**Internship Description**

**Employer Name:** NOAA Fisheries, Northwest Fisheries Science Center

**Employer Description:** Manchester Research Station functions as a satellite facility to the NOAA Fisheries’ Northwest Fisheries Science Center. The Manchester Research Station is a leader in state-of-the-art salmonid and marine fish culture technologies. Under the NWFSC’s Environmental and Fisheries Sciences (EFS) Division, and collaborating with other Divisions such as Conservation Biology (CB), Manchester scientists provide an array of research support to NOAA Fisheries’ efforts to conserve at-risk and endangered populations of Pacific salmon, develop ecologically sustainable aquaculture, advance science of marine fish and shellfish biology, and restore marine habitat — research that is conducted in cooperation with many federal, state and local agencies, Tribal groups and universities, among others.

**Stock Conservation Team:** Scientists at Manchester have done foundational research in using captive broodstocks to aid recovery of ESA-listed stocks of Pacific salmon. Fish in captive broodstocks are maintained in captivity throughout their life cycle. The relatively high fecundity (number of eggs per female) of Pacific salmon, coupled with increased survival rates in protected culture, can allow captive broodstocks to produce large numbers of fish to amplify a population in a single generation.

**Website:**
http://www.nwfsc.noaa.gov/research/divisions/efs/hatchery/salmon_captive/index.cfm

**Genetics Team:** The Genetics and Evolution Program employs proven and innovative approaches from genetics to aid conservation and management of marine and anadromous organisms. Our scientists have expertise in population, molecular and quantitative genetics, phylogenetics, genomics, and bioinformatics. Our program's activities focus on problems in population genetics and evolutionary ecology, and on providing genetic analyses of forensic evidence for NOAA Fisheries' Office of Law Enforcement. Research topics include assessing genetic variation to support conservation of protected species, analyzing composition of mixed fishery stocks, estimating fitness in the wild, and evaluating effects of hatchery domestication, fishing, and climate change. Current research projects range from Alaska to Argentina and involve salmon, killer whales, herring, hake, rockfish, eulachon, tunicates, abalone, corals, and sponges.

**Website:**
http://www.nwfsc.noaa.gov/research/divisions/cb/genetics/index.cfm

**Internship Title:** Fisheries Intern
**Internship Description:** The internship involves work experience with two research groups at Manchester Research Station: the Stock Conservation Team and Molecular Genetics.

The chosen candidate will gain experience working with endangered Redfish Lake sockeye, threatened Nooksack and Stilliguamish chinook, and Elwha pink salmon. Through involvement with the Stock Conservation Team, the intern will become acquainted with captive propagation programs that have successfully contributed to the long-term survival of ESA-listed salmon.

Assisting the Stock Conservation Team involves hands-on work with large salmonids. Duties may include sorting fish for upcoming spawning season, obtaining length/weight data from PIT tagged individuals, collecting fin clips and PIT tagging fish if necessary, netting fish, moving fish, sterilizing tanks, and above all working as a team. The intern will learn to approximate stage of maturation and fish gender using ultrasound technology. Additional husbandry may be required such as feeding stocks, collecting water quality data, and retrieving water samples. Further examination of water samples such as invertebrate identification and use of the Filemaker database is available.

The intern will also gain experience in a molecular genetics laboratory setting, where duties can involve cataloging of samples, DNA extraction, microsatellite and/or SNP marker analysis, and data analysis. There is the potential for crafting a stand-alone project, on which the intern can take the lead.

**Internship Location:** Manchester Research Station, Port Orchard, WA

**Hours per week:** 20-40 hours per week, 8am-4:30pm with flexibility

**Duration:** June 22-August 14, 2015, some flexibility

**Pay/Salary:** Volunteer/Credit Hours

**Qualifications:**

Candidate must be dependable, responsible and attentive to detail.

- work effectively with others and independently.

Knowledge/Skills desired

- Some college education in Biology, Environmental Science or related field.

- Enthusiasm for fisheries conservation and desire to work with threatened and endangered fish.

**Application Instructions:** Submit a cover letter, resume and list three references.
Expiration Date (deadline to apply): Until Filled.
Western Washington University

Internship Description

Employer Name: NOAA Fisheries, Northwest Fisheries Science Center

Employer Description: Manchester Research Station functions as a satellite facility to the NOAA Fisheries’ Northwest Fisheries Science Center. The Manchester Research Station is a leader in state-of-the-art salmonid and marine fish culture technologies. Under the NWFSC’s Environmental and Fisheries Sciences (EFS) Division, and collaborating with other Divisions such as Conservation Biology (CB), Manchester scientists provide an array of research support to NOAA Fisheries’ efforts to conserve at-risk and endangered populations of Pacific salmon, develop ecologically sustainable aquaculture, advance science of marine fish and shellfish biology, and restore marine habitat — research that is conducted in cooperation with many federal, state and local agencies, Tribal groups and universities, among others.

Stock Conservation Team: Scientists at Manchester have done foundational research in using captive broodstocks to aid recovery of ESA-listed stocks of Pacific salmon. Fish in captive broodstocks are maintained in captivity throughout their life cycle. The relatively high fecundity (number of eggs per female) of Pacific salmon, coupled with increased survival rates in protected culture, can allow captive broodstocks to produce large numbers of fish to amplify population in a single generation.

Website:
http://www.nwfsc.noaa.gov/research/divisions/efs/hatchery/salmon_captive/index.cfm

Internship Title: Fisheries Intern

Internship Description: An undergraduate with an interest in captive salmon propagation is desired. The chosen candidate will gain experience working with endangered Redfish Lake Sockeye and threatened Nooksack and Stilliguamish Chinook. Through involvement with the Stock Conservation Team, the intern will become acquainted with captive propagation programs that have successfully contributed to the long-term survival of ESA-listed salmon.

Candidate must be willing to participate in hands-on work with ESA listed salmon species. Duties include handling mature Redfish Lake sockeye during spawning season, obtaining length/weight data from PIT tagged individuals, collecting fin clips, recording fecundity data, moving fish, and above all working as a team. Additional husbandry may be required such as feeding stocks, cleaning tanks, collecting water quality data, and retrieving water samples. Further examination of water samples such
as invertebrate identification and use of the Filemaker database is available. Potential for an independent project may be available and would vary with the intern’s interests.

**Internship Location:** Manchester Research Station, Port Orchard, WA

**Hours per week:** 8-24 hours per week, 8am-4:30pm, flexible schedule

**Duration:** September 15-November 13, 2015, some flexibility

**Pay/Salary:** Volunteer/Credit Hours

**Qualifications:**

Candidate must be dependable, responsible and attentive to detail.

- Work effectively with others and independently.

- Knowledge/Skills desired

- Some college education in Biology, Environmental Science or related field.

- Enthusiasm for fisheries conservation and desire to work with threatened and endangered fish.

**Application Instructions:** Submit a cover letter, resume and list three references.

**Expiration Date (deadline to apply):** Until Filled.