Project Title: Web-based decision analysis tool (WEB-DAT) for evaluating landscape collaborative management

Project Leaders: Evan Grant and Ben Letcher (USGS Conte Anadromous Fish Lab) Scientific Themes: Decision frameworks for evaluating risk and managing natural resources under climate change; Climate impacts on freshwater resources and ecosystems; Ecological vulnerability and species response to climate variability and change

Description: Full-time, one-year position. USGS and the Northeast Climate Science Center are interested in developing a web-based interactive decision analysis tool (WEB-DAT) for identifying and evaluating collaborative management opportunities for headwater streams across the Northeastern US. The WEB-DAT will be ultimately used to assess the improvements in landscape-scale conservation outcomes through stakeholder collaborations and provide an interactive framework for exploring collaborative management opportunities. This framework will include a platform for sharing knowledge among natural resource managers and scientists (and identify key uncertainties limiting optimal management decisions) and for developing, evaluating, and implementing landscape collaborative conservation efforts related to headwater streams. The WEB-DAT will include several interactive elements, including stakeholder surveys for eliciting management objectives and actions across the landscape, interactive models that allow stakeholders to explore various outcomes of competing models under different climate and management scenarios, and interactive decision models that allow stakeholders to assess the value of differing collaborative management alternatives. The WEB-DAT will use a decision analytic framework and will be integrated into existing web-based decision analytic tools funded on a separate project, extending these tools to integrate multiple-criteria decision analytic tools, spatial discounting, and spatial variation in decision preferences. WEB-DAT will also serve as an online hub for communicating and building capacity of conducting decision analysis for complex conservation issues related to climate change in the northeastern US by including a decision-analysis blog detailing the progress of the project and related links to decision-relevant articles.

Tasks
1. Integrate the webtool into the concurrent development of the SHEDs website
2. Develop a web-based GIS survey
3. Develop a web-based social network survey
4. Develop new and link existing interactive scientific models (and integrate with SHEDs website models)

Experience and Qualifications:
• MS or PhD related to developing interactive web applications and web-based spatial data visualization (or equivalent experience)
• Experience working with web-based surveys (GIS-based), ecological models, interactive visual displays.
• Technical expertise in database software and web development initiatives including integration of databases and geospatial technologies, software documentation, and metadata standards including FGDC.
• Prefer candidates interested in social sciences (e.g., human dimensions of natural resource management), decision analysis, spatial networks, and aquatic conservation.

How to apply
Send application materials to: Evan Grant; ehgrant@usgs.gov. Subject: "Web developer, headwater streams" Include in your application a letter of interest, a current resume, an example of related work, and name, address, phone and email contact for at least three individuals qualified to comment on scientific and work qualifications. Applications will be reviewed as they are received, and certainly before December 2014.