Hutton Junior Fisheries Biology Program

2019-2020 Annual Report

"...to increase diversity... and to stimulate interest in careers in fisheries science and management among groups underrepresented in the fisheries professions today…"

By Mary Webb Banning, Educational Program Coordinator

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What is the Hutton Program?

The **Hutton Junior Fisheries Biology Program** (Hutton Program) is an educational program sponsored by the **American Fisheries Society** (AFS) for high school students. The principal goal of the Hutton Program is to *increase diversity within the fisheries profession and to stimulate interest in careers in fisheries science and management among groups underrepresented, specifically minorities and women, in the fisheries professions today*.

The Hutton Program is a paid summer internship and mentoring program for rising eleventh grade through graduating seniors interested in pursuing science disciplines associated with natural resource and environment management. Under the Hutton Program, selected students benefit from an eight week hands-on fisheries science summer experience in a marine and/or freshwater setting.

Students receive $3,000 over the course of their eight week internship. The program has offered scholarships to 700 Hutton scholars (58% minority students and 59% female students) mentored by an estimated 750 mentors associated with over 240 institutions. Students are matched with qualified mentors (university scientists, researchers working at private, tribal, federal, or state laboratories and field stations) who provide guidance, instruction, and evaluation on work activities.

The Hutton Program provides its students with hands-on activities that increase awareness of conservation issues, the importance of healthy aquatic systems, and career opportunities in fisheries. As the students work with their mentors, they gain an awareness of conservation issues and the importance of healthy aquatic systems. On a daily basis, students are participating in projects relevant to fisheries science, habitat protection and restoration. By the end of the summer, the students have an understanding of what is involved in being a fisheries biologist and the career opportunities available in the field of fisheries science. In this way, this program addresses a crucial issue that affects the future of the fisheries profession by mentoring those pursuing a career in fisheries science and filling the anticipated gap from the retirement of almost half of its fisheries biologists in the next few years.

