Chapter 4: Sovereignty

Decolonized research requires respect for indigenous tribal sovereignty, written tribal consent, and community-based research design.

Podcast: Tribal Sovereignty

PDCST: Turning Subjects Into Partners

Decolonizing Tribal Water Quality Research

I. Executive Abstract

This project establishes a collaborative scientific-tribal research partnership to measure and mitigate toxic dust emissions from drying lakes on tribal lands. Guided by Shawn Wilson's Indigenist Research Paradigm, the research integrates analytical water/air sampling with Traditional Ecological Knowledge (TEK). The study trains tribal undergraduate science interns and establishes decolonized data sovereignty protocols to protect indigenous interests.

Chapter 4: Ethical CBR

Fusing scientific methodology with TEK shifts the balance of power, ensuring tribal communities are active research owners.

Podcast: Ethical Research

PDCST: Researching With Communities

II. Problem & Needs Statement

Severe, climate-driven drought and drying lake beds on southwestern tribal reservations have exposed thousands of acres of mineral-heavy silt, producing significant particulate dust emissions during wind storms. These emissions threaten public health, yet tribal communities are often excluded from environmental research design, representing a severe loss of rhetorical agency and a continuation of colonial research extraction. To establish defensible scientific baselines, researchers will perform weekly Inductively Coupled Plasma Mass Spectrometry (ICP-MS) assays of air and water samples, targeting a detection precision deviation of less than 5%.

Chapter 6: Higher Ed

University research grants demand early coordination among OSP offices, Biographical Sketches, and ORCiD profiles.

Podcast: Admin Credentials

PDCST: Academic Admin Credentials

III. Project Plan & Timeline (Gantt Chart)

The Year 1 quarterly research timeline coordinates academic laboratory assays with local tribal community reviews.

Project Phase / Major Task	Q1	Q2	Q3	Q4
Tribal Consent & IRB Approvals (Q1)	X			
Field Sampling & Intern Training (Q2)		X	X	
Lab ICP-MS Assays & Elder TEK (Q3)			X	X
Joint Community Data Reviews (Q4)				X

Chapter 11: NICRA Base

The MTDC base excludes equipment and student tuition, allowing precise application of negotiated university overhead rates.

Podcast: Financial Rigor

PDCST: Understanding NICRAs & MTDC

IV. Cost Proposal & In-Kind Match

We request Year 1 NSF research funding of $150,000, including direct laboratory operations and university F&A.; We leverage $25,000 in tribal Elder TEK advisory hours.

Budget Category / Line Item	Funder Ask	In-Kind Match	Total
Tribal Student Interns (Wages)	$45,000	$0	$45,000
Tribal Elder TEK Advisory	$0	$25,000	$25,000
ICP-MS Laboratory Assays	$25,000	$0	$25,000
Materials & Travel Costs	$18,000	$0	$18,000
University Indirects (NICRA 54%)	$62,000	$0	$62,000
Total	$150,000	$25,000	$175,000

Chapter 14: Capacities

Sustainable academic research builds permanent local scientific capacity and tribal land environmental monitoring skills.

Podcast: Future Grants

PDCST: Sustaining Academic Research

V. Sustainability Statement

This project builds long-term tribal environmental department capacity. By training tribal student interns in advanced scientific water sampling, the reservation establishes a self-sustaining environmental monitoring team. Laboratory protocols and TEK archives will be permanently integrated into the Tribal College curriculum, creating ongoing research opportunities and enabling subsequent independent federal grants.