



*Sutter Basin Conservation Bank*

*Photo by Brian Zettle, USACE*

# Indigenous Approaches to Tule Restoration Workshop

*March 28-30, 2023 (published September 2023)*

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Tribal Nations Technical Center of Expertise



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*Dr. Michael Joseph  
Raymond and Wolf  
Whitecloud collect tule to  
share during the workshop*

*Photo by Simone  
Whitecloud, USACE*



# OVERVIEW

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## Scope of Work

The U.S. Army Corps of Engineers is uniquely positioned through the management and operation of their project lands to have promising potential for tule revitalization. The goal of this Sustainable Rivers Program (SRP) project is to acknowledge and adopt a collaborative research approach with our Tribal partners to incorporate Traditional Ecological Knowledge (TEK) into tule recovery range-wide. Anecdotal evidence has taught us that conservation and restoration work performed under indigenous guidance is often more successful than traditional engineered solutions—especially when unlocking their intimate and historical ties to the land. Through the formation of a Tule Restoration Alliance, the project development team is working with our interagency and Tribal partners to utilize TEK and scientific ecological knowledge to inform approaches to tule recovery. Specifically, for this collaborative approach funds were used to identify partners, facilitate workshop, develop conceptual ecological models, identify existing data and knowledge gaps, and prepare recommendations for site specific USACE tule restoration studies and projects.

## Traditional Ecological Knowledge

Traditional Ecological Knowledge, also called by other names including Indigenous Knowledge and Traditional Ecological Knowledge (ITEK) or Native Science, refers to the existing and evolving knowledge acquired by indigenous and local peoples over hundreds or thousands of years through direct contact with the environment. This knowledge is often region-specific and includes the relationships between flora, fauna, natural processes, and landscapes that are significant to lifeways, cultural practices, and food and resource acquisition (OSTP and CEQ 2022).

## Cultural Keystone Resource

A cultural keystone resource (CKR), or cultural keystone species, is a plant, animal, or other natural resource that has greatly shaped the cultural identity of a group of people (Garibaldi and Turner 2004). A CKR often has an important role in diet, materials, medicine, and/or spirituality. CKRs can be integral parts of ritual, ceremony, and language, have links to kinship and oral tradition, and may be protected by a people. Some CKRs might also be a taboo subject. Examples of CKRs include salmon in the American Northwest, Edwards Plateau Chert in Central Texas, and rivercane in the American Southeast.



## Tule

Tule (*Schoenoplectus acutus* and *Schoenoplectus californicus*) is a giant sedge in the Cyperaceae family, native to freshwater marshes found throughout the United States. This species provides many benefits to the ecosystem such as fish and wildlife habitat, erosion prevention, flood control, and water quality. Tule is crucial to the culture of many Native American communities, especially those whose ancestral homelands occurred within California's Great Central Valley, and the surrounding foothills. Tule reeds play a vital part in the lives of native people. The harvested material has traditionally been utilized for sacred and cultural practices critical to the continuity of Indigenous lifeways (Ekness Norton 2009). Tule reeds are collected and used to build boats, houses, sleeping mats, duck decoys, and baskets. The roots and seeds are also edible contributing to a healthy Indigenous traditional diet. Although, many Tribal communities still harvest and utilize Tule, access to this important species has become severely limited within California. Vast Tule marshlands once covered California's Great Central Valley, and Tule also grew in broad bands along the lake shores and rivers. However, most of California's historic range of Tule has now been significantly altered by agriculture, climate change, grazing, water management, and urbanization. USACE projects directly and indirectly contribute to these threats and stressors.

## Workshop Planning Committee

In order to fulfill its obligation to proactive collaboration across disciplines, cultures, and institutional backgrounds, the Tribal Nations Technical Center of Expertise (TNTCX) formed a Workshop Planning Committee that met routinely and consisted of experts possessing a wide breadth and depth of expertise. Members of the committee included:

**Brian Zettle** ▪ USACE TNTCX ▪ Senior Biologist/Tribal Liaison

**Ivan Senock** ▪ Buena Vista Rancheria ▪ Tribal Historic Preservation Officer

**Sarah Ryan** ▪ Big Valley Band of Pomo Indians ▪ Environmental Director/Emergency Management Director

**Travis Hemmen** ▪ Westervelt Ecological Services ▪ President

**Elijah Hess** ▪ Fallon Paiute Shoshone Tribe ▪ Wetlands Assistant

**Allegra Bukojemsky** ▪ Westervelt Ecological Services ▪ Landscape Architect

**Sarah Corraeh** ▪ Westervelt Ecological Services ▪ Outreach Coordinator

**Michelle Larson** ▪ USACE Sacramento District ▪ Tribal Liaison

**Casey Nyquest** ▪ USACE Sacramento District ▪ Water Management

**Mark Gilfillan** ▪ USACE TNTCX ▪ Tribal Liaison



## Tule Restoration Alliance (TRA)

The partnership created by the committee prompted the creation of a Tule Restoration Alliance (TRA). The USACE TNTCX has facilitated the alliance, which is dedicated to combining TEK and Western Ecological Knowledge to achieve successful tule recovery. The alliance is a collaboration between the USACE, with support from the USACE Sustainable Rivers Program (SRP) and The Nature Conservancy (TNC). The goals of this alliance are to identify partners, create a shared vision, facilitate technical workshops, develop conceptual ecological models, identify existing data and knowledge gaps, share knowledge, and identify opportunities for site specific USACE tule restoration studies and projects.

## Workshop Sponsors

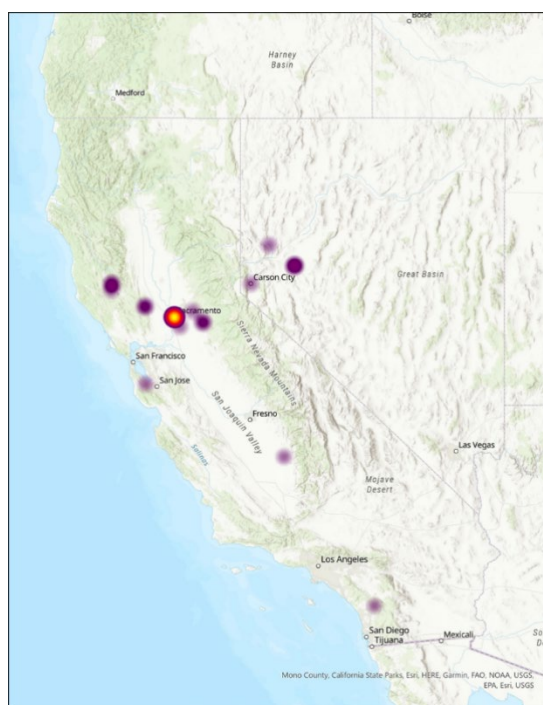


## Participants

Over 50 individuals participated in the workshop, with broad representation from the Federal government, State/County governments, Tribal Nations, universities, private sector businesses, and other institutions. Federal organizations represented included the USACE Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory (CRREL), USACE Sacramento District, and the TNTCX. Tribes represented included the Buena Vista Rancheria of MeWuk Indians, Yocha Dehe Winton Nation, Big Valley Band of Pomo Indians, United Auburn Indian Community, and Shingle Springs Band of Miwok Indians. State and County organizations included the California Department of Water Resources, Yolo County Resource Conservation District, Solano County Resource Conservation District, and Sacramento County (Full list of attendees provided in Appendix).