Hutton Junior Fisheries Biology Program

2001-2020 Student Data and Trends

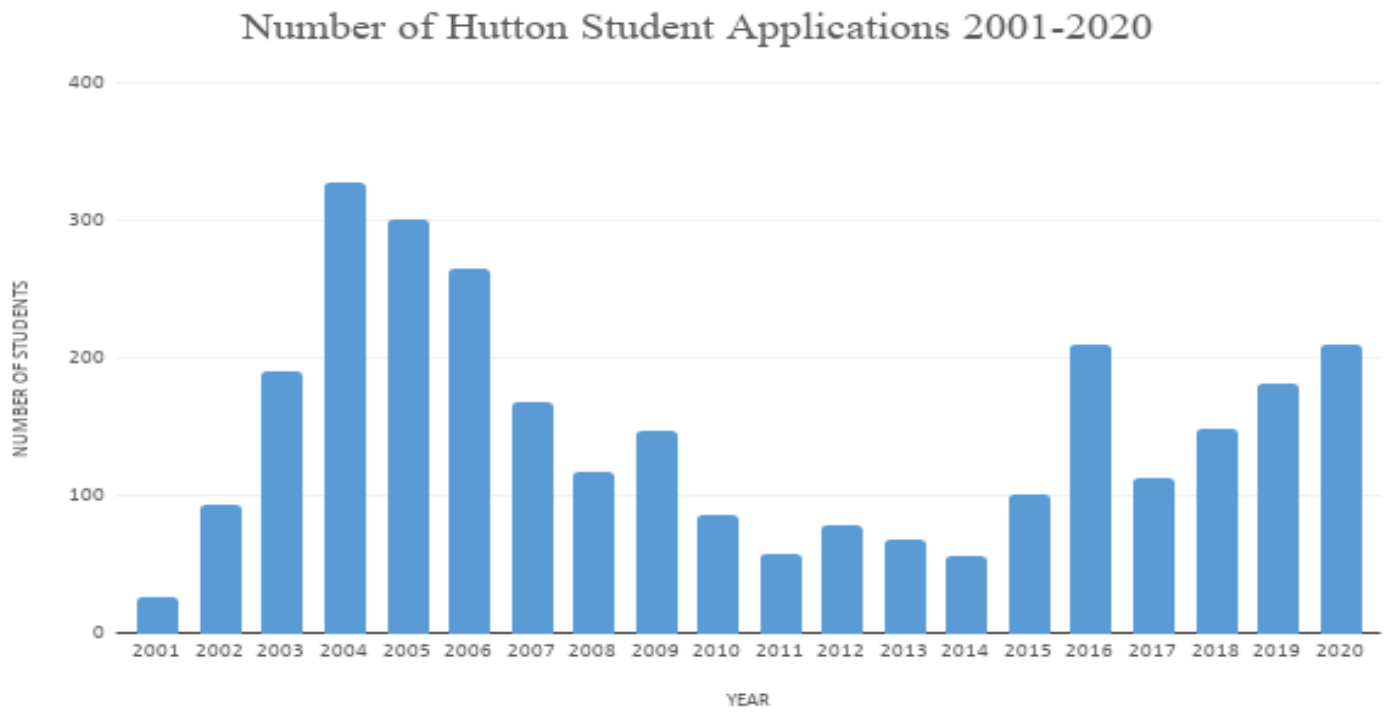


Chart 1: This shows the overall number of applications received each year for the Hutton Junior Fisheries Biology Program

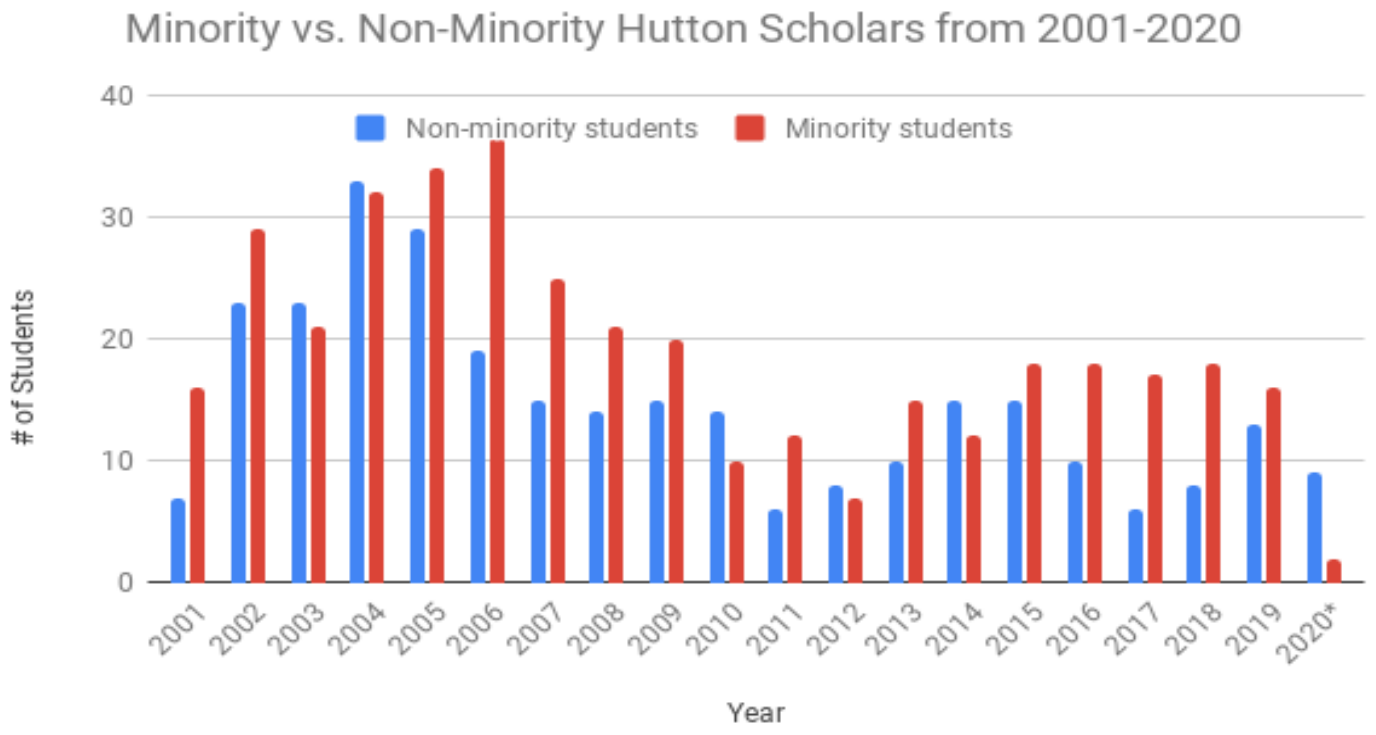


Chart 2: This shows the overall trend of minority vs non-minority Hutton Scholars over the last 20 years of the program. *2020 Hutton Scholar placements were affected by the CVID-19 global pandemic.

