



OPEN: 7/23/15
OPEN UNTIL FILLED

EXEMPT X
NON-EXEMPT

The Klamath Tribes

JOB DESCRIPTION

POSITION: FLUVIAL GEOMORPHOLOGIST

RESPONSIBLE TO: Fisheries Biologist

SALARY: GS-11 \$49,541 - \$64,395 /Annual/Full Benefits
GS-12 \$59,373 - \$77,184/ Annual/Full Benefits

Starting salary will be determined by funding, experience, and training level and normally is not above the first grade, mid-step range.

This is a grant-funded position and continuation of this position is dependent upon ability to secure additional funding.

CLASSIFICATION: Professional/Management, Regular, Full-time

SPECIAL CLASSIFICATION: This position is considered fully-exempt for Klamath Tribal members in accordance with the *Klamath Tribes Administration Policies & Procedures Reporting and Recordkeeping for Fishing Rights-Related Activity*.

LOCATION: The Klamath Tribes Research Station
Sprague River Water Quality Lab
5671 Sprague River Highway
Chiloquin, OR 97624

INTRODUCTION

The Fluvial Geomorphologist is a scientific professional of the Natural Resources Department who performs professional and scientific ecological work in connection with the determination, establishment, and application of the hydrologic, geologic, and biological facts, principles, and procedures necessary for the conservation and management of fluvial ecosystems.

The Fluvial Geomorphologist participates in the Klamath Tribes' Ecosystem Restoration Team and Fisheries Restoration Team. Managing and remediating processes contributing to hypereutrophication and fish habitat degradation in and above Upper Klamath Lake is the primary goal of the Ecosystem Restoration Team. Primary objectives include: 1) managing and remediating non-point source nutrient loading from agricultural landscapes to measurably reduce cyanobacterial blooms and the related adverse water quality in Upper Klamath Lake; and 2) rehabilitating and maintaining habitats to the extent necessary to recover and sustain important native fisheries, including Lost River and shortnose suckers, redband trout, steelhead, bull trout, and Chinook salmon. Restoring and maintaining important Tribal fisheries is the primary goal of the Fisheries Restoration Team. Primary objectives include: 1) re-establishing extinct spawning populations of endangered Lost River and shortnose suckers; and 2) re-introducing extinct populations of Chinook salmon in the Upper Klamath River Basin.

501 Chiloquin Blvd. – P.O. Box 436 – Chiloquin, Oregon 97624

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(541) 783-2219 – Fax (541) 783-2029



Under the general guidance of the Fisheries Biologist, the Fluvial Geomorphologist develops and implements strategies to achieve the Tribes' goals and objectives, in compliance with applicable Tribal and Federal policies, procedures, and regulations. The Fluvial Geomorphologist will collaborate with professionals from diverse specialties (fisheries biology, hydrology, restoration ecology, water management, limnology, soils, agriculture, etc), as well as private landowners, to seek ecosystem and fishery restoration outcomes that meet the Tribes' goals and objectives.

MAJOR DUTIES AND RESPONSIBILITIES

1. Serve as the lead investigator studying erosional and depositional processes as they relate to fisheries ecology, hydrology, riparian vegetation, soils, non-point source nutrient loading, and land use in the Upper Klamath River basin. Investigations will consist of research and monitoring oriented towards guiding management actions intended to accomplish ecological goals of the Klamath Tribes.
2. Participate in the Klamath Tribes' Fisheries Restoration Team to create and implement a Fisheries Restoration Plan for the Upper Klamath Basin.
3. Participate in the Klamath Tribes' Ecosystem Restoration Team to create and implement an Aquatic Ecosystem Restoration Plan for the Upper Klamath Basin.
4. Manage grants and agreements as assigned according to Tribal policies and procedures including the rules governing a specific grant. Writes grant proposals as assigned.
5. Manage budgets as assigned in accordance with the Tribal budget policy. Review and monitor expenditures to remain within established budgetary constraints.
6. Manage contracts as assigned in accordance with the Tribal procurement policy.
7. Collaborate with professionals from diverse fields (fisheries biology, hydrology, restoration ecology, water management, limnology, soils, agriculture, etc.) in developing and implementing fisheries and ecosystem restoration and monitoring strategies.
8. Develop and implement monitoring strategies to evaluate results of restoration actions; includes supervising field data collection, monitoring design, data QA/QC, analysis, and reporting.
9. Communicate strategies and findings to diverse end-users, from lay people to other professionals.
10. Exercise the full range of supervisory duties for assigned staff. Perform overall work planning, establish work schedules and priorities, and assign and review work. Personally discuss the progress of the work and problems areas as they may arise. Recommend employee status and other personnel changes, approve leave, evaluate performance, identify training needs, and ensure that training opportunities are provided. Resolve complaints or minor grievances, and advise employees on matters related to less than satisfactory performance.
11. Keep employees informed of management policies and goals.
12. Attend and facilitate meetings with diverse stakeholders.
13. Other duties as assigned.