## Workshop Location

The workshop location was selected by the planning committee based on availability of meeting space, travel times to potential fieldtrip sites, and locale of the Tule Restoration Alliance members (Figure 1). It was mutually agreed that Davis, California best met the needs of these criteria. Davis is located in the Patwin Traditional Territory and the homelands of the Yocha Dehe Wintun Nation. Westervelt Ecological Services arranged for the use of the Veterans Memorial Center and transportation to the nearby Giant Garter Snake/Tule restoration mitigation site (Sutter Basin Conservation Bank). The planning committee also thought it was important to make the workshop face to face and not offer virtual participation. This type of engagement is best accomplished in that setting where distractions can be limited, and attendees can be fully present.



*Figure 1. Membership Heat Map*



## MEETING STRUCTURE

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### Day 1 “Tule Relationships”

*March 28, 2023*

The first day of the workshop was an introduction to tule, TEK, and CKR with most of the day dedicated to letting participants introduce themselves through sharing about their relationship with tule, what it means to them, and what they hope to get out of the workshop. Mr. Brian Zettle and Mr. Travis Hemmen welcomed all participants, and Mr. Dillon McKay of the Yocha Dehe Wintun Nation opened the meeting with a prayer. Next LTC Dianna Lively, Deputy Commander USACE Sacramento District, delivered a greeting and message of support on behalf of the District Commander. The first session included a panel discussion entitled “Indigenous Perspectives on Tule Relationships,” which was moderated by Mr. Mark Gilfillan. Panelists included Dr. Michael Joseph Raymond, a Tribal elder, Mr. Ivan Senock, a Tribal Historic Preservation Officer from the Buena Vista Rancheria of MeWuk Indians, Ms. Krystal Moreno, the TEK Program Manager from the Shingle Springs Band of Miwok Indians, and Mr. Petee Ramirez, a Senior TEK Specialist from the Shingle Springs Band of Miwok Indians. Mr. Gilfillan asked the panelists to share their relationship with tule, what tule has taught them, and what they would like future generations to know about tule (Figure 2).



*Figure 2. Mark Gilfillan leads panel discussion  
Photo by Brian Zettle, USACE*

During the first session the panelists provided powerful testimony about their relationship with tule, their culture, and the responsibility to preserve tule and this knowledge for future generations. Dr. Raymond passed out tule stems to all the participants so they could open their hearts and hear what tule has to say. They shared that quality tule can be hard to find for cultural practitioners since stewardship practices are not carried out on private lands. The session ended with an interactive discussion with participants in which they introduced themselves through shared stories and thoughts about their relationship with Tule. Taking time to share and listen is a critical first step to gatherings like this.

The second session of the day began with a continuation of the discussion regarding tule relationships, then ended with a panel discussion entitled “Indigenous and Western Approaches to Modeling (System Relationships)” which was moderated by Mr. Brian Zettle. Panelists included Dr. Simone Whitecloud, a research ecologist with USACE CRREL and Lac du Flambeau Band of Lake Superior Chippewa member, Ms. Sarah Ryan, the Environmental Director/Emergency Management Director with the Big Valley Band of Pomo Indians, and Mr. Petee Ramirez. The panelists were asked to discuss the coproduction of knowledge, how Tribes work with other researchers/scientists, and what elements might be present in a Tribal led model that may not typically be considered in typical Western modeling approaches. The panelists talked about the need to “indigenize science” and not just “de-colonize science” whether that be modeling or management.



*Photo by Brian Zettle, USACE*





## Day 2 “Tule Conceptual Models”

*March 29, 2023*

The second day of the workshop was a deeper dive into conceptual ecological modelling. The first session began with a presentation by Mr. Brian Zettle, entitled *Conceptual Modelling as a Means to Storytelling*, which served as an introduction to conceptual models for all participants. Then, participants were split into breakout groups to identify important variables, processes, and components of a tule model (Figure 3). Each breakout group was facilitated by a person that had received training or was familiar with conceptual models and leading development conversations. The breakout group facilitators led the group participants in discussion and encouraged them as they developed and built ideas for their model.



*Figure 3. Breakout groups developing their conceptual models*

*Photo by Brian Zettle, USACE*

The day was divided into two sessions (morning and afternoon). The first breakout session allowed groups to identify relevant pieces to their chosen tule subject (propagation, management, art, culture, etc.). The second breakout session (after lunch) allowed groups to identify the relationships between the pieces and draft a tule conceptual model. Finally, representatives from each breakout group shared the conceptual model they developed to promote a conversation about the different assumptions between the groups. These conceptual models are included in the **Meeting Outcomes** section of this report.

### Day 3 “Tule Restoration”

*March 30, 2023*

The third and final day of the workshop included a morning field trip to a nearby Westervelt Ecological Services tule restoration project (Sutter Basin Conservation Bank). On site, Travis Hemmen and Mark Young shared with the group the process and nuances of selecting a restoration site, designing and engineering the restoration components, and stewardship and maintenance requirements (Figure 4). The group then toured the site to continue discussions about tule restoration, invasive species control, beaver control, and other wildlife occupying the restored tule habitat.



*Figure 4. Sutter Basin Conservation Bank field trip*

*Photo by Brian Zettle, USACE*

The afternoon session focused on “next steps for the Tule Restoration Alliance”. Because some participants were unable to stay for the afternoon, we shifted from a panel discussion to a round table discussion for all participants to fully engage with the panelists, Mr. James Sarmiento, Executive Director of Cultural Resources from the Shingle Springs Band of Miwok Indians, Mr. Ivan Senock, and Mr. Brian Zettle. Mr. Mark Gilfillan facilitated the roundtable discussion, which focused on improving and sustaining healthy tule relationships either through management techniques, education, policy, or other. This discussion offered Tribal and non-Tribal land managers, scientists, and regulators an opportunity to dispel myths, learn perspectives, improve relationships, and consider future action items to address obstacles to collaboration and engagement.



## MEETING OUTCOMES

This workshop brought about significant outcomes, both tangible and intangible that will help guide the work of Federal agencies, including USACE, as they incorporate TEK into ecosystem restoration projects. For some, this meeting was an introduction to TEK, and for others an introduction to storytelling via conceptual modelling. The knowledge shared about tule will serve as direction and guidance for the TNTCX and its partners as they create educational programs and materials, identify field study opportunities for tule restoration, and coordinate access to tule habitat. Common themes are presented below.