Hutton Junior Fisheries Biology Program

2001-2020 Mentor Data and Trends

Over the past 20 years, we have placed Hutton Scholars with over 800 mentors from across the US, Mexico and Canada who specialize in a variety of disciplines within the fisheries profession and who work with federal and state agencies to tribal organizations. In a recent survey conducted over the past year, **72% of Hutton Program alumni** from 2010-2019 say that the Hutton Program either influenced or enhanced their decision to study fisheries or a related topic in college. We attribute our Hutton Mentors to inspiring their Hutton Scholars to continue on a path into the fisheries profession!

⇒ **Mentor United States Representation:** 48 US states and Puerto Rico

⇒ **Hutton Scholar United States Representation:** 46 US states and Puerto Rico

PLACE OF WORK	# OF MENTORS	PERCANTAGE
State Agency	290	**35%**
Federal Agency	262	**31%**
University	168	**20%**
Tribal Fisheries	52	**6%**
Private Industry	32	**4%**
Non-Profit Org	22	**3%**
City Municipality	9	**1%**

FEDERAL AGENCY REPRESENTATION		
USDA Forest Service	120	**46%**
NOAA	49	**19%**
US Fish and Wildlife Service	36	**14%**
Bureau of Land Management	22	**8%**
US Geological Survey	14	**5%**
Other	12	**5%**
US National Parks Service	7	**3%**

⇒ Of the 717 Hutton Scholar that have been placed with over 800 Hutton Mentors, the program's main geo-graphic hubs over the past 20 years are:

- **California**
- **Oregon**
- **Washington**
- **Idaho**
- **Alaska**
- **Montana**
- **Wisconsin**

⇒ Of the 39 state agencies who have participated in the Hutton Program, top placements have been with:

1. **Wisconsin Dept. of Natural Resources**
2. **Idaho Dept. of Fish and Game**
3. **Missouri Dept. of Conservation**
4. **Alaska Dept. of Fish and Game**
5. **Montana Fish, Wildlife and Parks**
6. **Arkansas Game and Fish Commission**
7. **Arizona Game and Fish Dept.**
8. **Kansas Dept. of Wildlife and Parks**
9. **Virginia Dept. of Inland Fisheries**
10. **Minnesota Dept. of Natural Resources**

The 2020 Hutton Program, COVID-19 and Looking Forward

This summer, 2020, marked the 20th year the Hutton Junior Fisheries Biology Program offered high school students from the United States, Mexico and Canada the opportunity to work alongside current fisheries professionals during their summer. This year, the American Fisheries Society, through the Hutton Program and with support from multiple federal and state agencies as well as AFS membership units, selected 23 students to be placed in internships. As a committee, it was decided to move forward with placements of students where internship could happen safely. We were able to place 11 students, all female, in internships in Montana, Idaho, Oregon, Wisconsin and Texas. The remaining 12 students were unable to be placed because host agencies/organizations could not commit to providing a meaningful internship experience with restrictions based on the pandemic. Of our successfully placed students, they were involved in fisheries science and management related activities ranging from population density and diversity studies in local streams, rivers and lakes to updating inventory studies of native fish in their prospective state. Hutton Scholar internships are unique, tailored and created by their Hutton Mentor, but each student is connected through a joint experience that we hope will shape their future plans.

Even though the Hutton Program was unable to place 12 students due to restrictions with COVID-19, we offered all student initially selected into the Hutton Program the opportunity to connect with current AFS members. In its third year, the Hutton Pen Pal Program connects current Hutton Scholars with members of AFS who belong to the Student and Early Career Professional Subsection and the Equal Opportunities Section. Volunteers are paired with a student to act as “pen pals” over the summer, some even continue their correspondence throughout the year! AFS member volunteers are encouraged to ask the Hutton Scholar questions about their interest in fisheries, what they enjoy about their internship and future plans for college or a career path. It acts as a great way for Hutton Scholars to connect with students and professionals currently working in the field of fisheries and aquatic sciences. In years past, we have held a webinar for our Hutton Scholars about college choice, student subunits at universities and what it means to be a Hutton Scholar. This year, we will supplement with a podcast episode highlighting the Hutton Program in the newly launched series “The Diversity and Inclusion in Fisheries Podcast”. Once the podcast is launched, Hutton Program alumni will be notified with a link and encouraged to tune into as many episodes as they wish.