SUPERVISORY CONTROLS

The Fluvial Geomorphologist is directly supervised by the Fisheries Biologist. This position is expected to work independently, using professional knowledge and judgment in ensuring that duties and responsibilities are carried out in a safe, timely manner, and that policies and procedures are followed. The Fluvial Geomorphologist must exercise good judgment in working with the public, agencies, and other entities.

The supervisor outlines the overall tribal and project objectives and priorities, timelines, and financial resources available. The employee plans and schedules recurring work, handles problems, and completes work using their own initiative, exercising judgment according to training, experience, and instructions. Work is reviewed for compliance with policy, procedures, and goal attainment.

The Fluvial Geomorphologist will directly supervise staff necessary to accommodate project specific assignments in accordance with policies and procedures.

KNOWLEDGE, SKILLS, AND ABILITIES

Knowledge and ability to integrate diverse technical information into effective, implementable fisheries and ecosystem restoration action and to monitor the result.

Knowledge of how various factors (hydrology, soils, vegetation, geology, land use, etc.) interact to produce a particular stream channel morphology, and the ability to apply that knowledge to design, implement, and interpret the results of management actions, research, and monitoring projects.

Knowledge and ability to investigate erosional and depositional processes in streams, including the ability to develop sediment budgets (bedload and suspended load), and to translate results into management recommendations.

Knowledge and ability to use software and statistics to design and analyze data from research and monitoring projects, using software such as Excel, Access, Systat, SigmaPlot, SigmaStat, Rivermorph, QT Modeler, and ArcGIS.

Knowledge of surface and groundwater hydrology, hydrologic and water quality models, nutrient transport and storage relative to geomorphic characteristics of river channel and floodplain, riparian plant ecology, and remote sensing products and their application.

Knowledge of agricultural operations, especially management of irrigated pasture and associated grazing, and the influence thereof on shallow groundwater hydrology and stream channel functional processes.

Ability to collaborate effectively with other scientists and to assume a leadership role in such interactions in which an atmosphere of collegial teamwork will be essential.

Must be able to interact with people of diverse backgrounds in a professional manner, using tact, diplomacy, and mature judgment while pursuing Tribal interests.

Ability to perform work and accomplish tasks in accordance with established policies, procedures, practices, and priorities of the Natural Resources Department. This includes the ability to plan and organize work using one's own initiative and to seek information and assistance from other sources as necessary to meet programmatic goals and deadlines.

Ability to develop competitive grant applications.

Ability to work an irregular work schedule, which may require work in inclement weather and rugged terrain.

Ability to perform tasks which require constant bending, lifting (up to 60 lbs.), stretching, and stooping.

Ability to operate a vehicle in adverse weather (e.g. snowy conditions) and on rugged forest roads.

Ability to operate power boats in challenging (high winds, large waves, shallow water, etc.) conditions.