### Cultural Burns

An important point regarding tule health and management was made and reiterated throughout the workshop: cultural burns create healthier, more sustainable stands (Figure 5). Tribes believe fire is medicine. Cultural burns are not prescriptions to reduce fuel load, rather they are restorative and used to cultivate new, healthier, stronger growth of important species like tule. The cultural burns are also ceremonial and play an important role in preserving and passing on cultural heritage to future generations. The panelists shared how tule wetlands can play an important role in combating climate change as the California Delta is one of the



largest carbon sinks available, second only to forests. Generational burning of the tule is critical to maintaining this special habitat. However, regulatory constraints make it nearly impossible to implement this restoration.

*Figure 5. Zachary Emerson lights a marsh of tule and cattail on fire during the Indigenous Fire Workshop*

*Photo credit Alysha Beck, UC Davis*

## **Good Medicine**

Throughout the workshop participants described tule as “good medicine” and discussed the role it plays in healing people, fish and wildlife, and the environment. Tribal participants acknowledged it can be hard for non-Tribal scientist to accept and understand other ways of knowing and seeing. Non-Tribal people don’t appreciate that traditional tule items and uses are good medicine. TEK is more than a convenient term for talking to agencies – it is a way of life. There is a shared belief among the Tribes that nature is culture and culture is nature and with that comes a responsibility to be good stewards and care takers.

## **Tule Education**

There is a need for education and broader understanding of the role tule plays in Tribal culture, fish and wildlife habitat, and a healthy environment. Tule is not a nuisance that clogs waterways and increases fuel load! Restoring Tribal access and relationships with tule can address these perceived problems and lead to a healthier environment. Tule is available for everything if you listen and learn. Tule is used for ceremony (sweat lodge, burial mats), sustenance (tule boats, duck decoys, roots/seeds), lodging (spring/summer homes), cultural preservation, and much more. Unfortunately, it’s becoming difficult to find healthy, safe tule stands for these purposes. Education is needed to restore, preserve, and improve access to tule.

## **Conceptual Ecological Models**

Another outcome was a series of conceptual ecological models developed by teams of participants during the second day of the workshop. The similarities, differences, and different relationships conveyed in these models represent a wide variety of perspectives on rivercane and have the capacity to resonate with a wide range of audiences. All conceptual models are included on the following pages (Figures 6 to 11).





