

# Fish Health Section



## FHS NEWS – October 2023

**Fish Health Section website:** <https://units.fisheries.org/fhs/>

**Fish Health Section Facebook Site:** <https://facebook.com/FishHealthSectionAFS>

**Fish Health Section Twitter feed:** @AFSFishHealth

Would you like your recent open-access publication featured on our Twitter feed? We would like to share one publication per week. Just fill out the form at: <https://forms.gle/NWVXEFOGcdYME6gh8>.

## MEETINGS, WORKSHOPS AND COURSES

The International Society of Aquatic Animal Epidemiology (ISAAE) Proudly Presents the  
3rd International Conference on Aquatic Animal Epidemiology (AquaEpi III)  
November 29 - December 01, 2023  
Venue: ICAR-National Bureau of Fish Genetic Resources (NBFGR)  
Lucknow

See attached .pdf for details.

## JOBS/GRADUATE ASSISTANTSHIPS

### Biological Science Assistant (Fish Health Technician)

**Oregon Department of Fish and Wildlife**

Madras, OR

Permanent, Part-time

Closes November 14, 2023

Link: [https://oregon.wd5.myworkdayjobs.com/SOR\\_External\\_Career\\_Site/job/Madras--ODFW/Biological-Science-Assistant--Fish-Health-Technician-REQ-140787](https://oregon.wd5.myworkdayjobs.com/SOR_External_Career_Site/job/Madras--ODFW/Biological-Science-Assistant--Fish-Health-Technician-REQ-140787)

This is a part time position working 20 hours per week and does not have any potential to develop into a full-time position. The starting salary will be \$1,411/month (\$16.29/hr).

What you will do: Assist the Fish Health Specialist with the detection, prevention and control of fish diseases and fish losses and promote the health of Oregon's fish resources specifically in the Deschutes River watershed. Assist in collecting samples, maintaining a clean laboratory, preparing samples for microbiological assays. Assist in both upstream and downstream fish health passage issues related to reintroduction of anadromous salmonids and lamprey above the Pelton Round Butte Hydroelectric project. Examine fish being passed above the project as well as downstream migrants will be of primary importance to document pathogen presence on these fish and examine the potential impact on native fishes above the project. Must be able to safely handle hazardous chemicals, sampling gear of various types and lift adult salmon and 5-gallon buckets of fish and water and be able to withstand handling of dead fish tissues and blood. This position requires a flexible work schedule that varies in the number of hours worked on a daily basis, but not necessarily each

day, or a work schedule in which the starting and stopping times vary on a daily basis, but not necessarily each day.

**The Mississippi State University College of Veterinary Medicine and MSU Global Center for Aquatic Health and Food Security teams are looking for aquatic faculty.**

**Assistant/Associate/Professor at the Aquatic Research and Diagnostic Laboratory in Stoneville, MS**

<https://explore.msujobs.msstate.edu/en-us/job/506487/assistantassociateprofessor>

**Assistant/Associate/Clinical Professor in Aquatic Anatomic Pathology on the Mississippi Gulf Coast**

<https://explore.msujobs.msstate.edu/en-us/job/506503/assistantassociateclinical-professor>

**Assistant Research Professor at the Gulf Coast Aquatic Health Lab on the Mississippi Gulf Coast**

<https://explore.msujobs.msstate.edu/en-us/job/506659/assistant-research-professor>

## **Veterinarian II**

### **Northwest Indian Fisheries Commission**

Olympia, WA

Open until filled

Duties and Responsibilities: Plan and provide a veterinary service program that includes prescriptive services to tribal salmon hatcheries, other facilities under contract, and tribal wildlife capture programs. Develop annual plans that specify deliverable veterinary services for all tribal hatcheries and wildlife capture projects needing assistance. Ensure that all programs have an assigned Veterinarian of Record who has established a valid veterinary-client-patient relationship and is responsible for prescribing drugs for that program. Purchase drugs and associated supplies needed to treat fish diseases at tribal hatcheries or immobilize wildlife captured by Tribes. Implement a cost reimbursement program for drugs purchased for tribal programs. Meet federal (DEA) regulations to prescribe and dispense controlled substances. Ensure all prescribed drugs are applied safely and efficaciously and their use is in compliance with WA state and federal laws. Establish wildlife disease control and education programs for member tribes.