QUALIFICATIONS, EXPERIENCE, AND EDUCATION

- Master of Science Degree in Fluvial Geomorphology or closely related field, **REQUIRED**. (*copy of transcripts must be submitted with application.*)
- Two (2) years demonstrated work experience applying the concepts of hydrology and hydraulics, sediment budgets, erosional and depositional processes, and riparian community dynamics, into recommendations or alternatives leading to restoration actions, **REQUIRED**.
- One (1) year of full range (see duties and responsibilities section) supervisory experience, **REQUIRED**.
- Demonstrated ability to write well, concisely communicating complex information to a variety of audiences, **REQUIRED**. Please submit with your application a 2-5 page sample of a document authored by you.
- Proficiency in the use of computers for a variety of tasks including:
 - general computing using Microsoft Office (e.g. spreadsheets, documents, presentations, etc), **REQUIRED**;
 - analysis using statistical software (e.g. R, Systat, SAS, or the equivalent), **PREFERRED**;
 - computer models simulating flow and nutrient transport processes in aquatic systems (e.g. HEC-RAS, Rivermorph, QT Modeler, or the equivalent), **PREFERRED**; and
 - mapping and analysis using ArcGIS, **PREFERRED**.
- Must possess a valid Driver's License, have a good driving record and be insurable by the Klamath Tribes. Must obtain valid Oregon Driver's License within initial 90-day probationary period as a condition of employment, **REQUIRED**. (*Copy of valid DL must be submitted with application.*)
- Must be able to operate power boats, and to obtain an Oregon Boater Education Card within the initial 90-day probationary period as a condition of employment, **REQUIRED**.
- Must submit to and clear a criminal records background check, **REQUIRED**. (*Employment will be contingent upon clearing the required criminal records background check.*)
- Must submit to and clear an alcohol/drug screen test, **REQUIRED** (*employment will be contingent upon clearing the required alcohol/drug screening test.*)
- Indian preference will apply (*must submit proof of Indian Preference with application*).

ACKNOWLEDGEMENT

This job description is intended to provide an overview of the requirements of the position. It is not necessarily all-inclusive, and the job may require other essential and/or non-essential functions, tasks, duties, or responsibilities not listed herein. Management reserves the sole right to add, modify, or exclude any essential or non-essential requirement at any time with or without notice. Nothing in this job description, or by the completion of any requirement of the job by the employee, is intended to create a contract of employment of any type.

Revised: 07/15

APPLICATION PROCEDURES

Submit a Tribal *Application for Employment* with all requirements and supporting documentation to:

**The Klamath Tribes
ATTN: Human Resource
P.O. Box 436
Chiloquin, OR 97624
Phone: (541) 783-2219 ext. 104 or 190**

IT IS THE RESPONSIBILITY OF THE APPLICANT TO PROVIDE SUFFICIENT INFORMATION TO PROVE QUALIFICATIONS FOR TRIBAL POSITIONS.

PLEASE NOTE: If requirements are not met, i.e., submission of a resume in lieu of a tribal application, or not including a required certification, your application will not be reviewed and will be disqualified.

Indian Preference will apply. In accordance with Klamath Tribal policy, priority in selection will be given to qualified applicants who present proof of eligibility for "Indian Preference".

Applications will not be returned.

Is a Job with the Klamath Tribes Right For You?

Hello, my name is Larry Dunsmoor, Water Management Liaison for the Klamath Tribes. I came to work for the Tribes as a Fisheries Biologist in 1988, and when I did I was unsure of the answer to the question posed in the title above. At that time I knew nothing about what it might be like to work for a tribe. What issues would be involved? What would the work environment be like? Would I be able to make a difference?

If you are reading this, and you are a member of the Klamath Tribes, then you may well have a good understanding of what I discuss below. Otherwise, you likely have questions similar to those I grappled with back in 1988. I am writing this to give potential applicants (you!) some perspective on these questions, based on my 25 years (so far) with the Klamath Tribes. First, I'll give you a feel for the Tribes' history, which is an important force shaping current issues. Next, I'll describe the goals we are working towards in the context of aquatic ecosystem issues, touching on past efforts and their results as well as current and future efforts. Treatment of the many complex issues we face is necessarily simplistic, intended only to give you a feel for the natural, social, and political landscapes within which we work. Finally, I'll describe the work environment that we are building, and try to help you decide whether you might be interested in joining our team.

