



**2019 Internship Program Description**

## **Aquatic Ecology and Limnology Intern**

**Organization:** Henry's Fork Foundation

**Location:** Ashton, Idaho

**Job Type:** Paid internship, funded by the A. Paul Knight Scholarship at Washington and Lee University

**Duration:** June 12, 2019 through August 20, 2019 (10 weeks)

**Job Summary:** The A. Paul Knight Scholarship at Washington and Lee University has funded internships at the Henry's Fork Foundation (HFF) since 1989. For 2019, HFF is seeking an undergraduate student from Washington and Lee who is interested in working in the science and technology program of a non-profit watershed conservation organization in the Greater Yellowstone region. The selected intern will participate in all sectors of non-profit work but will primarily contribute to a study of nutrient fluxes and aquatic ecosystem productivity in the upper Henry's Fork and Island Park Reservoir.

**Organization Overview:** The Henry's Fork Foundation is a non-profit organization that works to conserve, protect, and preserve the unique fisheries, wildlife, and water resources of the Henry's Fork Watershed. HFF uses a collaborative, science-based approach to achieve its mission and works closely with water users, hydroelectric power companies, government agencies, and other nonprofit groups.

**Project Description:** HFF has long recognized the importance of Island Park Reservoir to fisheries both upstream and downstream. Because of the popularity of fisheries downstream of the reservoir, especially in Harriman State Park, HFF has historically devoted a large amount of its scientific attention to that reach. However, the reach upstream of the reservoir, known locally as the "upper Henry's Fork" has recently received a lot of attention from anglers and other stakeholders because of rapid commercial and housing development along the river, long-term decline in the fishery, increased

recreational use, and the high potential of the upper river to provide a refuge of high-quality, cold water as climate change decreases water quality in other reaches of the river. Furthermore, development along the river necessitates expansion of the current wastewater treatment facility in that area of the watershed. To better understand the potential effects—both positive and negative—of the wastewater facility expansion, as well as to develop management strategies to enhance the wild trout fishery, HFF is funding a four-year research project to investigate nutrient fluxes and aquatic ecosystem function in the upper river-reservoir system. The A. Paul Knight Scholar will primarily work on this research project. In rotation with other interns, the Knight scholar will also spend roughly one-half day each week collecting data on recreational use on the upper Henry's Fork.

This internship will provide a unique opportunity for the student to work closely with HFF's science and technology team, led by Dr. Rob Van Kirk. Dr. Van Kirk has over 20 years of experience in research and management of fisheries and water resources on the Henry's Fork and throughout the Intermountain West. In addition to his position as HFF's Senior Scientist, Dr. Van Kirk is Professor Emeritus of Mathematics and Statistics at Humboldt State University. The intern will receive direct supervision and training in field, laboratory and data analysis methods from Jack McLaren, a Ph.D. student at Utah State University who is the primary investigator on the upper Henry's Fork project. Jack has spent four summer field seasons in the Henry's Fork area, three of them with HFF. His master's thesis at Indiana University investigated the effect of reservoir management on water temperature in the Henry's Fork downstream of Island Park Dam. Jack brings a wealth of knowledge in fisheries, limnology and aquatic ecology to HFF's science team. Close interaction with HFF science staff will allow the intern to learn about the role of nonprofit organizations in conducting high-level science and monitoring that is used to inform management and conservation of aquatic resources.

Specific activities and projects include, but are not limited to:

- 1. Aquatic Ecology:** Assist with collection, processing, and analysis of water-quality and ecological data in the upper Henry's Fork, other comparison stream reaches, and Island Park Reservoir. Sampling media could include water, aquatic invertebrates, aquatic plants, substrate, and instrumented, multi-parameter reservoir profiles.
- 2. Water Quality Sampling.** Collect and process water samples from the Henry's Fork River.
- 3. Outreach:** Assist in preparation of scientific outreach products, including presentations, reports, papers, blogs, and social-media posts.
- 4. Summer Seminar Series:** Participate in HFF's weekly summer seminar series, at which HFF staff, invited guests, and the interns themselves present a variety of information relevant to HFF's conservation work. All interns are required to attend seminar, ask questions of speakers, and give a 20-minute presentation on their own work with HFF.
- 5. Henry's Fork Day:** All interns are required to participate in "Henry's Fork Days", our main member outreach and fundraising event, on Friday and Saturday, June 21-22. Interns will help with set-up and event duties, alongside the entire HFF staff. At this event, interns will also be recognized to our membership for their internship.
- 6. Outreach/Education:** HFF has a youth education program that works to engage youth with their watershed and the work we do to protect it. Interns will assist, as needed, with our youth fly-fishing program "Youth on the Fly."

7. **Additional Field Work:** Although the Knight scholar will work primarily on the upper river project, a portion of the intern's time during the summer will be devoted to field work on other projects. In 2019, this work could include monitoring of fish passage facilities, installing fences that keep livestock away from streambanks, measuring streamflow, and collecting data on recreational river use. The recreational use survey may require occasional work on evenings and weekends.

**Qualifications:** We are seeking a motivated student with interest in aquatic ecology, basic background in biology and environmental science, and who is comfortable working outdoors, in and near water. In addition, skills and experience with statistical data analysis in the R programming language and standard stream assessment techniques such as flow measurement will be useful. The successful applicant will also need to have good communication skills, be comfortable working independently and with others, have good time management skills, be physically able to work outside and on the river, and be flexible with assignments. Applicants must also be able to swim and have a valid driver's license.

**Logistics:** The selected intern will receive a 10-week stipend directly from the A. Paul Knight Scholarship fund at Washington and Lee University. The intern is responsible for travel to and from HFF's campus in Ashton. HFF will provide dormitory-style housing at its campus at no cost to the intern. HFF will also provide company vehicles for work-related travel, but the intern is responsible for local transportation during off-work hours.

**Our Commitment to Diversity and Inclusion:** The Henry's Fork Foundation values a diverse workforce of people from all backgrounds and is committed to increasing the number of traditionally under-represented groups in the environmental and natural-resources professions. Our internship program provides a unique opportunity for students from around the country to bring a diversity of ideas and experiences to our small community and to each other, thereby enriching the experience and effectiveness of the entire HFF team. We are committed to respecting this diversity of ideas and backgrounds. We strongly encourage applications from members of underrepresented groups in the natural-resource professions, including women and minorities.

***Applications for this internship must be submitted through the Knight Scholarship program at Washington and Lee University.***

***For more information on this internship, contact Dr. Rob Van Kirk at [rob@henrysfork.org](mailto:rob@henrysfork.org)***

***To learn more about the HFF and the work we do, please explore the following links.***

Henry's Fork Foundation website: [henrysfork.org](http://henrysfork.org) and HFF Blog: <http://henrysfork.org/blog>