The 2020 Hutton Program received five individual donations from AFS membership units totaling $8,450 to support two internship placements. We also received support from the United States Forest Service, Texas Parks and Wildlife Department and the Idaho Department of Fish and Game. Without our generous donors and funding partners, we would not be able to offer these eye-opening experiences to the future of the fisheries profession.

The 2020 Hutton Program, COVID-19 and Looking Forward cont...

This spring, in partnership with the Virtual Meeting for Cancelled Talks and an anonymous donor, the Hutton Program received $20,530 to put toward internship placements in the coming years. This money was raised in just two months and will be able to fund five internships placements. That money will be used to provide internship placements to students in the 2021 Hutton Program due to the affects of the COVID-19 pandemic on 2020 Hutton Program placements. We will also be continuing outreach efforts to various AFS membership units to continue and grow the support we receive from our members.

The Hutton Oversight Committee is a standing AFS membership committee tasked with the role to strengthen and support the Hutton Program through new ideas, goals and support of the Society. Hutton Oversight Committee co-chairs Dr. Tomas Ivasauskas and Dr. Kathy Guindon were headed up two projects that could be used as lasting resources for the program. The first was a revised grading rubric that could be used by all volunteers scoring student applications to make sure that the grading field was consistence and fair. The grading rubric was met with great praise and we will continue to use it in the coming years. The second project was a webinar designed for new, interested and past Hutton Mentors to learn more about the program, best practices for creating an internship and engaging with high school students. The webinar is posted on hutton.fisheries.org so that it is an available resource for mentors.

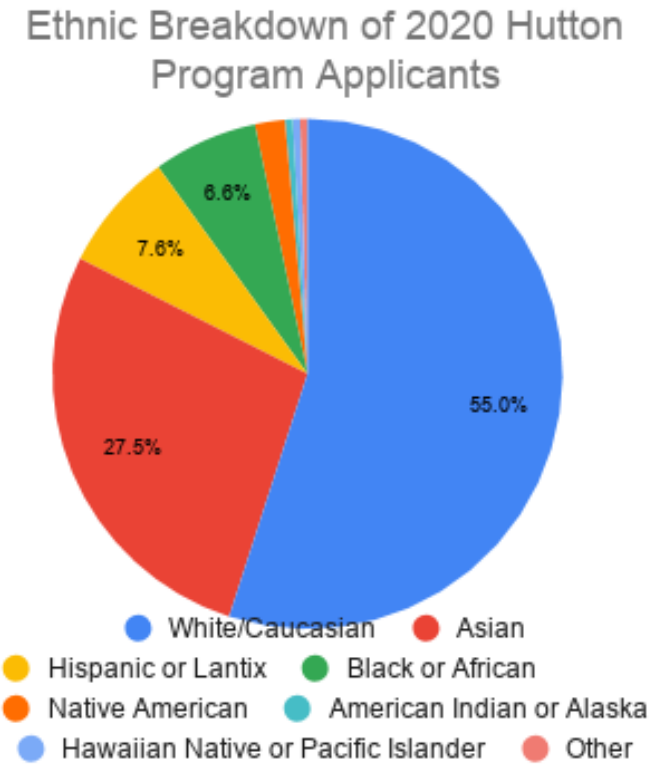
Looking toward next summer, AFS staff and staff in the Fish and Wildlife Conservation department at Virginia Tech in Blacksburg, VA have been devising a hybrid version of the Hutton Program to be offered in 2021. This program would consist of a month-long residential internship for two-four selected students to reside on Virginia Tech's campus. The second aspect of this new idea is to then bring all selected Hutton Scholars, all expenses paid, to Virginia Tech's campus in early August for the first annual Hutton Scholar Summit. This would be a two-day event modeled after AFS's Annual Meetings to have Hutton Scholars present about their research over the summer, learn about fisheries programs offered on Virginia Tech's campus, hear from state and federal fisheries biologist and get to meet AFS members who are involved in the southeast. This idea was initially established to take place in the summer of 2020, but was pushed back due to the current COVID-19 pandemic. Starting after the Virtual Annual Meeting, we will begin to plan and fundraise to have out 2021 Hutton Scholar cohort on Virginia Tech's campus in August 2021.

