



**2019 Internship Program Description**

## Hydrology and Wetland Ecology Intern

**Organization:** Henry's Fork Foundation

**Location:** Ashton, Idaho

**Job Type:** Paid internship, funded by the late Jeffry Timmons (Colgate class of '64) and his wife Sara

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

**Job Summary:** The Timmons fund has supported an annual internship at the Henry's Fork Foundation (HFF) since 2000. HFF is seeking an undergraduate student from Colgate University 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 groundwater-surface water interactions and wetlands on the lower Henry's Fork.

**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:** Historically, the most popular reaches of the Henry's Fork among wild-trout anglers are those immediately upstream and downstream of Island Park Reservoir, in the upper part of the watershed. As a result, over its 34-year history, HFF has devoted the vast majority of its research and restoration work to the upper watershed, including the world-famous Harriman State Park reach. However, angling effort on and interest in the lower reaches of the Henry's Fork and its tributaries has grown substantially over the past 15 years, due in large part to population growth in eastern Idaho and

western Wyoming. Furthermore, in recent years, HFF's research has shown that the quality of fishing on the lower Henry's Fork and that on the upper Henry's Fork are highly linked—and usually inversely—by management of Island Park Reservoir. High reservoir releases to meet downstream irrigation demand can benefit fisheries in the lower watershed but to the detriment of those in the upper Henry's Fork. On the other hand, limiting irrigation delivery to benefit fisheries in the upper watershed leaves very little water in the lower river during the heat of the summer. Furthermore, the lower Henry's Fork is a key location on the Eastern Snake River Plain for managed aquifer recharge, arguably the most important measure being taken statewide to secure water supplies for agriculture and other uses in the Snake River basin. Previous research shows that ecologically important wetland resources benefit from artificial aquifer recharge—historically provided by traditional flood irrigation and currently provided by managed recharge. To better understand the potential effects—both positive and negative—of managed aquifer recharge on fisheries and wetlands in the lower Henry's Fork, as well as to inform innovative water management strategies that will balance the needs of multiple resources watershed-wide in a changing climate, HFF is funding a four-year research project to investigate groundwater-surface water interactions, use of managed recharge as a climate-change mitigation tool, and aquatic and wetland habitat in the lower Henry's Fork watershed. The Colgate intern will primarily work on this research project. In rotation with other interns, the intern 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 hydrology and water management from Christina Morrisett, a Ph.D. student at Utah State University who is the primary investigator on the lower Henry's Fork project. Christina was an intern with HFF in 2015 and spent the following year as a research assistant with HFF before earning her M.S. degree in fisheries at University of Washington. A native of Alaska, Christina brings a very broad set of skills and experience in commercial and recreational fisheries management, groundwater and surface water hydrology, and stakeholder engagement to HFF's science team. The intern will also work in the field with local wetland plant experts. Close interaction with HFF science staff and its collaborators 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. **Lower Henry's Fork Project:** Assist with installation and monitoring of stream and groundwater measurement devices, stream channel surveys, wetland plant inventories, and analysis of hydrologic data.
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 Colgate intern will work primarily on the lower 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 hydrology and water management, basic background in physical, biological and environmental sciences, and who is comfortable working outdoors, in and near water. In addition, skills and experience with the R programming language 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 Timmons fund at Colgate 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.

**To apply for this internship, send a cover letter, resume, and a copy of your academic transcript to Dr. Rob Van Kirk at [rob@henrysfork.org](mailto:rob@henrysfork.org). Application deadline is March 9, 2019.**

**You can also contact Dr. Van Kirk for more information about the internship.**

**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>