Qualifications: Must possess a Doctor of Veterinary Medicine obtained at a school of veterinary medicine accredited by the American Veterinary Medicine Association on Education (AVMA). Must have a minimum of two years pertinent work experience that specifically includes providing veterinary services (diagnostic and prescriptive) to aquatic finfish species. Preference given to experience with coldwater fish species. Must possess or obtain a valid license to practice veterinary medicine in Washington State within two months of beginning work and maintain it during the duration of employment. Must obtain a DEA license that has 2-5 and 2N and 3N schedules within six months of beginning work and be maintained during the duration of employment. Must obtain and maintain either (1) AFS FHS certification as a Fish Health Inspector or Fish Pathologist after they have fulfilled the three years of work experience requirement or (2) the WAVMA Aquatic Animal Veterinarian certification (CertAqV). Must possess and maintain a valid WA State Drivers' License during duration of employment.

Application: Send resume and cover letter to: Wendy Bowman, HR Northwest Indian Fisheries Commission, 6730 Martin Way East Olympia, WA 98516-5540 or email to: [wbowman@nwifc.org](mailto:wbowman@nwifc.org).

The Northwest Indian Fisheries Commission operates under PL 93-638 contract; **Indian Preference is an employment policy**. Must be authorized to work in the U.S. The NWIFC will not sponsor applicants for work visas.

See attached flyer for more information.

### **Zebrafish Related Job Announcements**

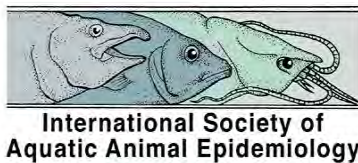
<https://wiki.zfin.org/display/jobs/Zebrafish-Related+Job+Announcements>

## **RESOURCES/NEWS**

**Aquatic Animal Drug Approval Partnership (AADAP) Updates are now available online:**

<https://www.fws.gov/library/collections/aquatic-animal-drug-approval-partnership-update>

The AADAP Updates feature news on aquaculture drugs currently in the U.S. Food and Drug Administration (FDA) approval process, AADAP programmatic updates, and aquaculture drug use guidance information. If you would like to sign up to receive the AADAP Update, please email [julie\\_schroeter@fws.gov](mailto:julie_schroeter@fws.gov) to be added to our email listserv.



The International Society of Aquatic Animal Epidemiology (ISAAE)  
Proudly Presents the

# 3<sup>rd</sup> International Conference on Aquatic Animal Epidemiology (AquaEpi III)

*Organised by*

Indian Council of Agricultural Research (ICAR), New Delhi

*In collaboration with*

National Fisheries Development Board, Hyderabad  
Aquatic Biodiversity Conservation Society (ABCS), Lucknow

**November 29-December 01, 2023**

*Venue*

ICAR-National Bureau of Fish Genetic Resources (NBFGR)  
Lucknow



# 3<sup>rd</sup> International Conference on Aquatic Animal Epidemiology (AquaEpi III)

## Background

Fisheries and Aquaculture has been one of the fastest growing food sectors in the world. However, diseases are the most significant constraint to the growth of aquaculture. Globally, huge economic losses have been reported due to diseases. In finfish aquaculture, the losses due to parasitic infestations were estimated to be about US\$1.05 to 9.58 billion (Shinn et al. 2015). In the shrimp aquaculture sector in Asia, the annual losses were reported to be to the tune of US\$4 billion during 2009–2018 (Shinn et al. 2018). Similarly, a recent study estimated annual loss due to shrimp diseases in India to be around US\$ 1.02 billion (Patil et al. 2021).