2020 Hutton Scholars

Name	Gender	Grade	Hutton Mentor	Host Institution/Agency	Location
Claire Downing	Female	11th	Alli Russel, FS	US Forest Service, US Fish and Wildlife Service, Montana Fish, Wildlife and Parks	Helena, MT
Rylee Ruff	Female	10th	Lee Mabey	US Forest Service	Idaho Falls, ID
Halee Angell	Female	10th	Bart Gamett	US Forest Service	Mackay,ID
Riley Moore	Female	11th	Bart Gamett	US Forest Service	Mackay, ID
Kate Anderson	Female	12th	John Heckel	Idaho Department of Fish and Game	Idaho Falls, ID
Ellie Ekelund	Female	11th	Stephanie Messerle	Bureau of Land Management	Coos Bay, OR
Samantha Huffman	Female	12th	Stephanie Messerle	Bureau of Land Management	Coos Bay, OR
Elise Anderson	Female	12th	Christina Stuart	Bureau of Land Management	Miles City, MT
Rebekah McDaniel	Female	12th	Sarah Robertson/ Stephen Curtis	Texas Parks and Wildlife Department	San Marcos, TX
Kyra Kroll	Female	11th	Matthew Wipf	Bluewater Springs State Fish Hatchery	Bridger, MT
Kayla Reed	Female	12th	Patrick Forsythe	University of Wisconsin-Green Bay	Green Bay, WI

2019-2020 Recruitment Year Data

Total Number of Student Applications: 211



Student Applicant Demographics:

- ⇒ Minority: **45%**
- ⇒ Non-Minority: **55%**
- ⇒ Female: **63%**
- ⇒ Male: **37%**

Race/Ethnicity:

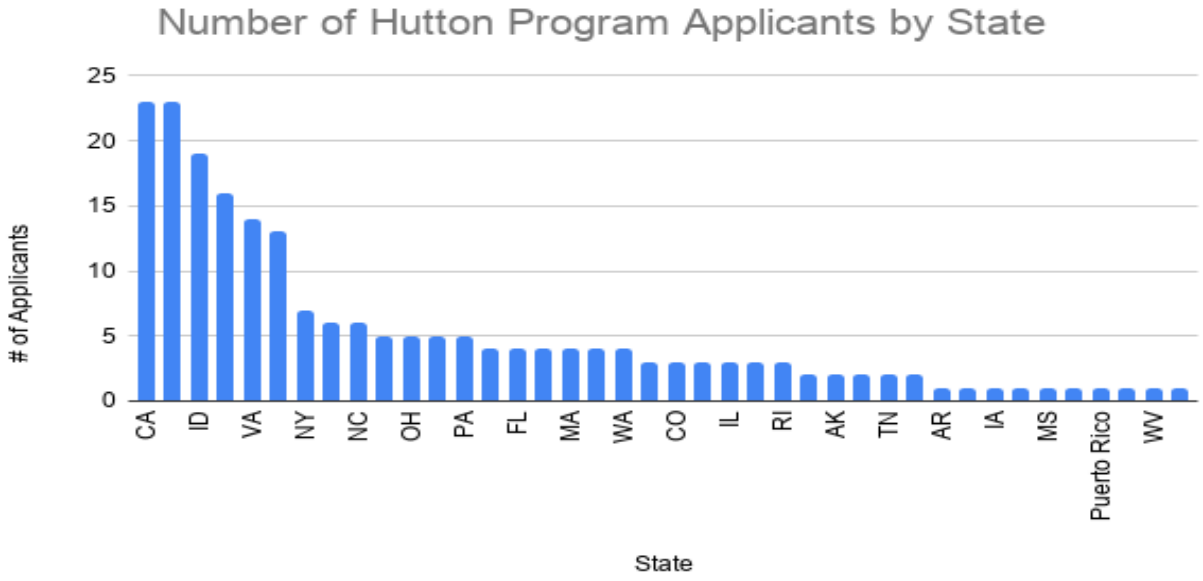
- ⇒ *Caucasian/White:* **55%**
- ⇒ *Asian or Pacific Islander:* **27%**
- ⇒ *Hispanic, Hispanic-American or Latinx:* **8%**
- ⇒ *African-American/African-Caribbean:* **7%**
- ⇒ *Native American*: **2%**
- ⇒ *Alaska Native or American Indian:* **.5%**

Student Applicant Current Grade:

- ⇒ 12th graders: **27%**
- ⇒ 11th graders: **55%**
- ⇒ 10th graders: **18%**

How Did Applicants Here about the Hutton Program?

