to natural environments to conduct projects and research. Logically, the center for the northern King Range NCA could work with the BLM so that educational programs could go into the King Range to explore and learn about the natural area. Additionally, publicly accessible areas of the nearby Mattole River and adjacent stretches of the California coast (i.e. those located north of the King Range NCA but accessible via Mattole Road) could be used for educational purposes as well.

Volunteers

Volunteers can play a vital role in a rural education center. Community members and retired specialists have been the most common figures when it came to the case studies. The Bears Ears Education Center uses local community members and out-of-area volunteers that can come for several weeks at a time. They also offer housing as a way to make volunteering accessible. Many times people will come back seasonally. Volunteers could be utilized in a center for the northern King Range NCA as a source of workforce. Since Petrolia is such a remote area, it can be difficult to attract volunteers, so the center for the northern King Range NCA can explore different incentives to make it worth their while, such as offering free housing, giving them discounts on programs the center offers, and hosting interesting events for volunteers. It is important that in doing so, the center proceed with sensitivity for the existence of other local organizations in Petrolia that rely on and experience chronic shortages in volunteer labor.

Funding Sources

Donations

Donations can be a significant source of funding for education centers. The Bears Ears Education Center, the Spring Creek Project, the Waipa Foundation, and the Wolf Creek Education Center all gather donations to help fund their centers and programs and say that donations have made up a significant amount of funding and have significantly contributed to their budget. Staff from the Bears Ears Education Center said that having a clear mission statement about what the center is aiming to achieve helps to foster stronger donor support. The case studies use various strategies, such as biannual donor appeals, requesting donations on their sites, and identifying individuals who are willing and able to either donate large amounts or donate monthly or annually. The center for the northern King Range NCA could develop a clear mission statement to attract donors and explore the strategies mentioned above for obtaining donations.

Grants

Another significant source of funding for several of the centers discussed in this report is grants. For example, the Bears Ears Education Center, the Watershed Research and Training Center, the Desert Studies Center, and Pacifica all have used grants to help fund the centers. The Desert Studies Center often uses grants to fund bigger projects to help keep out-of-pocket expenses down. The Bears Ears Education Center likes to plan for the center in phases so that they can apply for the same grant for different phases of the project to increase funding. Furthermore, the Bears Ears Education Center and the Watershed Research and Training Center stress the importance of having a person involved with their centers that have strong grant writing skills. The center for the northern King Range NCA might benefit from having someone involved with grant writing capabilities and could use the other strategies mentioned to utilize grant funding.

Non-Profit Funds

The Bears Ears Education Center said it benefits from being run by Friends of Cedar Mesa because they can pull from the unrestricted funds of the non-profit to contribute towards the

center when needed. Funding could potentially come from the Mattole Restoration Council to go towards the center for the northern King Range NCA.

Colleges

The Desert Studies Center gets funding from the consortium of schools that own and run it. If the center for the northern King Range NCA explores a partnership with Cal Poly Humboldt and College of the Redwoods, these could be potential funding sources.

Federal Funds

The Wolf Creek Education Center is run by the NPS, so while the programs and supplies are funded through other means, salaries for the staff and maintenance of the facilities are funded by the NPS. If the decision is made for the center for the northern King Range NCA to be on BLM land rather than private land, this could be a potential source of major funding. However, if the center is located on private land but still serves to fulfill the needs of visitors to the federally managed King Range NCA, BLM funding for those programs could still be pursued.

Leasing Facilities/Hosting Events and Programs

One option could be to rent out the larger facilities for events like weddings and parties as another source of revenue. The Pacifica Gardens allows for these events to be hosted in their Cedar Great Hall and they then use the funds to support their other environmental programming for children, we were not able to get an interview for further questioning but that could be done later. Furthermore, the Siskiyou Field Institute makes money by charging for their programs.

Community Engagement/Involvement

School engagement

Many of the case studies referenced in this report offer a lot of school engagement. The Goodwin Education Center, Bears Ears Education Center, Wolf Creek Education Center, Waipa Foundation, Southern Nevada Conservancy, Pacifica a Garden in the Siskiyou, Siskiyou Field Institute, Watershed Research and Training Center, and Grassland Environmental Education

Center all have programs and activities that involve local k-12 schools. These programs can either be day trips or overnight trips, and some programs have developed a specific curriculum for student field trips. The Wolf Creek Education Center has three curriculums for student programs based on the different local ecosystems: watersheds, prairies, and old-growth forests.

Some of the case studies also engage higher education. The Spring Creek Project, Waipa Foundation, and the Desert Studies Center engage nearby colleges, which allows students to conduct research for projects. The center for the King Range could engage more of the community by also engaging Cal Poly Humboldt and College of the Redwoods.