Disease outbreaks are usually the end result of complex interactions involving environmental factors, health condition of the animals and presence of infectious agents. To have a thorough understanding of the factors involved in disease outbreaks, it is essential to follow aquatic system approach, which is possible through application of epidemiological principles. In this approach, the major emphasis is to determine if the disease is infectious or not and if infectious, then prevent transmission and spread. Over the last few decades, there have been a number of instances where the new diseases have spread across countries while the focus has been on identifying the causal agent. It is important to note that a number of risk factors determine and influence the frequency and distribution of disease in a population. The knowledge on risk factors can improve the ability of aquatic animal surveillance systems for early detection and rapid response to pathogens.

The International Society of Aquatic Animal Epidemiology (ISAAE) organises a triennial event 'International Conference on Aquatic Animal Epidemiology (AquaEpi)' which provides a platform for dissemination, networking and creative contacts between researchers working in the area of aquatic animal epidemiology, industry and stakeholders for the benefit of the aquaculture sector. Two previous Conferences in Oslo, Norway in 2016 and Hua Hin, Thailand in 2019 have brought together eminent scientists, students and industry personnel from different countries to discuss disease-related issues and finding solutions to them. The ISAAE in collaboration with Indian Council of Agricultural Research announces 3<sup>rd</sup> International Conference on Aquatic Animal Epidemiology (AquaEpi III) which will be held at ICAR-National Bureau of Fish Genetic Resources, Lucknow during November 29- December 01, 2023. The AquaEpi III will provide a platform for focussed discussions to address issues relating to risk factors which catalyse horizontal spread of diseases, emergence of new pathogens and spread of transboundary pathogens, increased diseases susceptibility and possible strategies for their mitigation and strengthening surveillance system thereby minimizing losses due to diseases. The Conference will include Keynote Presentations from renowned experts on Aquatic Animal Epidemiology and other relevant disciplines. It would have a strong practical aspect in order to familiarize the use of epidemiology in day-to-day challenges. During the international event, there will be deliberations on the following thematic areas;

- Epidemiology of finfish and shellfish diseases
- Molecular epidemiology and application in source tracking
- Surveillance and reporting
- Spatial and temporal patterns in prevalence and risk mapping
- Risk assessment and management studies
- Outbreak investigation, case reports, data collection/sampling procedures
- Interaction of wild and farmed aquatic species - the challenges for disease control.
- Use of artificial intelligence in disease diagnosis
- Environmental DNA- A tool for monitoring pathogens in aquaculture
- Disease informatics and its application for control strategies
- Biosecurity in aquaculture
- Social and economic impacts of aquatic animal diseases



# 3<sup>rd</sup> International Conference on Aquatic Animal Epidemiology (AquaEpi III)

## Important Dates

<b>Abstract submission- open</b>	July 15, 2023
<b>Abstract submission- deadline</b>	August 31, 2023
<b>Abstract review process</b>	Sept. 1-15, 2023
<b>Announcement of abstract acceptance</b>	September 16, 2023
<b>Early bird registration- open</b>	September 16, 2023
<b>Early bird registration- close</b>	October 15, 2023
<b>Regular registration</b>	October 16, 2023 onwards

## Registration

Scientists, researchers, academicians, students, policy makers, industry personnel and all those interested in aquatic animal epidemiology and health management are eligible to register and participate in the Conference.

Category	International (US \$)		National (₹)	
	Delegates	Students	Delegates	Students
Early bird registration (up to September 30, 2023)	300	125	10000	7500
Regular/Spot Registration (from October 1, 2023)	350	150	12000	8500

## About Lucknow

Lucknow, the capital city of Uttar Pradesh, a state of Northern India is one of the beautiful cities in India, and it is known for its hospitality and culture. No other place has been able to blend past with the present with such consummate ease as has Lucknow. The city is famous for its magnificent monumental works and beautiful poetry as well as courtly diction since the ear of Mughals. Its gorgeous chikankari and gourmet vintage points make it the city of grandeur. Lucknow is also a hub of premier scientific Institutes.