- ⇒ Internet/Social Media: **50%**
- ⇒ High School Teacher/Counselor: **20%**
- ⇒ Friend/Family/Community Member: **20%**
- ⇒ AFS Member/Funding Partner: **10%**



2020 Hutton Program Applicants and Funding

In its 20th summer, the Hutton Program supported **11** high school students in five states. Locations with a 2020 Hutton Scholar are as follows: **Montana** (3), **Idaho** (4), **Wisconsin** (1), **Texas** (1), **Oregon** (2).

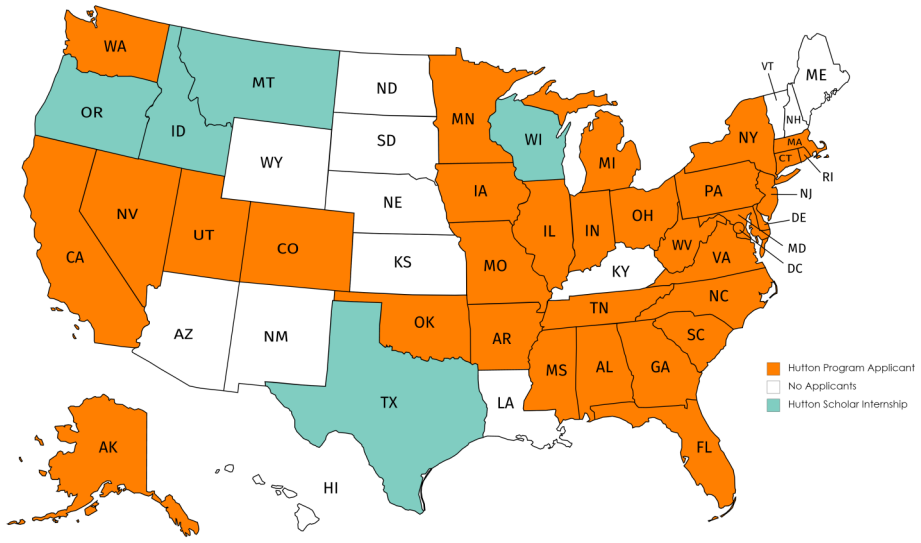


Figure 1: This map shows locations of Hutton Applications received and Hutton Scholar locations. Does not include Mexico, British Columbia or Puerto Rico.

The 2020 Hutton Program received funding from the following:

Agency/Organization/AFS Unit	Award Amount	# of Students Supported
Bureau of Land Management	$20,000	4
National Oceanic and Atmospheric Administration	$54,305	2021 placements
US Forest Service	$20,000	4
Idaho Department of Game and Fish/AFS Idaho Chapter	$5,000	1
Missouri Dept. of Conservation	$5,000	1
AFS Fish Culture Section	$5,000	1
AFS Education Section	$2,500	.625
AFS Idaho Chapter	$5,000	1
AFS Minnesota Chapter	$300	.08
AFS Missouri Chapter	$250	.06
Total	**$119,605**	**29.9**

Chart 1: This chart shows the total grant, fund or gift amount given to the 2020 Hutton Program by our financial sponsors as well as the number of students that can be supported by each amount.

2019–2020 Hutton Supporters

USDI Bureau of Land Management

USDA Forest Service

National Oceanic and Atmospheric Association

Idaho Department of Game and Fish/AFS Idaho Chapter

Missouri Department of Conservation

Texas Parks and Wildlife Department

AFS Fish Culture Section

AFS Education Section

AFS Marine Fisheries Section

AFS Minnesota Chapter

AFS Missouri Chapter

Thank You!

Notes from the field...

Rebekah McDaniel
Texas Dept. Parks and Wildlife, San Marcos, TX

My main focus this summer, however, was working with the River Access and Conservation Areas Project (RACA). The RACA Project allows public access to rivers and streams for sustainable fishing and paddling across private lands in Texas. Additionally, RACA supports conservation efforts on Texas rivers. For this project, we collected samples and photographed one site on the San Marcos River and three locations on the Llano River. There are two main methods we have used to collect samples. The first is backpack electrofishing, and the second is seining. Both the San Marcos and Llano River sites offered a wide variety of fish species including Guadalupe Bass, Longear Sunfish, Redbreast Sunfish, Green Sunfish, Western Mosquitofish, Rio Grande Cichlid, Bluegill, Gray Redhorse, Central Stoneroller, Flathead Catfish, Texas Logperch, and several species of Darters.