The center for the northern King Range BLM could have a variety of different programs in order to offer more opportunities for youth, particularly the local rural youth attending the Mattole Sprouts preschool, Mattole Unified School District, nearby home schools, and Bear River Band youth. Like the Wolf Creek Education Center, it could offer multi day programs and create different programs for the dune ecosystem, forests, prairie lands, tide pools, Mattole River and estuary, riparian forests, and the dryland food farm. Potential opportunities are abundant in the King Range, along the Mattole River, and on the land being considered for purchase.

Building Trust Around Controversy

Some of the case studies had pushback from local communities because of differing beliefs or confusion about the center's purpose. The Bears Ears Education Center, for example, overcame conservative attitudes in the county by building relationships, engaging in activities the community is interested in, and teaching the community how to respectfully engage in those activities. The Desert Studies Center also emphasized the importance of being flexible and focusing on community needs when creating a center. It is recommended that the center for the northern King Range NCA hold community events and informational meetings about their programs to build familiarity and trust.

Engaging the Local Community

Many of the case studies try to conduct various forms of community outreach outside of schools as well. The Wolf Creek Education Center allows community groups to use the facilities for their

own events when they are not in use by schools. The Watershed Research and Training Center provides job opportunities for local community members. The Spring Creek Project, the Bears Ears Education Center, and the Waipa Foundation host events specifically for community members to engage with each other and learn about stewardship. The center for the northern King Range NCA could engage the community of Petrolia by offering the use of the facilities when they are not needed for school programs, linking visitors to the various other local organizations and causes in Petrolia, offering local jobs for the community, and hosting educational stewardship events.

Engaging Visitors

Some of the case studies, including the Bears Ears Education Center and the Goodwin Education center, focus on educating visitors by offering educational displays, having rangers available to answer questions, and offering guided tours. One of the community's major concerns when establishing the Bears Ears Education Center was driving visitation to a culturally sensitive area. To address this, the center only advertised the center in local areas to help inform visitors who were already visiting rather than draw in new visitors. The center for the northern King Range NCA could also focus on only advertising locally to avoid driving additional visitation. Having the center located at the edge of the parcel in Petrolia would be a good way to advertise it locally because it is not a highly-trafficked area aside from Petrolia residents, and visitors would have to drive right by it to get into the northern King Range NCA.

Financial Accessibility

The Grassland Environmental Education Center has a no fee-field trip program for local school children. By offering this kind of help the center can alleviate the costs for local community members who do not have access to transportation or money for an in depth course. The Wolf Creek Education Center has used grants to lower the costs. Considering Petrolia's remoteness and income level, applying for grants specifically for environmental education in low income communities may be helpful to make the education and resilience center accessible to local youth.

Tribal Involvement

The Bears Ears Education Center has aimed to create a respectful relationship with local tribes by consulting with them to make sure their story is told the way they want it to be on educational displays, taking advice from the tribes on how to educate visitors about how to visit respectfully, and hiring a tribal member to help facilitate connections and conversations between the center and tribes. They also expressed that they would like to have the tribes play a greater role in the center, but certain barriers, such as a lack of housing, have prevented this. Many of the other centers that were researched and interviewed expressed that they would also like to have more tribal engagement within their centers. The center for the northern King Range NCA could focus on creating a respectful relationship with local tribes by focusing on good communication and talking with the tribes about what barriers might prevent them from being involved with the center and how those barriers could be removed.

Mapping and Site-Specific Recommendations

If the center for the northern King Range NCA were to be developed on the parcel in question in Petrolia, there would be several benefits to having it in this location. If the visitor center facilities were developed near the road, it would be in a good location to attract visitors driving through Petrolia to visit the northern King Range NCA. Since one of the purposes of the proposed center is to educate visitors on how to visit the northern King Range NCA without impairing the area, having the visitor center closer to the road that people have to drive by will make people more likely to stop and educate themselves. Furthermore, since the North Fork Mattole River is located in the portion of the property that the Mattole Restoration Council is considering buying, including access to the river would open up the potential to utilize it in any educational programs and events the center might host. The development of an interpretive nature trail along the North Fork Mattole River and through the riparian forest would be a longstanding asset to both the center and the local community. Currently, no walking trail exists in the downtown area, and opportunities for hiking on firm, level ground are virtually nonexistent in the greater area, presenting a barrier to access for certain populations. Therefore, development of a trail on this parcel could alleviate that barrier and give those with mobility challenges a place to recreate.