Lucknow has an international airport, connected to several international cities and is 45 minutes journey by air from New Delhi, the National Capital of India. Lucknow is also connected to the major cities and tourist destinations by non-stop flights of 1 to 2 hrs duration. The participants can enjoy picturesque road travel en route Taj Mahal, Agra which is one of the 7 wonders of the World. The Lucknow is also well connected to Buddhist Circuit, namely Sarnath, Shravasti and Kushinagar in Uttar Pradesh. Besides, there are a several wildlife sanctuaries and national parks within 300-500 km of the city.



Rumi Darwaza



Bada Imambara



Chhota Imambara



Ambedkar park

## About the Venue

ICAR-National Bureau of Fish Genetic Resources (NBFGR), Lucknow is a premier institute of Indian Council of Agricultural Research, actively involved in research on conservation and sustainable utilization of fish genetic resources of the country. The institute also possesses a public aquarium and a National Fish Museum and Repository. At present, the Institute is coordinating the National Surveillance Programme for Aquatic Animal Disease (NSPAAD) in the country, which is being implemented through involvement of 62 collaborating centres.

There are a number of 3 to 5 star hotels within the distance range of 2-5 km, with tariff rate ranging from \$60 to \$120 per day.

# 3<sup>rd</sup> International Conference on Aquatic Animal Epidemiology (AquaEpi III)

## Exhibition

The Conference will provide a platform for manufacturers, suppliers, industry, book publishers and others to display their products and interact with the participants. A 10x10 feet stall would be provided for the exhibition at a cost of Rs. 2.0 lakh for Indian vendors/organizations and US\$ 3000 international organizations, and will include complementary registration for 2 persons.

## Chief Patron

Dr. Himanshu Pathak, Secretary, DARE and DG, ICAR, New Delhi

<b>Convener:</b>	Dr. J.K. Jena, Deputy Director General (Fy. Sc.), ICAR, New Delhi
<b>Co-Convener:</b>	Dr. U.K. Sarkar, Director, ICAR-NBFGR, Lucknow
<b>Organizing Secretaries:</b>	Dr. P.K. Pradhan and Dr. Neeraj Sood
<b>Co-organizing Secretaries:</b>	Dr. Anutosh Paria and Dr. Chandra Bhushan Kumar

## International Scientific Program Committee

Dr. Larry Hammell (Canada)	Dr. Edgar Brun (Norway)
Dr. Kenton L Morgan (UK)	Dr. Charles G.B. Caraguel (Australia)
Dr. Edmund Peeler (UK)	Dr. Fernando Mardones (Chile)
Dr. Saraya Tavoranpanich (Norway)	Dr. Nihad Fejzic (Bosnia and Herzegovina)
Dr. Annette Boerlage (UK)	Dr. Kevin Christson (South Africa)
Dr. Isabel Arzul (France)	Dr. Grant D. Stentiford (UK)
Dr. Andy Shinn (Thailand/ UK)	Dr. C.V. Mohan (Malaysia/India)
Dr. Victoria Alday Sanz (Spain)	Dr. Melba B. Reantaso (Italy /Philippines)
Dr. Iddya Karunasagar (India)	Dr. Krishna Kumar Thakur (Canada/Nepal)
Dr. Eduardo M. Leano (Thailand/Philippines)	Dr. Huang Jie (Thailand/China)
Dr. Yuko Hood (Australia)	Dr. Ha Thanh Dong (Thailand)
Dr. K.V. Rajendran (India)	Dr. N.K. Sanil (India)
Dr. P.K. Pradhan (India)	Dr. Neeraj Sood (India)

## National Advisory Committee

Dr. C.N. Ravishankar	Dr. B.P. Mohanty
Dr. A. Gopalakrishnan	Dr. Shubhadeep Ghosh
Dr. Kuldeep K. Lal	Dr. A.G. Ponniah
Dr. P.K. Sahoo	Dr. Indrani Karunasagar
Dr. B.K. Das	Dr. K.M. Shankar
Dr. P.K. Pandey	Dr. Rosalind George
Dr. George Ninan	Dr. K. Riji John
Prof. G. Sugumar	Dr. M. Karthikeyan
Dr. L.N. Murthy	Mr. Antony Xavier
Prof. Nirupama Agarwal	Dr. Devika Pillai