A Brief History of the Klamath Tribes

In 1864, the Klamath and Modoc tribes and the Yahooskin Band of the Snakes (collectively known as the Klamath Tribes) signed a treaty with the United States, reserving to themselves the hunting, fishing, gathering, and other rights they had possessed for millennia. Their 2.2 million acre reservation encompassed enormous wetlands, productive rivers, part of the largest lake in Oregon (Upper Klamath Lake), Crater Lake, and large expanses of valuable ponderosa pine forest lands. It wasn't long before the size of the reservation was whittled down to 1.2 million acres (disputed reservation boundary adjustments, Dawes General Allotment Act, etc.). Then in 1954, the U.S. Congress abrogated the Treaty by enacting the Klamath Termination Act, which terminated the federal recognition of the Klamath Tribes, and liquidated their lands to form the Fremont and Winema National forests, and the Klamath Marsh National Wildlife Refuge.

Termination devastated the Tribes, but they did not give up. After fighting for decades, in 1986 the Klamath Tribes succeeded in getting the U.S. to enact the Klamath Restoration Act, which restored federal recognition to the Klamath Tribes. Treaty rights to hunt, fish, gather, etc. survived all of this turmoil, but to date the land has not been restored to the Tribes. Since the 1980's, the Tribes have become a significant voice in water, fisheries, forestry, and related natural resources management issues. In 2013, a landmark ruling by Oregon in the ongoing Klamath Basin Water Adjudication confirmed the Klamath Tribes' time immemorial water rights for instream flows, lake and marsh water levels, and flows from seeps and springs. As a result, the Tribes now possess the most senior water rights in the upper Klamath Basin.

Issues

The upper Klamath Basin was naturally rich in aquatic resources, a fact reflected by the strong reliance by the Tribes upon the abundant fish and plant resources provided by lakes, wetlands, rivers, and streams. In 1917, the first of a series of hydroelectric dams was constructed without fish passage on the Klamath River, extirpating anadromous fish runs relied upon for millennia by the Klamath Tribes. Subsequent development changed hydrologic regimes and altered storage and transport processes for nutrients. As a result, the naturally eutrophic Upper Klamath Lake was pushed into its present hypereutrophic state, in which summer-time blooms of cyanobacteria cause serious water quality problems. These and other ecosystem problems caused dramatic declines in c'waam (lost River sucker) and koptu (shortnose

sucker), which have always been enormously important tribal subsistence species. In 1988, both species were placed on the federal endangered species list. Then in 1998, coho salmon were listed as threatened in the Klamath River below the lowest dam.

Subsequent regulatory actions under the Endangered Species Act (ESA) centered on federal (Bureau of Reclamation) water storage in and delivery from Upper Klamath Lake servicing the Klamath Reclamation Project, a large (~240,000 acre) federal irrigation project established in 1905. Regulatory actions during the 1990s precipitated intense conflict over water among tribes, irrigators, federal and state agencies, commercial fishermen, environmental groups, and others. In 2001, ESA regulation caused a near-complete shut-off of irrigation water to the Klamath Reclamation Project, which rapidly became a national issue. Then in 2002, tens of thousands of adult anadromous salmonids died in an unprecedented fish kill in the lower Klamath River. Over the next few years, the commercial salmon fishery along much of the west coast was severely curtailed because of weak Klamath River stocks. The pot of water conflict was bubbling vigorously, despite numerous failed attempts to resolve issues through settlements.

Relicensing of the Klamath Hydroelectric Project started in 2000. Centering on the lower four dams on the Klamath River, this relicensing process was pursued by the owner of the dams, PacifiCorp. Subject to Federal Energy Regulatory Commission (FERC) licensing requirements, PacifiCorp was seeking a new license under which to operate because their old license was to expire in 2005. After a lengthy, complex process culminating in litigation that PacifiCorp lost, mandatory prescriptions were established requiring any new FERC license to include requirements to provide for effective upstream and downstream fish passage at each facility, as well as other flow-related requirements. When the old FERC license expired in 2005, irrigators in the upper basin lost cheap electric rates.

