

The Freshwater Fisheries Society of BC requests abstracts submitted for consideration in the 70th NWFCC program follow this **example**. Please submit to nwfcc-submissions@gofishbc.com

TITLE: Rearing substrate improves larval white sturgeon growth, survival, and physiology

PRESENTING AUTHOR (*first and last name, agency, address, telephone number and email*):

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ABSTRACT (*maximum 250 words*):

Larval white sturgeon (*Acipenser transmontanus*) were reared in the presence or absence of gravel substrate at either 13.5 or 17.5 °C from 1 to 46 days post hatch (dph). At any given dph or thermal sum, larvae reared in gravel were significantly larger and survival was higher than those reared without substrate at both temperatures. Overall survival was lower at high temperature. Yolk utilization rate was greatest at 17.5 °C and did not differ between rearing environments. Yolk utilization efficiency was significantly greater for larvae reared in gravel and did not differ between temperatures. These results indicate that larval white sturgeon develop at a maximal rate, and growth is determined by allocation of yolk resources. In a second experiment, larvae were reared in the presence or absence of gravel substrate at 13.5 °C and respirometry used to measure oxygen consumption. Larvae reared in gravel had significantly greater aerobic scope, and whole-body glycogen was significantly greater in larvae reared in gravel at 8 dph, indicating that these larvae may have greater capacity available for growth and development during organogenesis. These findings suggest that larvae reared without substrate may divert more of their energy to non growth-related processes, such as exercise, which was observed but not quantified. Thus, larvae reared without substrate may be at a significant physiological disadvantage, leaving less energy for growth and development. These results underscore the importance of adequate rearing substrate and may provide support for habitat restoration and alternative hatchery rearing methods.

PRESENTATION TYPE (*Oral or Poster. Please indicate if you will consider poster if oral sessions fill up*):

Oral

PREFERRED SESSION (*1. Fish Health and Nutrition, 2. Conservation and New Species Aquaculture, 3. Physiology and Genomics, 4. Advances in Infrastructure and Hatchery Technology, 5. Effective Rearing and Release Strategies, 6. Hatchery Innovations*, 7. Novel Approaches to Hatchery Evaluation, 8. Potpourri*):

Effective Rearing and Release Strategies

**With the exception of 'Hatchery Innovations', presentations should be no longer than 15 minutes with an additional 3 minutes for questions.*