# 3<sup>rd</sup> International Conference on Aquatic Animal Epidemiology (AquaEpi III)

## National Organizing Committee

Dr. Gaurav Rathore	Dr. S.K. Otta
Dr. T. Raja Swaminathan	Dr. K. Paniprasad
Dr. P.K. Patil	Dr. M. Samanta
Dr. S.R. Krupesh Sharma	Dr. Amit Pandey
Dr. T.J. Abraham	Dr. Ezhil Praveena
Dr. Toms Joseph	Dr. Megha Bedekar
Dr. Asit Bera	Dr. Anirban Paul
Dr. S.K. Girisha	Dr. Arun Sudhagar
Dr. K. Saravanan	Dr. Naveen Kumar B.T.
Dr. Murali S.	Dr. Gadadhar Dash
Dr. Murugadas Vaiyapuri	Dr. Tarachand Kumawat
Dr. Prem Kumar	Dr. Yasmeen Basade

## Partner Organizations



Veterinærinstituttet  
Norwegian Veterinary Institute

For further information, please contact:

### Organizing Secretary

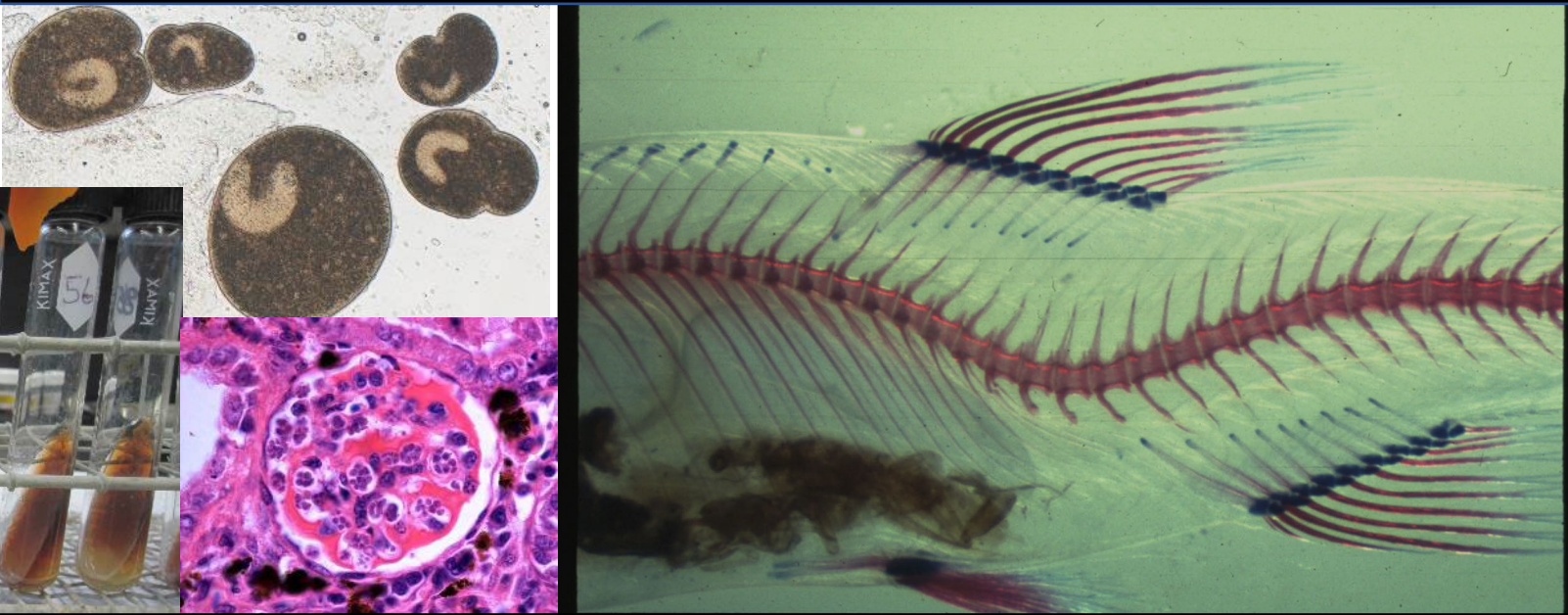
3<sup>rd</sup> International Conference on Aquatic Animal Epidemiology (AquaEpi III)  
ICAR-National Bureau of Fish Genetic Resources  
Canal Ring Road, P. O. Dilkusha, Lucknow- 226002  
Uttar Pradesh, India  
E-mail: [aquaepi3@gmail.com](mailto:aquaepi3@gmail.com)