# GROUP 1

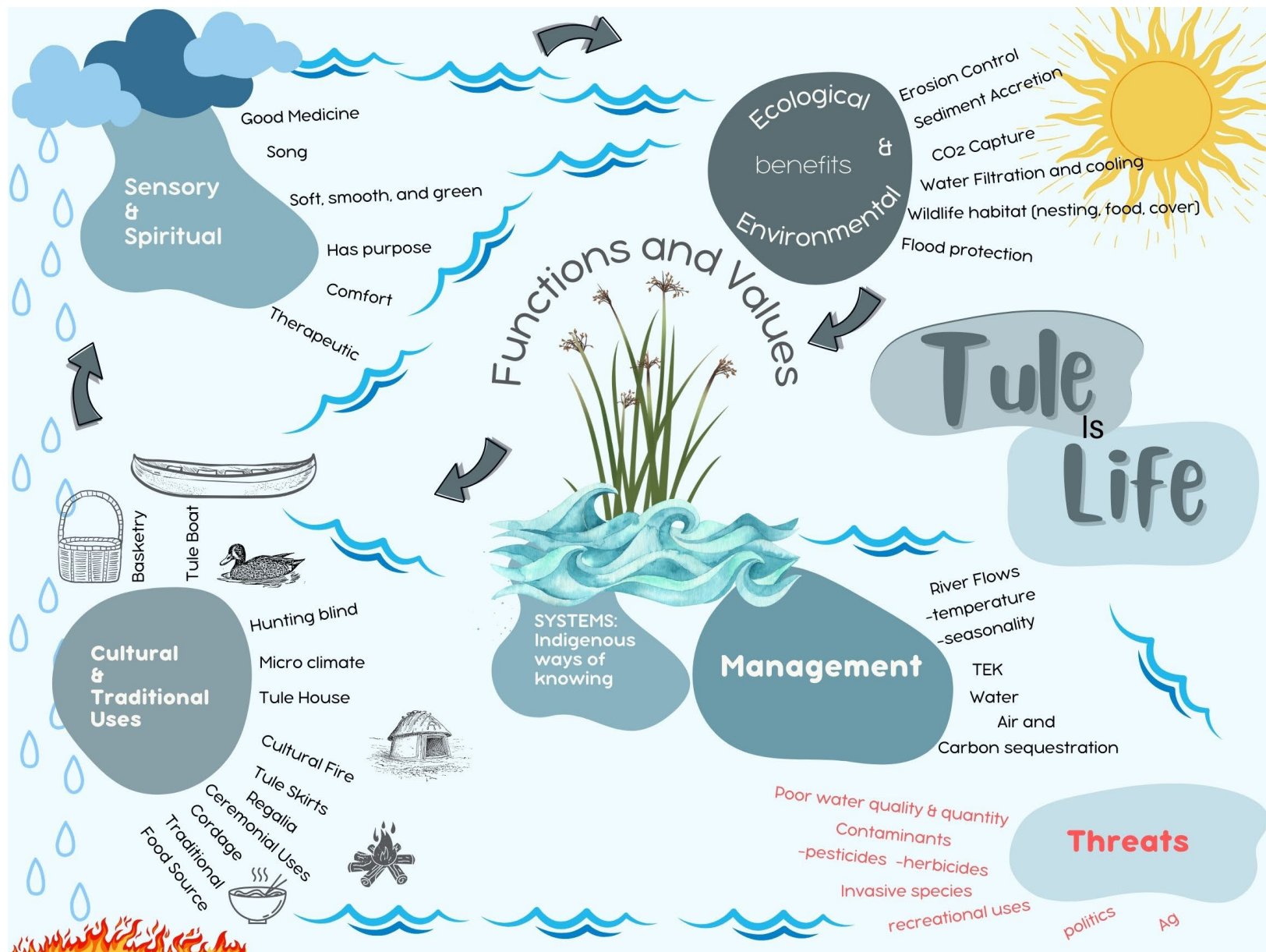


Figure 6. Tule is Life Model

## GROUP 2

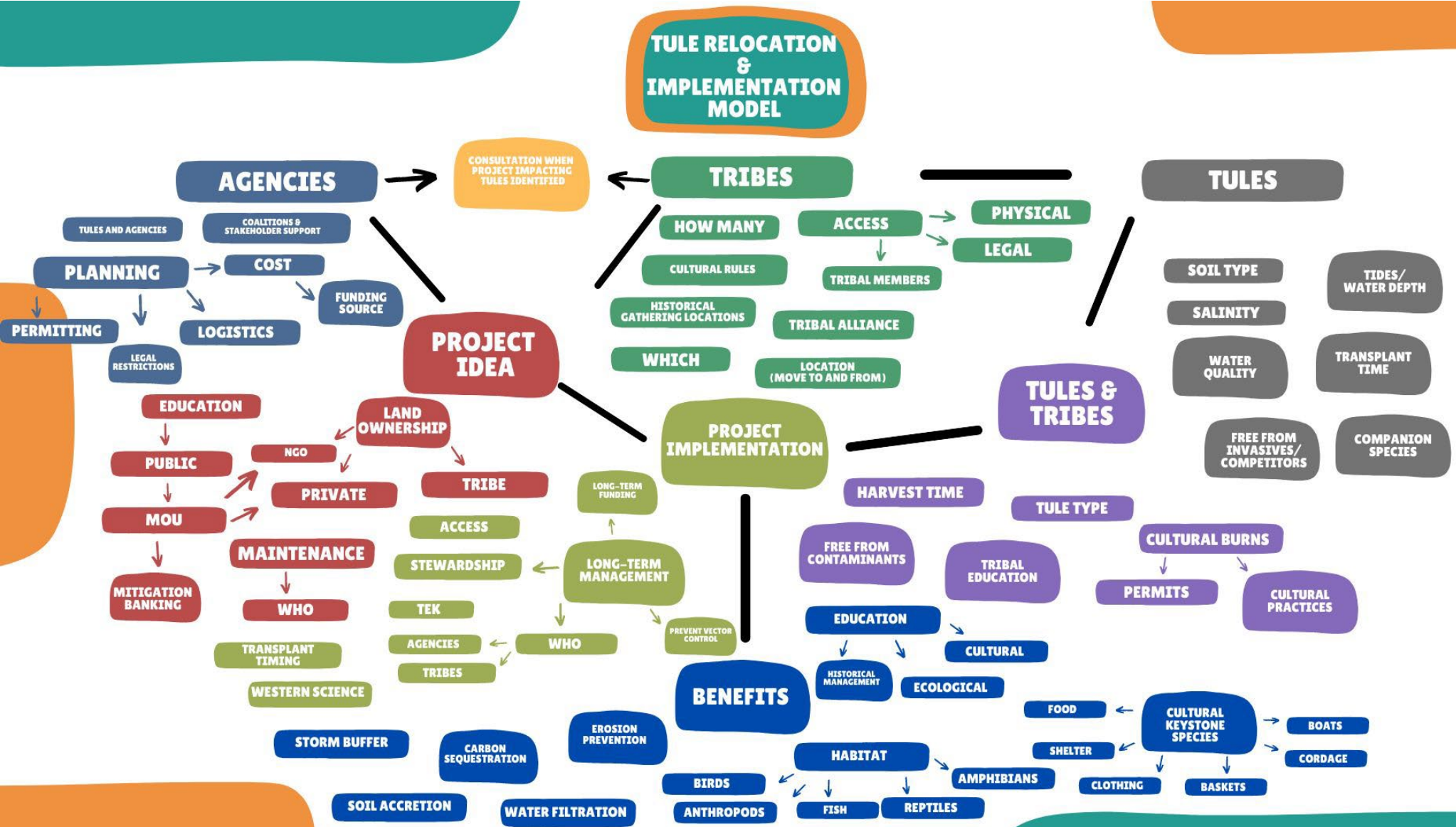


Figure 7. Tule Relocation Model



## GROUP 3

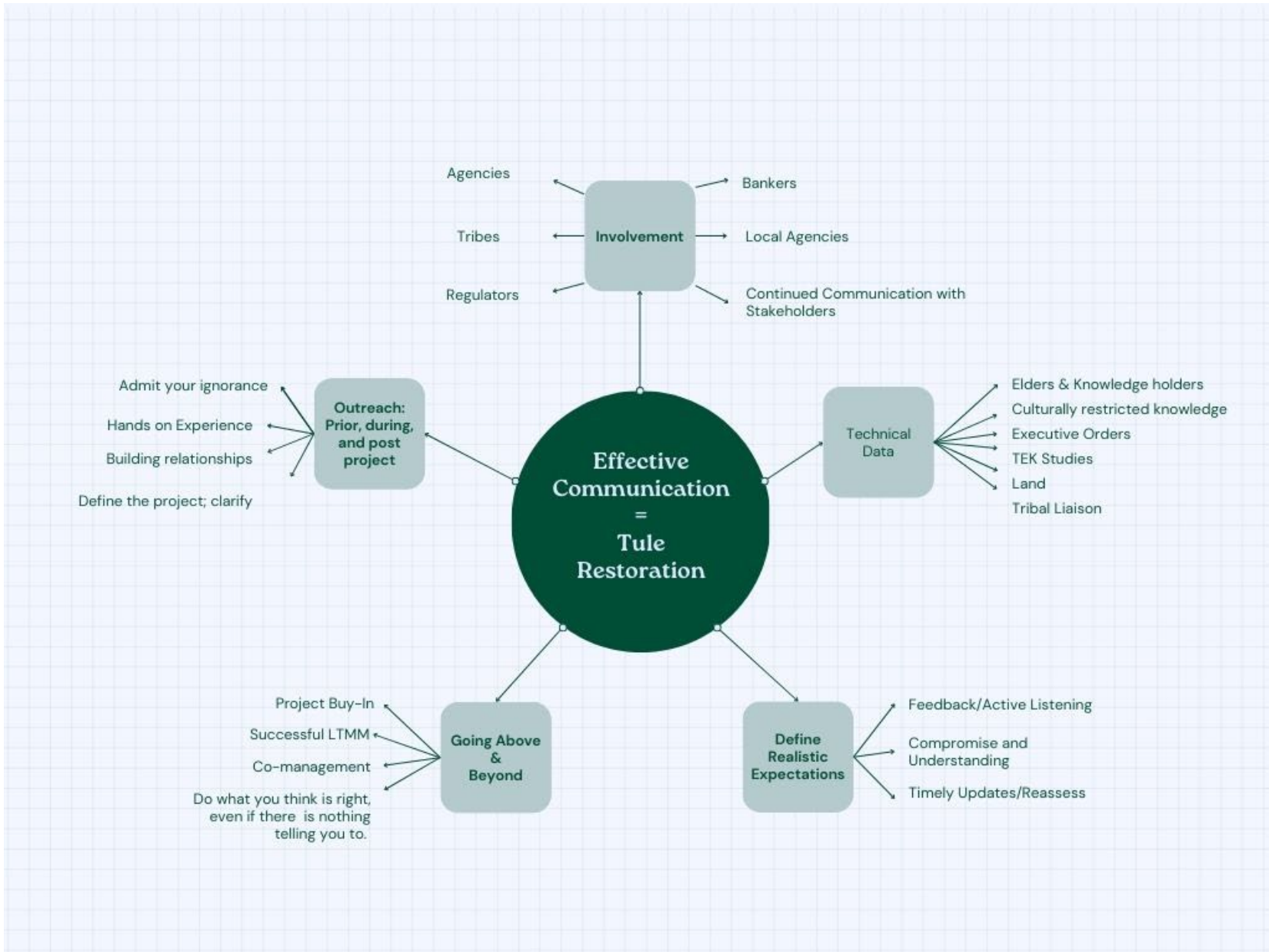


Figure 8. Tule Communication Model

## GROUP 4

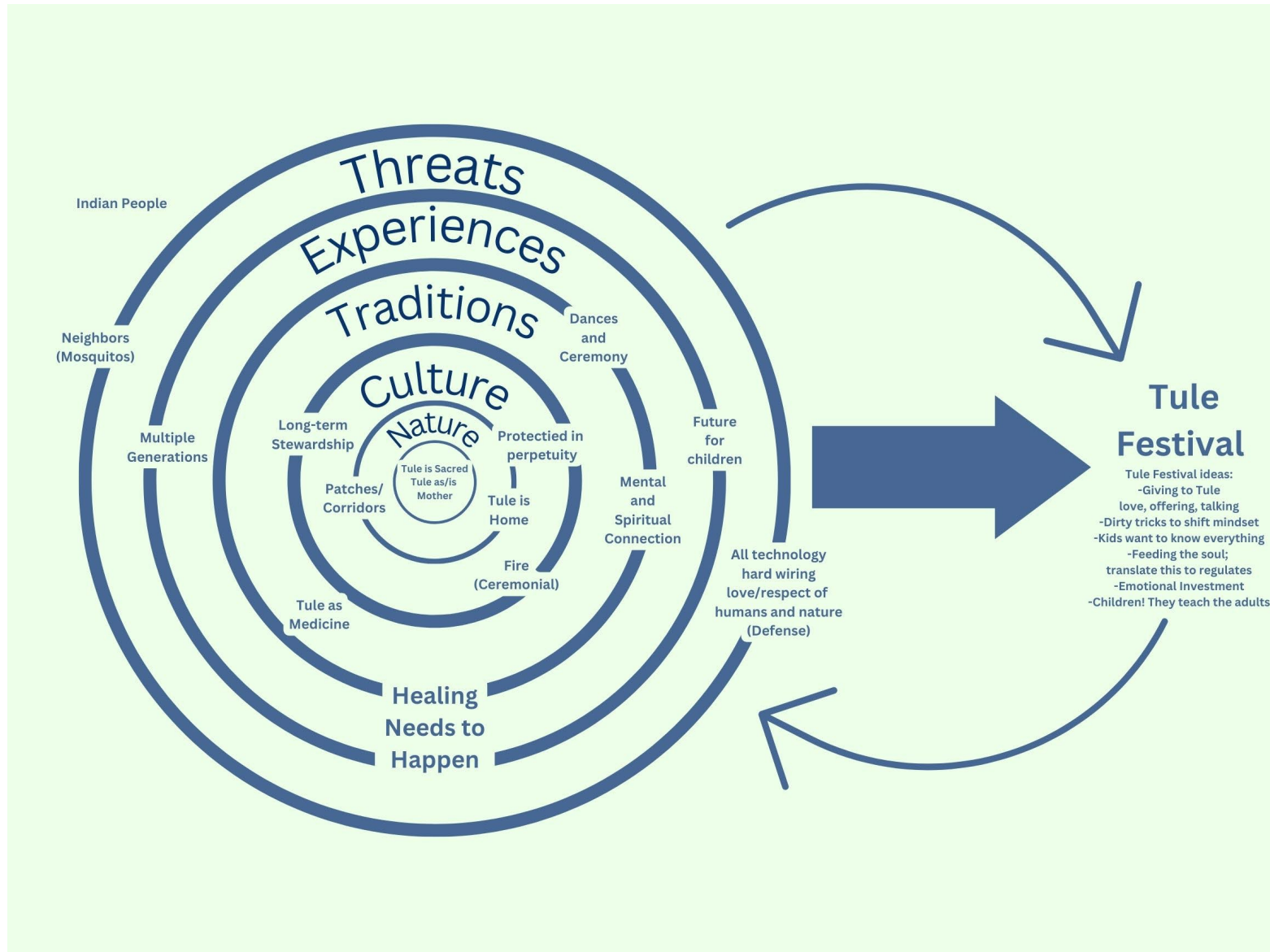


Figure 9. Tule Ripple Model



## GROUP 5

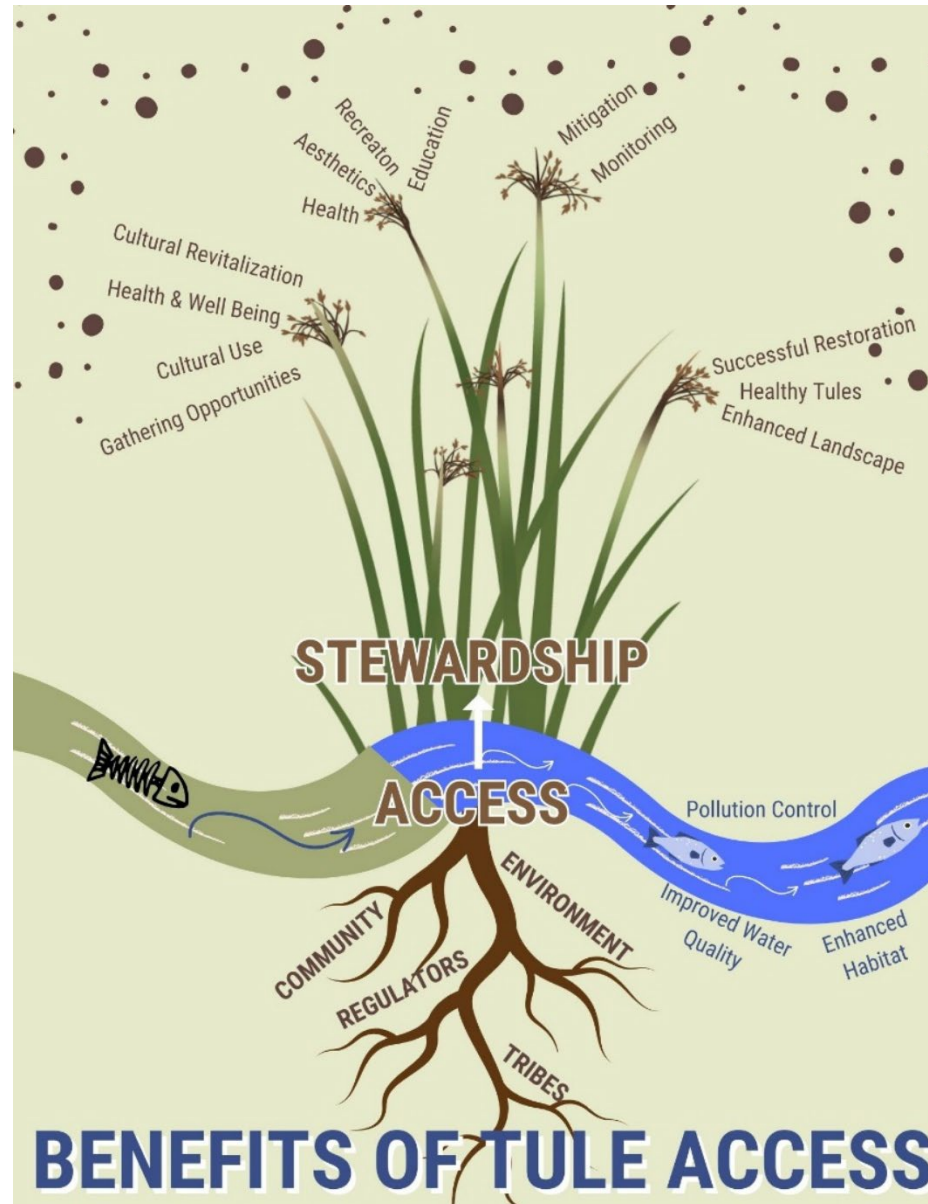


Figure 10. Tule Access Model

## GROUP 6

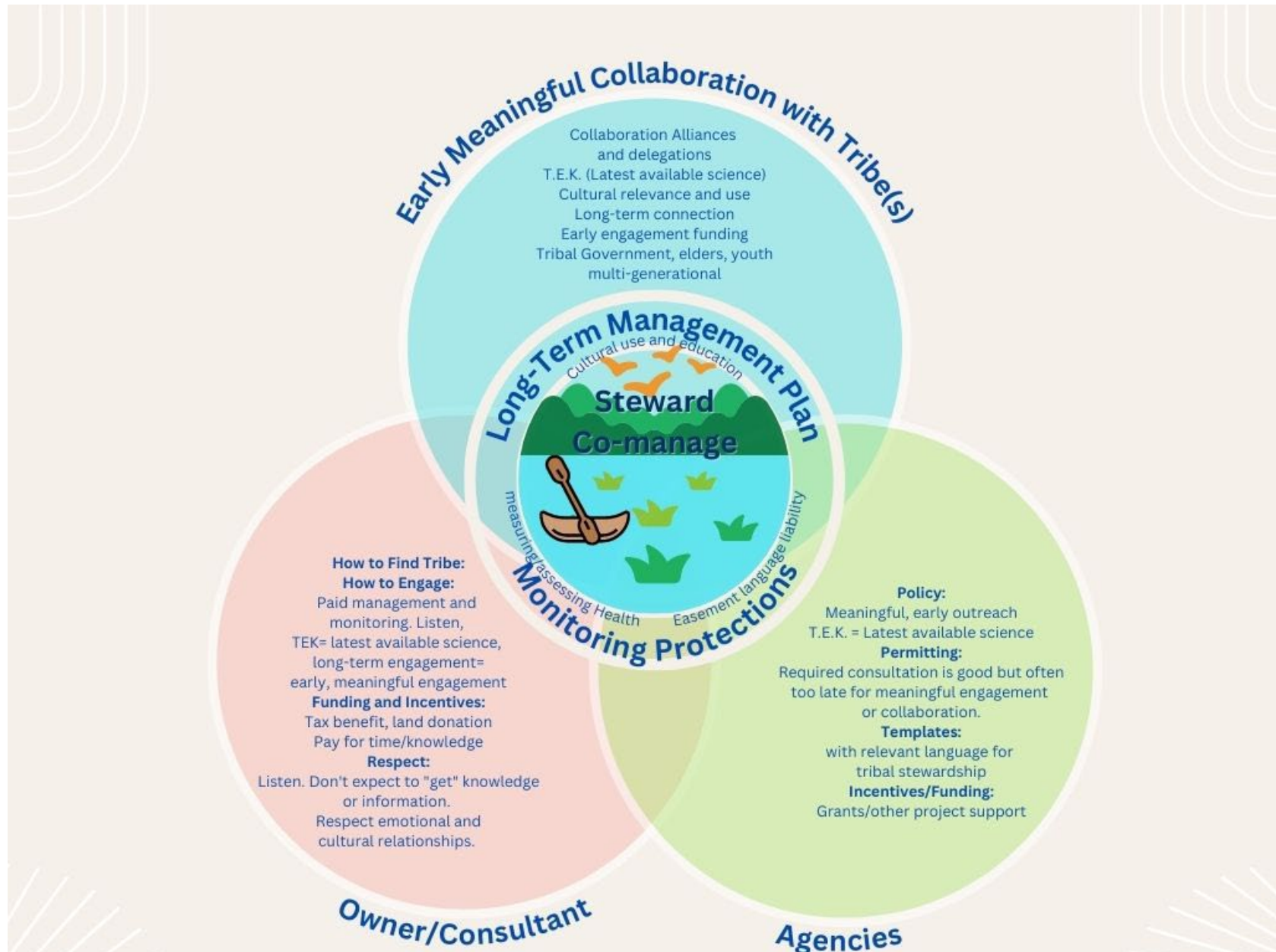


Figure 11. Tule Collaboration Model



## Main Ideas and Concerns

There were many common threads of discussion that were carried throughout the various sessions and activities. Some frequently mentioned ideas and concerns:

- **Tule is in trouble**, and we need to act now.
- Tule restoration with TEK is **stewardship**, not management.
- Tule is **Good Medicine** for people, water, and earth.
- Tribal **knowledge holders** should be compensated for their services like any other subject matter expert.
- Listening, learning, and understanding is how we build **relationships** with tule and each other.



