

USGS NSF Internship Opportunity

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- USGS Center:** National Climate Adaptation Science Center
- Project Title:** Recreational Fishing as driver of overexploitation in inland waters
- Summary:**

While an angler may know that a fish finder can improve their chances of landing a trophy catch, do fisheries managers know the impacts of improving recreational fishing technology on the populations of fish they manage? The role of gear innovations in recreational fisheries is understudied as a driver of overexploitation in inland waters. Examining technology advances will inform recreational management.
- Project Hypothesis or Objectives:**

Debate about the role of recreational fishing in causing overexploitation or collapse within inland waters has yielded little agreement over its true impact. Many believe that recreational fisheries are self-regulating, assuring recovery after catchability falls below a certain level, while others believe that exploitation whether acute or chronic caused long term impact to populations. Although numerous issues contribute to declines and exploitation in recreational fisheries (i.e. habitat modification, fishing pressure increases, changes in species preference), recently the role of technology in accelerating exploitation on commercial fisheries has been advanced. Technological advances in recreational fishing change the landscape of natural resource use and management. While gear improvements have had documented consequences on fish growth, maturity, and population dynamics of fish stocks targeted in marine commercial fisheries, the relationship between fishing innovations and recreational fishing impacts in inland waters has not been examined. Given the importance of recreational fishing, this relationship may have significant management implications and is something that managers can actually impact. The goal of this project is to investigate the role of recreational fishing technology as a driver of overexploitation in inland waters over time. This project aims to use historical and current information to help inform future management of this important economic, social, and cultural service provided by inland angling.
- Duration:** Up to 12 months

 Internship Location:	Reston, VA
 Keywords:	Biology/microbiology/biochemistry, Climate Change, Conservation, Ecology/Ecosystems, Modeling, Population Dynamics, Social Sciences
 Applicable NSF Division:	BIO (Environmental Biology, Molecular & Cellular Biosciences, Biological Infrastructure, Integrative Organismal Systems), SBE (Social, Behavioral, and Economic Sciences)
 Intern Type Preference:	Any Type of Intern
 Duties/Responsibilities:	<ul style="list-style-type: none">- Synthesize major technological advances in recreational fisheries in inland waters over time;- Collaborate with fishery managers to identify key case-study recreational fisheries with temporal population assessments and documented gear innovations;- Simulate the impacts of technological advances in a theoretical recreational fishery;- Project the interactions of gear improvements with global change on inland fish populations; and,- Work with USGS scientists and university partners to integrate outputs of research into science to action projects ongoing within the DOI CASC network.
 Expected Outcome:	This assessment, the first of its kind, will help fisheries managers better understand the impact of gear innovations on recreational fisheries in inland waters. The outcomes will be used to inform future management and conservation efforts. A clearer understanding of the drivers of overexploitation of recreational fisheries is particularly important in the context of other drivers of change. Ultimately, how technological, climate and land use change will impact recreational fisheries will have social and economic consequences.
 Special skills/training Required:	<ul style="list-style-type: none">- Interest in fisheries ecology, historical and current recreational fishing technology, and global change;- Excellent technical, analytical, computer, organizational, and problem-solving skills; and,- Ability to work collaboratively and independently