# Graduate Opportunity in Fish Health!

Earn a graduate degree from the University of Washington while training to become a Fish Health Professional



## The successful incumbent will:

- Enroll in a Master of Science (M.S.) program at the School of Aquatic and Fishery Sciences (University of Washington) completing coursework to become an AFS certified Aquatic Animal Health Inspector.
- Perform research at the U.S. Geological Survey's Western Fisheries Research Center.
- Train with professional Fish Pathologists at the Northwest Indian Fisheries Commission and other fisheries agencies.

If interested, please apply for graduate admission at the School of Aquatic and Fishery Science, UW: <https://fish.uw.edu/students/graduate-program/prepare-apply/>

**Complete applications are due Nov 15, 2023 for graduate admission in September 2024.**

**We encourage applications from individuals who are members of groups that are historically underrepresented in the sciences, including American Indian/Alaska Native/First Nations students.**

For questions, please contact Dr. Chelsea Wood: [chelwood@uw.edu](mailto:chelwood@uw.edu)  
or Dr. Paul Hershberger: [phershberger@usgs.gov](mailto:phershberger@usgs.gov)



# Northwest Indian Fisheries Commission

6730 Martin Way E., Olympia, Washington 98516-5540  
Phone (360) 438-1180

[www.nwifc.org](http://www.nwifc.org)

FAX # 753-8659

## **\*\*EXTENDED\*\* VACANCY ANNOUNCEMENT**

**Position:** Veterinarian II

**Starting Salary:** \$79,570 - \$111,811 DOQ

**Location:** Northwest Indian Fisheries Commission (NWIFC)  
Olympia, Washington

**Closing Date:** Open until Filled

**Duties and Responsibilities:** Plan and provide a veterinary service program that includes prescriptive services to tribal salmon hatcheries, other facilities under contract, and tribal wildlife capture programs. Develop annual plans that specify deliverable veterinary services for all tribal hatcheries and wildlife capture projects needing assistance. Ensure that all programs have an assigned Veterinarian of Record who has established a valid veterinary-client-patient relationship and is responsible for prescribing drugs for that program. Purchase drugs and associated supplies needed to treat fish diseases at tribal hatcheries or immobilize wildlife captured by Tribes. Implement a cost reimbursement program for drugs purchased for tribal programs. Meet federal (DEA) regulations to prescribe and dispense controlled substances. Ensure all prescribed drugs are applied safely and efficaciously and their use is in compliance with WA state and federal laws. Establish wildlife disease control and education programs for member tribes.

**Qualifications:** Must possess a Doctor of Veterinary Medicine obtained at a school of veterinary medicine accredited by the American Veterinary Medicine Association on Education (AVMA). Must have a minimum of two years pertinent work experience that specifically includes providing veterinary services (diagnostic and prescriptive) to aquatic finfish species. Preference given to experience with coldwater fish species. Must possess or obtain a valid license to practice veterinary medicine in Washington State within two months of beginning work and maintain it during the duration of employment. Must obtain a DEA license that has 2-5 and 2N and 3N schedules within six months of beginning work and be maintained during the duration of employment. Must obtain and maintain either (1) AFS FHS certification as a Fish Health Inspector or Fish Pathologist after they have fulfilled the three years of work experience requirement or (2) the WAVMA Aquatic Animal Veterinarian certification (CertAqV). Must possess and maintain a valid WA State Drivers' License during duration of employment.