*Photo by Brian Zettle, USACE*

## FUTURE WORK

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Through the workshop, it became evident that future efforts by the Tule Restoration Alliance should focus on four primary areas:

- 1) **Educate** agencies about tule as a cultural keystone species, the ecological benefits it provides, stewardship approaches for land managers, and appropriately budgeting for Tribal engagement and services. This education should also leverage partnerships between Federal and State Agencies, Tribes, Universities, and others to incorporate tule education into already planned events (Earth Day, California Duck Days, Water Safety programs, etc.).
- 2) **Develop** a Tule Restoration Database/Mapviewer for tule restoration practitioners to share tips and insights.
- 3) **Update** mitigation banking template to include Tribal engagement and access to tule (Sacramento District Regulatory Action Item).
- 4) **Collaborate** with Tribes and other partners on opportunities to advance tule restoration and stewardship at USACE projects.

Future work for the Tule Restoration Alliance will include the development of education materials for USACE and other land managers, investigating opportunities for tule restoration efforts at USACE projects, and the continuation of education and outreach via participation in other tule or ecosystem restoration events. A proposal for additional FY24 funding through the Sustainable Rivers Program has been submitted to support these goals.





## Tule Restoration Alliance Website

A website has been developed for the Tule Restoration Alliance and is available at <https://www.spa.usace.army.mil/Missions/TNTCX/Traditional-Ecological-Knowledge/Tule-Restoration-Alliance/>. The website serves as a landing page for information about the Tule Restoration Alliance, including this workshop report and updates about new tule restoration work (Figure 12). There is also a Tule Restoration Alliance listserv with over 130 subscribers. The listserv is used to share news regarding successful restoration efforts and as a forum for sharing information and connecting individuals with resources.