Take all of these events, mix them together, get the parties involved to work hard for several years, and out pops two settlement agreements in 2010 that offer dramatic changes in the Klamath Basin. In the Klamath Hydroelectric Settlement Agreement (KHSA), parties agreed to a path forward leading to removal of the lower four main stem dams on the Klamath River in 2020. Its sister agreement, the Klamath Basin Restoration Agreement (KBRA), provides for (in part):

- large-scale rehabilitation of aquatic ecosystems in the Klamath Basin, with an emphasis on the upper basin;
- reintroduction of salmon and steelhead into the upper basin;
- reduced but reliable supplies of irrigation water to the Klamath Reclamation Project and associated wildlife refuges, resolving some the water rights adjudication issues between the Klamath Tribes and the Project irrigators;
- purchase of 90,000 acres of forest land for the Klamath Tribes, restoring a piece of the reservation lost when the Tribes were terminated; and,
- tribal fisheries and conservation programs development to enable tribes to collaboratively implement ecosystem rehabilitation and salmon and steelhead reintroduction programs.

More recently, following the 2013 ruling in the adjudication confirming the Klamath Tribes' senior, time immemorial instream water rights, another settlement effort accelerated. Called the Off-Project Water Settlement (OPWAS), this effort involves negotiating potential settled outcomes to the on-going water adjudication. Focused on the Klamath Tribes and the irrigators above Upper Klamath Lake (who did not sign the earlier agreements in sufficient numbers to resolve the issues), these negotiations recently produced an Agreement in Principle (AIP), which is to be a foundation for a final settlement proposal. One central element of the AIP focuses on moderation of water rights call thresholds by the Klamath Tribes in exchange for increased instream flows and permanent, enforceable establishment and maintenance of riparian corridors along much of the tributary network above Upper Klamath Lake. In

short, it sets the stage for maximizing the long-term effectiveness of many of the ecosystem rehabilitation measures set forth in the KBRA.

No final settlement has been reached yet, but the parties are working hard to get there. Many difficult details remain to be resolved. No OPWAS will proceed without the approval of the tribal membership. However, regardless of the outcome of the OPWAS negotiations, much ecosystem rehabilitation work must be done.

Work Environment

The Klamath Tribes established a Research Station in the mid-1990s. We developed fish culture techniques for the endangered suckers, and constructed a facility housing two automated re-circulating fish culture systems. In the 2000's, we developed a state-of-the-art water quality laboratory, focusing on nutrients and supporting our long-term monitoring of tributary and in-lake water quality and nutrient conditions. We have an extensive collaborative network among the other basin professionals, but have lacked capacity in key areas, and so have been unable to launch the kinds of active programs that have long been needed.

We are now seeking applicants for some key professional positions that will enable us to form the nucleus of a group that can design and implement programs to put the fruits of these settlement agreements on the ground. An Environmental Restoration Planner will lead a team focused on collaboratively designing, implementing, and monitoring on-the-ground restoration projects, including developing computer models to assist design at a landscape level. A Fisheries Biologist will lead a team focused on re-introducing extinct populations of endangered suckers, and re-introducing anadromous fish to the upper Klamath Basin. A Hydrologist will establish and maintain a network of stream gages, quantify interactions between ground water and surface water, and use and develop supportive computer models. You can read the job descriptions to get the details of each position being advertised. These new positions will team with our existing Fluvial Geomorphologist and be advised by me (Water Management Liaison) and our Aquatics Program Director.

We have thought long and hard about our approach to building this nucleus of professionals. We need self-starters. We need hard workers, who can remain focused on the goals in the midst of distractions and aggravations. We need people with hearts for the tribal situation, motivated strongly to repair some of the harm that has been done. We need people who can collaboratively work with a diverse array of people – much work will be done with private, agricultural landowners. Above all, we need highly competent professionals who bring objectivity, quantitative capability, humility, and a collaborative spirit to bear on the very difficult challenges we face.

In the first paragraph I reminisced about one of the questions I asked myself when I first considered working for the Klamath Tribes: will I be able to make a difference? For me, the answer has been a resounding yes. I have never encountered another work environment in which I could have had a more significant impact on issues I care about. It has been hard, though, and has required a lot of sacrifice. Because of recent events, I see opportunities I never imagined would exist 25 years ago, opportunities that can transform this ecosystem and the communities that rely on them. The Tribes are focused on the right issues – if you care about fixing ecosystems, this is a place you can make a difference, maybe a big difference, but only if you are ready to put your head down and really gut it out. Are you? Nothing less will suffice.