Samantha Huffman and Ellie Ekelund
Bureau of Land Management in Coos Bay, OR

From seining in estuaries and pools of rivers, riparian zone restoration, full creek re-meandering, stocking lakes with trout, stream surveys and inception points, snorkeling pools to identify which species were in the area, e-fishing in our local rivers, to shooting videos on job sites for grant proposals ...Mainly, we were seining to see where the salmon were during specific parts of the summer. Our two main focuses were Coho and Chinook juveniles. Personally, my most exciting moment happened while e-fishing on the Coquille River (which is in my hometown). I was working with Sammie Huffman and Antonio from the Oregon Department of Fish and Wildlife. As soon as we began shocking the water, one of the largest Chinook adults I had ever seen jumped right next to our boat. I was stunned and so were my coworkers. This female had an insanely defined egg pocket, as if she was waiting to deposit them. It was a beautiful sight, and so rewarding to know that there in fact were salmon still using our river despite the issues.

Claire Downing
US Forest Service, US Fish and Wildlife Service and Montana Fish, Wildlife and Parks in Helena, MT

In Missoula, I also rafted the Bitterroot River and learned of diversion dams which have recently been established. Diversion dams can be a point of contention amongst ranchers and biologists because both agriculture and natural resources are of high importance in Montana. Furthermore, I was able to visit a fish ladder in Thompson Falls, Montana. Established in 2010, this ladder is manually run each day and provides passage for multiple species in the Clark Fork River to pass over the dam. Upon lifting the ladder, there were over 60 fish, primarily, Brown Trout, Rainbow Trout, and White Suckers. Much to our surprise, there was a single Bull Trout, just 1 of 16 which have appeared in the ladder over the course of 10 years. I measured and weighed each fish while other biologists inserted PIT and anchor tags.

Meet our 2020 Hutton Scholars!

Claire Downing
US Forest Service, US Fish and Wildlife Service and Montana Fish, Wildlife and Parks in Helena, MT
Mentor: Allison Russel, FS

"Being a Hutton scholar has reaffirmed my interest in fisheries science. I feel strongly that I will pursue a career in fisheries biology or wildlife biology...The memories and knowledge I gained throughout this summer is invaluable."

Elise Anderson
Bureau of Land Management, Miles City, MT
Mentor: Christina Stuart

"My mentor and co-workers have given me about future career opportunities, and opportunities while in college. I have gained an interest in fisheries as a career and know that there are lots of options within that field."

Ellie Ekelund
Bureau of Land Management in Coos Bay, OR
Mentor: Stephanie Messerle

"The Hutton program not only increased my interest in fisheries, but it confirmed my interests were passions."

Kate Anderson
Idaho Department of Game and Fish, Idaho Falls, ID
Mentor: John Heckel

" I think just learning about the jobs in fisheries and the kind of work they do has helped me the most...I got to see the in's and out's of everything they do which was super cool. "

Halee Angell
US Forest Service, Mackay, ID
Mentor: Bart Gammet

"This has been one of the most fun and amazing summers of my life. As I further consider my future, I will continue to look into fisheries careers thanks to the Hutton Program and my internship experiences "

Samantha Huffman
Bureau of Land Management in Coos Bay, OR
Mentor: Stephanie Messerle

"Working with the Hutton Program has solidified my intentions of being a Fisheries Biologist, and helped me to make connections that will help me find work during, and after college. "

Meet our 2020 Hutton Scholars!

Kyra Kroll
Bluewater Springs State Fish Hatchery, Bridger, MT
Mentor: Matthew Wipf

"I have really enjoyed this internship and I feel like it will help me a lot in the future and it will help to lead me in the direction I want to go and I hope that other students take this opportunity to work here because it is a lot of fun and very educational. "

Kayla Reed
University of Wisconsin, Green Bay, Wi
Mentor: Patrick Forsythe

"This program reminded me how vast the fisheries career field can be and has improved and heightened my need to be involved in fisheries. For anyone with a slight liking to the fisheries field, this program would be amazing because the mentors will dedicate their time to teaching and giving new experiences."

Rebekah McDaniel
Texas Dept. Parks and Wildlife, San Marcos, TX
Mentor: Sarah Roberston and Stephen Curtis

" The amount I have learned in these few weeks has truly surprised me. This experience has opened my eyes to the diverse field of aquatic biology, conservation, and habitat management, as well as given me skills that will help me succeed in the future."

