Coeur d'Alene Tribe

2-Year Nutrient Source Inventory





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Introduction

Project: Tracking nutrient sources in 3 key watersheds
Importance: Safeguarding a treasure for future generations
Nutrients: Nitrogen and phosphorus
Natural processes and excess nutrient impacts
Funding: \$1.2 million from Idaho's Leading Idaho Initiative

Introduction

What's lurking beneath the beauty of Lake Coeur d'Alene?





Introduction

Project: Tracking nutrient sources in 3 key watersheds

St. Joe River: Vast forest St. Maries: Agricultural valleys Southern Lake: Key tributaries Each area has unique features that influence nutrient dynamics.



Mining history in Silver Valley: Heavy metals in sediments
1910 fire: Long-term ecological effects; Nutrient trapping post-fire and long-term release



 1910 fire: Long-term ecological effects; Nutrient trapping post-fire and longterm release













Goal: Identify nutrient sources
Areas: St. Joe, St. Maries, southern Lake CDA
Monitoring: 36 sites (19 core, 17 synoptic)
Frequency: 6–14 times/year, high & low flow
Parameters: Nitrogen, phosphorus, sediments
Coordination with USGS for consistency



• 15 Minute Intervals

Water Temperature

Water Depth

Barometric Pressure

Air Temperature

6-14 Times Annually

95

Laboratory (T-Creek Labs)

Turbidity

Suspended Sediments

Total Nitrogen

Ammonia

Nitrate

Total Phosphorus

Ortho Phosphate

On Site (EXO Sonde)

Water Temperature

Conductivity

рΗ

DO (Dissolved Oxygen)

Turbidity

Discharge

Handheld ADV (Acoustic Doppler Velocimeter)

RTK ADCP (Real-Time Kinematics Acoustic Doppler Current Profiler)

200

State

50

National Forest

Objectives and

Potential Nutrient Sources

• Natural: Erosion, vegetation decay, 1910 fire legacy



Potential Nutrient Sources

Natural: Erosion, vegetation decay, 1910 fire legacy
 Anthropogenic: Agriculture, forestry, urban runoff, wastewater



Potential Nutrient Sources

Natural: Erosion, vegetation decay, 1910 fire legacy
Human: Agriculture, forestry, urban runoff, wastewater
Emphasis: Exploring—not blaming

Eutrophication: Algal blooms, oxygen loss, fish kills
Sediment Disturbance: Nutrient blooms stir up legacy metals
Human Risk: Contaminated fish and water

Eutrophication: Algal blooms, oxygen loss, fish kills
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[Insert Algal Bloom Photo & Metal Releation]



Year One Complete: Rich dataset collected
 Final Data EOY 2026: Nutrient budgets and recommendations



Phosphorus-Total



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