Language Guide/ Future Tribal Engagement Recommendation

After a devastating relationship and history with the US government and the settlers that came upon their land, tribes today are still fighting to have an integral part in their aboriginal homelands. The connection that tribal people have with their homelands is unmatched and fostering that connection of their re-establishment would only be beneficial to the now local community, land, and natural resources.

All tribes are unique in their language, ceremonies, traditions, and tribal governing style and so when you are looking at the northern King Range area it would require and be important to ensure that contact is made with all of the tribes that have ties to the land. The tribes and entities to contact for our specific project area would be the Bear River Band and InterTribal Sinkyone Wilderness Council. Tribal people, however, relied on each other throughout history and neighboring tribes could very well have shared areas and resources, so taking the time to contact each tribe about the project could provide more resources or details that may be helpful.

2020 was the first time that ceremony was brought back into the project area since 100 years after attempted genocide on the Mattole and Sinkyone people. So allowing Tribal people the space and time to reconnect is important but also should be the same when asking for partnership or collaboration with the project. Building a relationship with any tribe can take time and multiple attempts to try and find the best plan of action, but being given the opportunity and space to be part of establishing a center they can use for engagement and building resiliency is an important opportunity for any tribal community.

It is important to note that the InterTribal Sinkyone Wilderness Council is made up of multiple federally recognized tribes that have ties to the same territory of the Sinkyone people and they could possibly be able to provide more resources or ideas to help. They have come together already to buy land and create the first intertribal wilderness park “after a century and a half of dispossession and more than a decade of effort, a consortium of eleven federally recognized tribes has acquired 3,900 acres of the Sinkyone lands.” (Poole, 1998). The Council runs as a non-profit organization and partnership and collaboration with them could be beneficial.

Naming the center in respect to the land and the tribal people who come from there would be considered after establishing tribal collaboration. Native languages were forced to be forgotten for many tribes so assuming that the tribe would have knowledge of how to speak is wrong. It's best to try to do research beforehand and find sources of information so that they can refer to. Some tribes may already have those resources or not, but taking the initiative to help gather sources would be helpful just in case.

The Stone Lagoon Center was reopened under Yurok tribal stewardship and is currently the first tribe in California to operate a state owned visitor center with all the information written through a Yurok perspective. This center would be an excellent case study to reference as a model that actively involves tribes. The Stone Lagoon Center cultural resource director has said "We're setting the stage for other tribes to be able to do the same thing that we're doing, and we want this emulated across the state," (Cortez, 2022).

Flow Charts of Next Steps

Amenities, Facilities, and Programs

- Provide a variety of workspaces like indoor/outdoor classrooms
- Provide insulated housing options for staff and program participants
- Incorporate renewable energy
- Develop curriculum for K-12 youth and host low cost trips

Workforce and Partnerships

- Create pathways for the local community to be trained for positions within the center
- Explore partnerships with the BLM
- Explore incentives to draw in volunteers (housing, discounts, events)
- Offer college credit for students who can do field based research/work

Funding sources



- Explore partnerships with Cal Poly Humboldt or College of the Redwoods for funding programs
- Explore if the BLM is interested in contributing to funding the center
- Hire someone with strong grant writing capabilities
- Construct a strong mission statement to foster strong donor support
- Determine strategies for gathering donations (appeals, finding large or repeat donors)
- Explore partnering with the Mattole Field Institute or other local non-profit organizations

Community Engagement



- Host K-12 schools at the center for overnight trips
- Allow college students to stay at the center to conduct research
- Identify what issues, if any , that locals may have with the center, and what can be done to overcome them
- Survey for what kinds of events/ facilities the local community and tribes are interested in
- Coordinate advertising efforts to keep outreach relatively local as to not drastically attract visitation
- Consider applying for grants that will increase the accessibility for low income communities

Tribal Involvement



- Involve tribal members in the curriculum-building process to ensure their story is told the way they want it to be told
- Consider co-management approaches for the center
- Talk to tribal councils to gauge interest in having a major role in the center
- Identify barriers to tribal participation (transportation, seasonal housing) and work to overcome them

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Appendix A: Interview Resources

Our Interview Questions:

1. What is your role in this center/program?
2. Why do you think there was/is a need for this center/program in this area?
3. What kind of permitting did your facility require?
4. How has this center/program helped improve the area?
5. What worked well about the way your center/program was implemented?
6. What didn't work well about the way your center/program was implemented? What might have you done differently to make it work better?
7. Where did the funding come from to initially set up the center/program? Where does the funding come from to sustain the center/program on a continuing basis?
8. Where does the workforce come from to run the center?
9. What role, if any, does tribal engagement play in the center/program?
10. What do you see as benefits to having the facility on Federal/Private land?
11. What do you see as down sides to having the facility on Federal/Private land?
12. Is there any additional advice you would give to a team/organization trying to implement a new education center in a remote area?