Rylee Ruff
United States Forest Service, Idaho Falls, ID
Mentor: Lee Mabey

"I am glad that I was able to get a good glimpse of the work environment of several areas from an office job to being considered normal to work outside. I am also glad to get the opportunity to get hands-on experiences that most others wouldn't even have heard of let alone partake."

Riley Moore
US Forest Service in Mackay, ID
Mentor: Bart Gammett

"This is a great program for anybody that has a love for fish and the fisheries profession. I gained an immense amount of experience through this program, and I enjoyed it thoroughly."

2020 Hutton Program Timeline of Activities

Expectations of Program Activities

Expectation	Program Activities
Second week of October	Launch Hutton Mentor application online
December 14th	Launch Hutton Scholar applications online
February 13th	Deadline to submit Student and Mentor Applications Begin verifying latest applications and creating application review packets of latest applications
Mid-February to first week of March	Download student data to database, sort data, create review packets in Google Docs or upload them to Google Drive
First week of March	Hutton Committee Selection Process begins Send applications to HC for review/selection, start organizing conference call
1st week of April	Date for Hutton Review Committee conference call to make final selections
Early to mid-April	Notify accepted students and begin to pair them with suitable mentors
First two weeks of May	Send informative resources to accepted students and mentors
May 31st	Deadline for students to meet with mentors
June 1st	Deadline to receive all forms Deadline to send all resources and information to student & mentor

Hutton Program Timeline of Internship

Dates	Mentors	Students	AFS
June 1st	Mentor Acceptance Form due to AFS	Student Acceptance Form due to AFS	
Prior to internship starting	Meet with student	Meet with mentor	
After first two weeks	First timesheet due to AFS		First paycheck is mailed to students (*must have timesheet before checks are mailed*)
Mid-way through program (4 weeks)	Second timesheet due to AFS	Mid-summer internship report due to AFS	Second paycheck is mailed to students
After six weeks of program	Third timesheet due to AFS		Third paycheck is mailed to students
After program is complete (8 weeks)	Final timesheet due to AFS		Fourth paycheck is mailed to students
Within two weeks of program completion	Final report and program evaluation due to AFS	Final internship report and program evaluation due to AFS	Collect photos and videos of students and mentors over the summer

Student Information

Application Requirements

Students eligible for the summer internship:

- Current 10th, 11th and 12th grade students
- Have an interest in the biological sciences
- Physically fit for fieldwork
- Reliable mode of transportation to and from internship site

Note: Previous Hutton Scholars are not eligible for reapplication.

Length of Assignment

The Hutton Junior Fisheries Biology Program is an 8-week summer internship. Selected students will work with their mentor to select a start date once they finish school for the summer. Students are expected to work 40 hour weeks. Work weeks can be broken into five 8-hour work days or four 10-hour work days.

Program Requirements

Students are expected to accomplish **ALL** requirements to successfully complete the program.

1. The student, parent or guardian, and mentor are required to meet soon after notification to discuss duties, responsibilities, and the summer schedule.
2. In order to participate, students must return to an acceptance form signed by the student, parent or guardian, and mentor the AFS Educational Program Coordinator.
3. Students must provide their own transportation to and from the work site. Travel and other expenses associated with fieldwork are borne by the mentor's organization.
4. Complete and submit bi-weekly timesheets, signed by student and mentor.
5. Students are required to provide written reports: a mid-summer report and a final report at the close of the program
6. Complete End of program evaluation and assessment

If at any time during the summer program the student does not abide by the agreement made between student, parents, and mentor, AFS reserves the right to drop the student from the program and withhold the remaining scholarship funds.

Projects & Field Work

Assignments are made with participating organizations within reasonable commuting distance from the students. During the summer, students work alongside their mentors, collecting samples and assisting with analyzing data. Each student will participate in field work and lab work.

How to Apply

Applications for the program can be found at hutton.fisheries.org.

Students must complete all required fields in all sections of the application for their application to be considered complete. Applicants who submit incomplete applications will not be considered for selection.

- Online application form
- Official copy of student transcript
- Statement of Interest
- Responses to Two Open-Ended Questions
- Academic Letter of Recommendation from a science, math or English teacher
- Character Letter of Recommendation from a supervisor, community or organizational leader, or a different teacher

Selection

All applications are competitively selected. Selection criteria include: academic ability, recommendations, and overall interest in fisheries science and marine biology.

The principal goal of the program is to increase diversity within the fisheries field; qualified women and minority applicants are strongly encouraged to apply.

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Congratulations on another great year, Hutton Scholars!