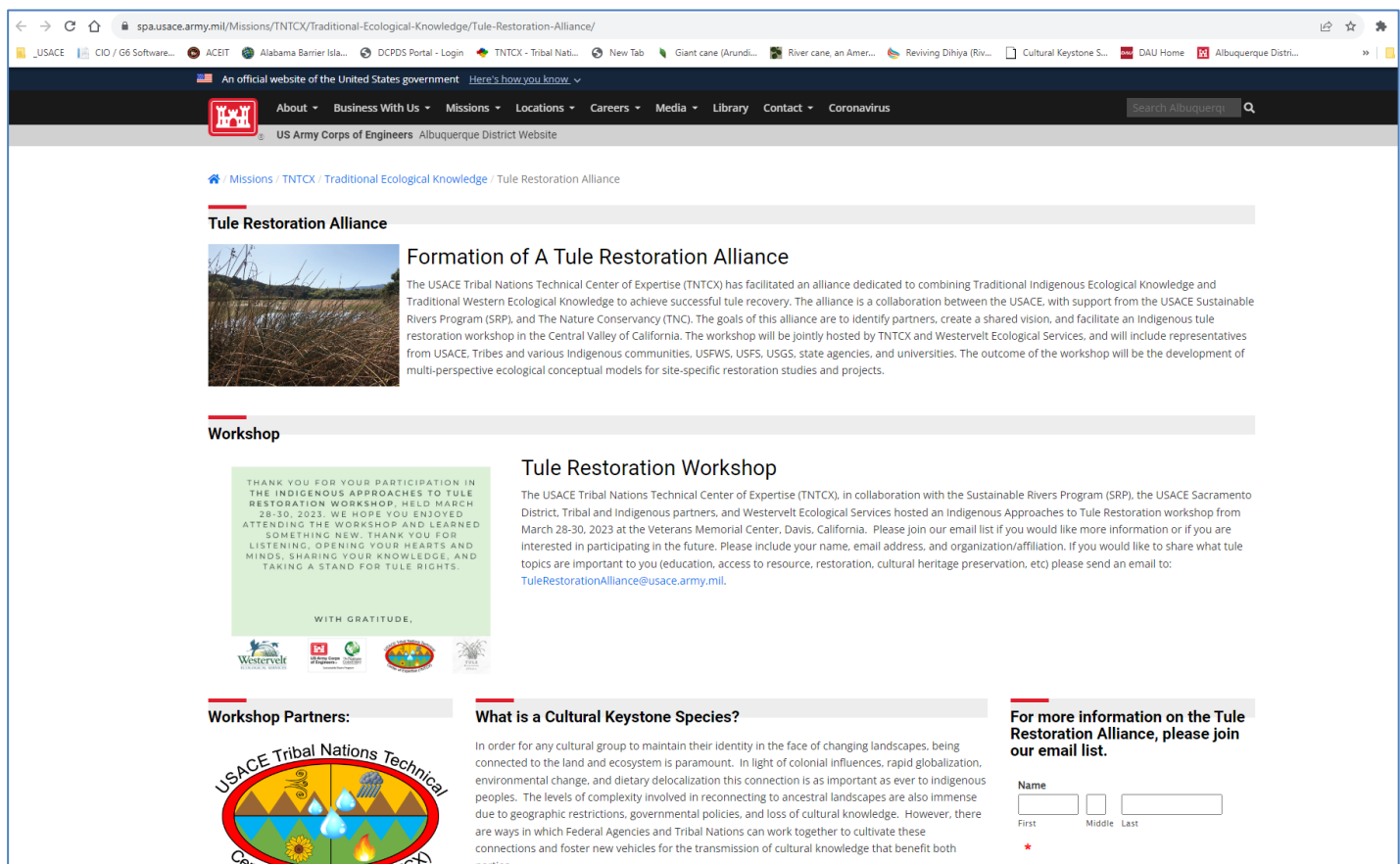


Figure 12. Screen capture of Tule Restoration Alliance webpage

## Bibliography

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Ekness Norton, T. 2009. People of the Tules. Website created as part of the Archaeological Mitigation for the Mossdale Interstate 5 Widening Project. Far Western Anthropological Research Group, Inc., Davis, California.

Garibaldi, A. and N. Turner. 2004. Cultural keystone species: implications for ecological conservation and restoration. *Ecology and Society* 9(3): 1.

Office of Science and Technology Policy (OSTP) and Council on Environmental Quality (CEQ). 2022. Guidance for Federal Departments and Agencies on Indigenous Knowledge.





# APPENDIX

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## Participant List

### *Tribal Participants*

Alix Miguel ▪ Big Valley Band of Pomo Indians ▪  
Benji Jimenez ▪ Shingle Springs Band of Miwok Indians ▪  
Dereck Goodwin ▪ United Auburn Indian Community ▪  
Dillon McKay ▪ Yocha Dehe Wintun Nation ▪  
Emily Moloney ▪ Buena Vista Rancheria of MeWuk Indians ▪  
Hannah Savage ▪ Buena Vista Rancheria of MeWuk Indians ▪  
Ivan R. Senock ▪ Buena Vista Rancheria of MeWuk Indians ▪  
James Sarmento ▪ Shingle Springs Band of Miwok Indians ▪  
Jasleen Sandhu ▪ Buena Vista Rancheria of MeWuk Indians ▪  
Krystal Moreno ▪ Shingle Springs Band of Miwok Indians ▪  
Michael Joseph Raymond ▪ Tribal Elder ▪  
Petee Ramirez ▪ Shingle Springs Band of Miwok Indians ▪  
Phil Rome ▪ Shingle Springs Band of Miwok Indians ▪  
Sarah Ryan ▪ Big Valley Band of Pomo Indians ▪  
Travis Lang ▪ United Auburn Indian Community ▪  
Troy Hatch ▪ Shingle Springs Band of Miwok Indians ▪  
Zach Emerson ▪ United Auburn Indian Community ▪  
Zach Moman ▪ United Auburn Indian Community ▪

### *Federal Participants*

Dianna Lively ▪ USACE Sacramento District ▪  
Erin Hess ▪ USACE Sacramento District ▪  
Mark Gilfillan ▪ USACE Tribal Nations Technical Center of Expertise ▪  
Michelle Larson ▪ USACE Sacramento District ▪  
Simone Whitecloud ▪ USACE Cold Regions Research and Engineering Laboratory ▪  
Tanis Toland ▪ USACE Sacramento District ▪  
Tina Somenek ▪ USACE Sacramento District ▪  
Todd Steissberg ▪ USACE Engineering Research and Development Center ▪