Appendix B: Case Studies table

Amenities, Facilities, Programs	Housing	Office Space	Community Garden	Kitchen	Bathroom	Art/Creativity
Wolf Creek Education Center	X			X	X	
The Watershed Research and Training Center		X				
Siskiyou Field Institute	X	X				
Goodwin Education Center						
Spring Creek Project	X	X		X	X	X
Bears Ears Education Center	X	X				
Desert Studies Center	X	X			X	
Grassland Environmental Education Center						
Waipa Foundation		X	X	X		
Pacifica: A Garden in the Siskiyou	X			X	X	
Southern Nevada Conservancy						X

Amenities, Facilities, Programs	Renewable Energy	Outdoor Education/Research	Youth Programs	Eduational & Interpretive Signage
Wolf Creek Education Center		X	X	
The Watershed Research and Training Center		X	X	
Siskiyou Field Institute		X	X	
Goodwin Education Center			X	X
Spring Creek Project		X		
Bears Ears Education Center		X	X	X
Desert Studies Center	X	X	X	
Grassland Environmental Education Center		X	X	
Waipa Foundation		X	X	
Pacifica: A Garden in the Siskiyou		X	X	
Southern Nevada Conservancy		X	X	

Workforce / Partners	Local Non-Profit & Local Community	College Involvement	Federal Agency Involvement	Land Managers of Natrual Areas	Volunteers
Wolf Creek Education Center			X		
The Watershed Research and Training Center	X		X		
Siskiyou Field Institute					
Goodwin Education Center	X				
Spring Creek Project		X	X	x	
Bears Ears Education Center	X				X
Desert Studies Center	X	X	X		
Grassland Environmental Education Center	X				
Waipa Foundation	X		X		X
Pacifica: A Garden in the Siskiyou					X
Southern Nevada Conservancy			X		

Funding Sources	Donations	Grants	Non-Profit Funds	College Funding	Federal Funding	Leasing Facilities/ Hosting Events and Programs
Wolf Creek Education Center	X				X	
The Watershed Research and Training Center		X				
Siskiyou Field Institute						X
Goodwin Education Center			X			
Spring Creek Project	X					
Bears Ears Education Center	X	X	X			
Desert Studies Center				X	X	
Grassland Environmental Education Center	X		X			
Waipa Foundation	X	X	X		X	
Pacifica: A Garden in the Siskiyou	X					
Southern Nevada Conservancy	X		X		X	X

Community Engagement / Involvement	School Engagement	Building Trust Through Controversy	Engaging the Local Community	Engaging Visitors	Financial Accessibility
Wolf Creek Education Center	X		X		X
The Watershed Research and Training Center	X		X		
Siskiyou Field Institute	X				
Goodwin Education Center	X			X	
Spring Creek Project	X		X		
Bears Ears Education Center	X	X	X	X	X
Desert Studies Center	X				
Grassland Environmental Education Center	X				X
Waipa Foundation	X		X		
Pacifica: A Garden in the Siskiyou	X		X		
Southern Nevada Conservancy	X		X	X	

Tribal Involvement	
Wolf Creek Education Center	X
The Watershed Research and Training Center	
Siskiyou Field Institute	
Goodwin Education Center	
Spring Creek Project	
Bears Ears Education Center	X
Desert Studies Center	
Grassland Environmental Education Center	
Waipa Foundation	
Pacifica: A Garden in the Siskiyou	
Southern Nevada Conservancy	

Appendix C: Language Guide

Date	Contact	Name	Details	Links
2/8/22	scoil-ling@berkeley.edu	Mattole Language Archive	Gave 3 links to recordings of Mattole language, However are planning to digitize other recordings of the Mattole language in the next months. The recordings are of 2 girls puberty songs and 1 a recording with a tribal member discussing plants and natural resource names. They also provided a link to more references	http://cla.berkeley.edu/item/16491 http://cla.berkeley.edu/collection/10030 https://cla.berkeley.edu/languages/mattole.php
2/10/22	Facebook	Julian Lang	Gave name reference of people to contact who have knowledge or connections: Kayla Begay (hupa, professor at HSU), "The main person for that is Gordon Bussell. They are part Mattole, his mother I believe" can contact him through facebook Julian also has a recording of the last mattole speaker, "Johnnie (can't remember last name)" Julian also has a book in which he discusses the art installation that I created called the Mattole Project.	kreb14@humboldt.edu - Kayla Begay's email