Masters project description - Factors affecting larval drift initiation by White Sturgeon – University of British Columbia, Canada

We have a funded opportunity for a Masters level graduate student to investigate the effects of benthic substrate condition on early rearing and drift by larval White Sturgeon, and other aspects of its ecology. Altered substrate conditions in spawning and early rearing habitats contributes to the recruitment failure in some sturgeon populations, and substrate restoration is an emerging habitat restoration approach for this highly endangered group of fish. Understanding how environmental conditions in early rearing habitats affect larval condition and survival is critical to the implementation and success of habitat remediation. Past studies have identified multiple larval attributes that respond to varying substrate conditions during the yolk-sac stage (e.g., from hatch to 12 days old), including energetic benefits leading to increased growth and survival. The proposed study will focus on the transition from benthic hiding of yolk-sac larvae to the exogenous feeding stage. In particular, we are interested in how habitat conditions such as the availability of benthic food supply (invertebrates) may influence drift timing and the condition of drifting larvae. Factors affecting drift decisions by larval fish and benthic invertebrates are an area of ongoing uncertainty, and hence this study has broad scientific implications for riverine fish. Additionally, this project will be closely linked to ongoing recovery programs for White Sturgeon, and results will provide guidance to ongoing recovery programs for this species. The preferred start date is September 2018, with some potential for project-related work from May to July, 2018. The project will include some field work (Nechako River at Vanderhoof, BC). An undergraduate degree in an appropriate field is required. Evidence of past experience working with fishes and other freshwater organisms will be useful. Field and laboratory experience are essential. A stipend and teaching assistantships are available to provide 2 years of support to the suitable candidate. Contacts: Dr. John Richardson (john.richardson@ubc.ca; UBC – Dept of Forest and Conservation Sciences, & Zoology) and Dr. Steve McAdam (steve.mcadam@gov.bc.ca; BC MOE and UBC Institute of Oceans and Fisheries). All qualified persons are encouraged to apply. However, Canadian citizens and permanent residents in Canada will be given priority. Applications consisting of a resume (or curriculum vitae) and a cover letter outlining career goals and interests must be received electronically by end of February 28, 2018.

References


Naman SM, Rosenfeld JS, Richardson JS. 2016. Causes and consequences of invertebrate drift in running waters: from individuals to populations and trophic fluxes. Canadian Journal of Fisheries and Aquatic Sciences 73:1292-305.