Hailey Rosenthal
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EDUCATION

University of Colorado at Boulder, Boulder, Colorado. *B.A. in Evolutionary Biology & Ecology. B.A. in Spanish Literature & Language.* Spring 2016.

WORK EXPERIENCE

October 2021-Present: **Puget Sound Recreational Support Biologist (Fish and Wildlife Biologist 2)**, *Washington Department of Fish and Wildlife, Olympia, Washington.* Data compilation and analysis of hatchery programs related to recreational fisheries in Puget Sound. Analyzes coded wire tag recoveries to prepare reports summarizing contributions of hatchery program releases, survival rates, and cost-benefit analysis. Data management includes managing the following: statewide databases on salmon abundances and forecasts, in-season databases for Lake Washington and Baker sockeye, coho, and Chinook counts, in-season databases for Puget Sound Fisheries, and recreational catch of Pink, Chum, and Sockeye. Assists in production of reports, tables, and graphs, and interprets catch record card data. Supports analysis of data for justification of recreational salmon fisheries. Authors reports on Puget Sound Recreational Fisheries Enhancement Fund (PSRFEF) program for Fish and Wildlife Commission and Washington Legislature. Assists in coordination of PSRFE advisory group and Puget Sound Angler advisory group. Budget management for PSRFE accounts to ensure adherence to budget guidelines. Collaborates with regional management, comanager, and constituents during the North of Falcon process. Assist in data compilation and FRC action for in-season management. Develop and implement new ideas for Puget Sound salmon monitoring efforts.

Feb. 2020- October 2021: **Fish and Wildlife Biologist 2,** *Washington Department of Fish and Wildlife, Olympia, Washington*. From January through July: Independently operated an automated mass marking and coded wire tagging mobile wet lab (trailer) at hatcheries statewide. Troubleshooted problems with complex robotic systems, video imaging systems, and complex software. Monitored fish health through water flow and fish behavior when present in AutoTrailer. Collected quality retention samples and loaded fish into automated trailer as needed. July through December: Data compilation and analysis of hatchery programs related to recreational fisheries in Puget Sound. Conducted coded wire tag experiments to analyze contribution rates, survival rates, allocation, brood-stock identification, and effect of mark selective fisheries on fish species. Prepared reports summarizing contributions of hatchery program releases, survival, and cost benefit analysis. Authored report on Puget Sound Recreational Fisheries Enhancement Fund (PSRFEF) program for Fish and Wildlife Commission and Washington Legislature.

Dec. 2017-April 2019: **NOAA North Pacific Groundfish Fishery Observer**, *Alaskan Observers, Dutch Harbor, AK.* Duties included collection of catch effort and biological data from trawl fisheries through sampling of catches; and upload and reporting of field data on a daily basis to the National Marine Fishery Science Center. Biological data included Alaskan fish species identification (i.e. adult salmon identification and bottomfish species identification), marine mammal identification, gender determination and measurements of fish and crab species, mark status identification, otolith collection for age structures, and genetic sampling and scale recovery. Catch effort data included proper recording of catch data, species composition data, independent catch estimation, etc. verification of

gear use, deployment, and retrieval.

Volunteer Oceanographic Technician for Scripps Institution of Oceanography (SIO-UCSD) aboard three research vessels (R/V).

- June 2017: *Scripps Process Cruise R/V Roger Revelle*
- April 2017: *California Cooperative Oceanic Fisheries Investigation (CalCOFI) Spring Survey Cruise, NOAA R/V Bell M. Shimada*
- Jan. 2017: *CalCOFI Winter Survey Cruise NOAA R/V Reuben Lasker*

Studied the physical, biological, and chemical oceanography of California Current for California Current Ecosystem Long Term Ecological Research (CCE-LTER). Prepared and operated the deployment of a Seabird CTD instrument for oceanographic data collection. Recovered CTD instrument for sample collection and analysis. Assisted in maintenance and troubleshooting of CTD daily. Analyzed the oxygen, salt and chlorophyll content. Pumped water sample
through filtration process for later HPLC and POM analysis. Used a handheld dissolved oxygen meter. Carried out chlorophyll-a size fractionations at specific stations and used fluorometer to read values. Additionally, learned the program FLOG for chlorophyll readings. Assisted in Moving Vessel Profiler, SeaSoar CTD, Drift Array, Sediment Trap and Net Tow deployment and recovery. Split, filtered, and preserved samples from net tows for analysis on land. Specific to NOAA vessels: assisted research fishery technician in collection and preservation of underway egg sampler. Samples were taken on the hour when in transit to identify fish species, survey populations and spawning seasons.

Sep. 2019-Dec. 2019: **Survey Stream Technician,** *Washington Department of Fish & Wildlife, Olympia, Washington*. Conducted Fall Chinook, Summer Chum, and Fall Chum pre-spawn mortality surveys, spawning ground surveys, and carcass recovery surveys in the Hood Canal area via foot or raft. Collected biological data, including scale recovery for age composition, length measurements, sex determination, mark status identification (mark vs unmarked), and coded wire tag use and detection in adult Chinook and Coho salmon using standard CWT protocols and CWT wand. Collected genetic samples such as DNA tissue samples and otolith collections. Identified and quantified Chinook, Chum, Coho, Pink, and Sockeye salmon in streams in Hood Canal area. Assisted hatchery technicians at George Adams Hatchery with fish sorting, and sperm and egg collection during spawning of Chinook salmon. Uploaded and reported of field data to Access database- SGS field database, and hatchery database. Familiar with fishbooks database and RMIS. Assisted in data auditing the SGS field database, uploading age compositions for scales recovered from Hoodsport and George Adams hatcheries, utilizing fish books to audit hatchery database.

April 2016-Aug. 2016: **Marine Biology Research Assistant**, *Huinay Science Foundation Station, Huinay, Chile.* Assisted marine biologists in their preexisting research projects on marine benthic organisms and environments. Utilized variety of technical equipment to conduct biological field work such as GPS units, microscopes, data loggers, and electronic data collectors, and water chemistry analysis equipment. Collected field data and prepared marine samples for storage. Entered data into computer database- the Patagonia Marine Database. Assisted in analysis for monitoring and management of marine benthic life using R Studio and Python programming languages. Additionally, assisted in the creation of map reports using ArcGIS.

RELEVANT SKILLS

Conversationally fluent in Spanish.
Experience with data loggers and water chemistry analysis equipment.

Experience with Seabird CTD and software.
Computer, writing, and database skills (Microsoft Suite, R Studio).
Avid Backpacker with knowledge of GPS technology and topographic maps. Seagoing experience.
Bottom fish species identification.
Salmon species Identification.
Salmon Redd Identification
Marine mammal identification.
Rated as a Class I River Oarsman
Knowledge of fish marking and tagging protocols.
Knowledge of resident and anadromous life history and fisheries management methods
Experienced volunteer in trail and stream restoration in Boulder County, CO.
National Outdoor Leadership School (NOLS) Alumni. July 2009.