**Application:** Send resume and cover letter to: Wendy Bowman, HR Northwest Indian Fisheries Commission, 6730 Martin Way East Olympia, WA 98516-5540 or email to: [wbowman@nwifc.org](mailto:wbowman@nwifc.org).

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# Northwest Indian Fisheries Commission

6730 Martin Way E., Olympia, Washington 98516-5540

Phone (360) 438-1180

nwifc.org

Fax (360) 753-8659

## VETERINARIAN II

### Tribal Fish Health Program

The Northwest Indian Fisheries Commission (NWIFC) is a natural resources management support service organization for 20 treaty Indian tribes in western Washington. Headquartered in Olympia, the NWIFC employs approximately 80 people with satellite offices in Burlington and Forks. The NWIFC was created following the 1974 U.S. v. Washington ruling (Boldt Decision) that re-affirmed the tribes' treaty-reserved fishing rights. The ruling recognized them as natural resources co-managers with the State of Washington with an equal share of the harvestable number of salmon returning annually.

#### Fish Health Program



NWIFC member tribes created the tribal fish health program in 1988 to meet the growing fish health needs of their salmon enhancement and supplementation programs. Today the fish health program is staffed by three fish pathologists, two veterinarians, one permit specialist, and one microbiologist, who are supported by a fully equipped fish health diagnostic lab. The program's goal is to assist tribes in rearing and releasing healthy fish that will help to sustain a tribal fishery or restore a wild population. The tribal fish health program provides services to its member tribes in preventative fish health care, disease diagnostics and treatment, and also provides training and educational opportunities that promote the development of tribal hatchery staff.

Pictured are Tribal hatchery staff and current Program Veterinarian Dr. Charlene Morotti performing injections on Chinook Salmon in a Tribal captive brood program.

#### Wildlife Program



NWIFC member tribes participate in managing the wildlife population on their reservation land. The NWIFC program veterinarians support the tribes in this endeavor by reviewing capture plans to assess the health, safety, and welfare of the animals as well as capture teams. The veterinarian also provides support through ordering capture supplies and medications, as well as participating in captures when required to maintain a valid VCPR and administer medications. Finally, the veterinarian assists in disease management in wildlife populations through education, necropsies, and working groups.

Pictured is the NWIFC Wildlife Program Manager Chris Madsen and Program Veterinarian Dr. Charlene Morotti assisting on a Tribal elk capture.

## **WORKING CONDITIONS:**

- **Work Setting, including hazards:**
  - Work is conducted through telework, in the office, site visits to hatcheries, and in the field with wildlife.
  - Field work is often conducted in adverse environmental conditions at hatcheries or in the field.
  - Must be able to negotiate water in fish culture situations.
  - Must handle drugs and chemicals and understand safe use, storage, and handling.
- **Schedule:**
  - Hours of the day can vary but must be available during core hours 9:00 a.m. – 4:00 p.m.
  - Primarily Monday - Friday, but the incumbent must be willing to work non-scheduled work week.
  - A flexible work schedule will be considered at the incumbent's request, subject to supervisory approval.
  - Field work and attending meetings and site visits is likely to be necessary during portions of all seasons and might require occasional alternative work schedules.
- **Travel Requirements:**
  - Local or regional travel may be required to meet with regional staff, attend committee meetings, evaluate properties, conduct general business, or attend or provide training.

## **NWIFC employees may be eligible for the following:**

Medical/Dental/Vision for employee & dependent(s), Employee Retirement Program, Vacation and Sick Leave, 13 Paid Holidays per year, Public Service Loan Forgiveness, Long Term Disability & Life Insurance, Flexible Spending Arrangement (FSA), CE Travel Expenses

## **Join the NWIFC Team:**

Learn more about our [agency](#)