### *State and County Government Participants*

Amy Williams ▪ Yolo County Resource Conservation District ▪  
 Courtney Wilson ▪ California Department of Water Resources ▪  
 David Julian ▪ California Department of Water Resources ▪  
 Elizabeth Davis ▪ Solano County Resource Conservation District ▪  
 Gregory Hendricks ▪ Central Valley Flood Board ▪  
 Jacqueline Wait ▪ California Department of Water Resources ▪  
 Katherine Bandy ▪ California Department of Water Resources ▪  
 Kristina Reese ▪ California Department of Water Resources ▪  
 Molly Ferrel ▪ California Department of Water Resources ▪  
 Nadine Small ▪ California Department of Water Resources ▪  
 Zachary Skalak ▪ Yolo County Resource Conservation District ▪

### *Private Sector Participants*

Allegra Bukojemsky ▪ Westervelt Ecological Services ▪  
 Arren M. Allegretti ▪ Live Oak Associates ▪  
 Austin Stevenot ▪ River Partners ▪  
 Honna Steissberg ▪ Limnotech ▪  
 Kim Erickson ▪ Westervelt Ecological Services ▪  
 Landrum Neer ▪ Westervelt Ecological Services ▪  
 Mahala Guggino ▪ Flourish Ecological Consulting ▪  
 Mark Young ▪ Westervelt Ecological Services ▪  
 Matt Gauge ▪ Westervelt Ecological Services ▪  
 Namat Hosseinion ▪ Dokken Engineering ▪  
 Natalie Lamas ▪ ESA ▪  
 Sarah Holm ▪ Dokken Engineering ▪  
 Seth Hunt ▪ Westervelt Ecological Services ▪  
 Travis Hemmen ▪ Westervelt Ecological Services ▪

### *University Participants*

Emily McKenzie ▪ University of California, Berkeley ▪  
 Michelle Stevens ▪ Sacramento State University ▪



## Detailed Agenda

### **INDIGENOUS APPROACHES TO TULE RESTORATION WORKSHOP 28-30 March 2023 AGENDA <sup>\*All times PT</sup>**

#### **Day 1 “Tule Relationships”**

The first day of the workshop will be an introduction to tule, TEK, and cultural keystone species with most of the day dedicated to letting participants share about their relationship with tule, what it means to them, and what they hope to get out of the workshop.

#### **28 March 2023 (Session 1)**

0830 – Coffee and snacks

0900 - Welcome and logistics – Mr. Brian Zettle and Travis Hemmen

0910 – Opening prayer/acknowledgement - Brianna Roberts or Dillon McKay (Yocha Dehe)

0920 – Greeting and support message – LTC Lively (Deputy Commander)

0930 – Panel Discussion “Indigenous Perspectives on Tule Relationships”

Moderator – Mark Gilfillan

Panelists – Dr. Michael Joseph Raymond

Ivan Senock – Buena Vista Rancheria of MeWuk Indians

Malissa Tayaba – Shingle Springs Band of Miwok Indians

1015 – Break – Coffee and snacks

1030 – Resume Panel Discussion

1200 – Adjourn First Session for lunch

#### **28 March 2023 (Session 2)**

1330 – Welcome back and logistics – Mr. Brian Zettle

1335 – Panel Discussion “Indigenous and Western Approaches to Modeling (System Relationships)”

Moderator – Brian Zettle

Panelists – Dr. Simone Whitecloud – ERDC/CREEL and Lac du Flambeau Band of Lake Superior Chippewa

Sarah Ryan - Big Valley Band of Pomo Indians

Petee Ramirez - Shingle Springs Band of Miwok Indians

1430 – Break

1445 – Resume Panel Discussion/Set Up Field Trip

1525 – Closing prayer – Brianna Roberts or Dillon McKay (Yocha Dehe)

1530 – Adjourn Second Session/First Day





**INDIGENOUS APPROACHES TO TULE RESTORATION**  
**WORKSHOP 28-30 March 2023**  
**AGENDA** \*All times PT

**Day 2 “Tule Conceptual Models”**

The second day of the workshop will be focused on an introduction to conceptual ecological modeling and how it can be used to inform tule restoration.

**29 March 2023 (Session 3)**

0830 – Coffee and Snacks

0900 – Welcome and Logistics – Brian Zettle

0910 – Opening prayer/acknowledgement - Brianna Roberts or Dillon McKay (Yocha Dehe)

0920 – Introduction to Conceptual Models - Brian Zettle

0945 – Break

1000 – Breakout Groups to Identify Important Variables, Processes, and Components of a Tule Model

Breakout groups will allow for direct interaction with participants and facilitate better collaboration of the model. There will be 10 breakout groups. Each breakout group will be facilitated by a person familiar with conceptual models and leading development conversations. The first breakout session will allow groups to identify relevant pieces to their chosen tule subject (propagation, management, art, culture, etc...). The second breakout session (after lunch) will allow groups to identify the relationships between the pieces and draft a tule conceptual model. Finally, representatives from each breakout group will share the conceptual model they developed to promote a conversation about the different assumptions between the groups.

1200 – Adjourn Third Session for lunch

**29 March 2023 (Session 4)**

1330 – Participants return to their breakout groups to identify relationships between model variables identified in the previous session and render a Conceptual Tule Model

1430 – Break –

1445 – Breakout Groups Brief Out on Models (up to 5 minutes per breakout group)

1530 – Adjourn Fourth Session/Second Day



**INDIGENOUS APPROACHES TO TULE RESTORATION**  
**WORKSHOP 28-30 March 2023**  
**AGENDA** \*All times PT

**Day 3 “Tule Restoration”**

The third day of the workshop will include a morning field trip to a nearby Westervelt Ecological Services tule restoration project and conclude with a discussion of the future of the Tule Restoration Alliance. Think of this as the “where do we go from here, what is needed next” discussion.

**30 March 2023 (Session 5)**

0830 – Meet at venue to go to field site

0930 – Tule restoration, maintenance, and stewardship discussion at a Giant Garter Snake/Tule restoration mitigation site - Travis Hemmen and Allegra Bukojemsky

1200 – Adjourn third session (Participants will return to venue to get lunch on their own)

**30 March 2023 (Session 6)**

1330 – Welcome Back and Logistics - Brian Zettle

– Panel/Interactive facilitated discussion about “Next Steps for the Tule Restoration Alliance”

Moderator – Mark Gilfillan

Panelists – James Sarmiento - Shingle Springs Band of Miwok Indians

Ivan Senock – Buena Vista Rancheria of MeWuk Indians

Brian Zettle - TNTCX

1415 – Break

1430 – Resume Panel/Final Thoughts

1520 – Closing prayer – Brianna Roberts or Dillon McKay (Yocha Dehe)

1530 – Adjourn sixth session/third day



## Thank You

To thank our workshop partners and participants for all their work, dedication, and concern for tule restoration that made this effort possible, the TNTCX designed a thank you note that was delivered to all participants (Figure 13).



*Figure 13. Note of appreciation for workshop participants*