

SECTION II

Upper Slocan River Rainbow Trout Population Assessment: 2008

1.0 Introduction

Through the Slocan River Streamkeepers, Mirkwood Ecological Consultants Ltd. (MEC) was retained to continue to monitor the rainbow trout (*Oncorhynchus mykiss*) population in the Slocan River. The river was opened to catch and release angling in 2005. This was the first opening of the rainbow trout fishery on the river in 13 years. In addition to angling, restoration efforts are being conducted on the river through the Columbia Power Corporation (CPC) as a component of the Brilliant Expansion Project's mitigation strategy to reduce impacts to rainbow trout. It is therefore critical to monitor the rainbow trout population to the effects that these management initiatives have on the rainbow trout population and to help guide future management efforts on the river.

A complete swim was not completed due to funding limitations; instead only sites in the upper reaches were completed. These sites have traditionally held the highest density of trout and therefore any changes in population trends will be more statistically valid. Please see map page

2.0 Methods

The original methods followed Oliver (2001), completing a 2 pass census using 6 swimmers. This method was employed for only the Winlaw Index sites in 2007. The subsequent census used only 2 swimmers, including the Winlaw Index site for comparison and also included the Lemon index site, lower Lemon to Perry, Winlaw to Cougar and Cougar to Ehlers.

The two swimmer counts does not use fixed observation lanes. In stead, the observers spread out over the best habitat. Rationale for this approach came about from past experiences with 6 swimmers in fixed lanes. At any given time, there were very few instances where fish were observed in more than 2 lanes. If swimmers could consistently direct their observations to the best habitat, few fish would be missed. The advantage of this system is that; 1) the costs are much less, 2) it is easier to find 2 qualified swimmers for the duration of the assessment versus 6, and 3) the savings in costs permit a more comprehensive assessment of the river by covering a far greater portion of the river.

In order to compare results from the past years with the new methods, several sites have been assessed using both methods to determine an observation efficacy factor to apply to the new data. This will continue in the future so that this factor can be statistically validated over time.

2.0 Results

The following is a summary of the results from the 2008 snorkel float population assessment for rainbow trout in the upper Slocan River and compared to the results from previous years. Timing and methodology for the surveys in 2008 follow those of the previous years.

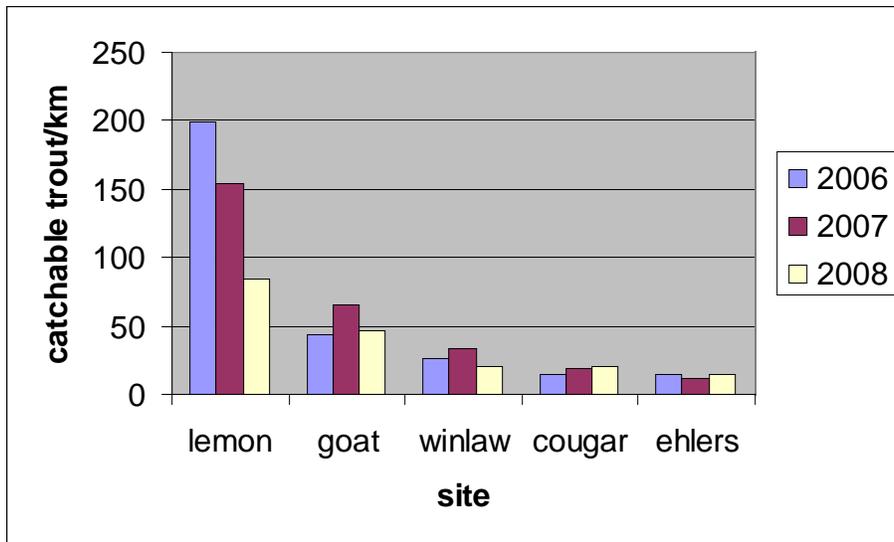


Figure 1. The number of catchable trout (20 cm > fork length)/km for 5 sites in the upper Slocan River

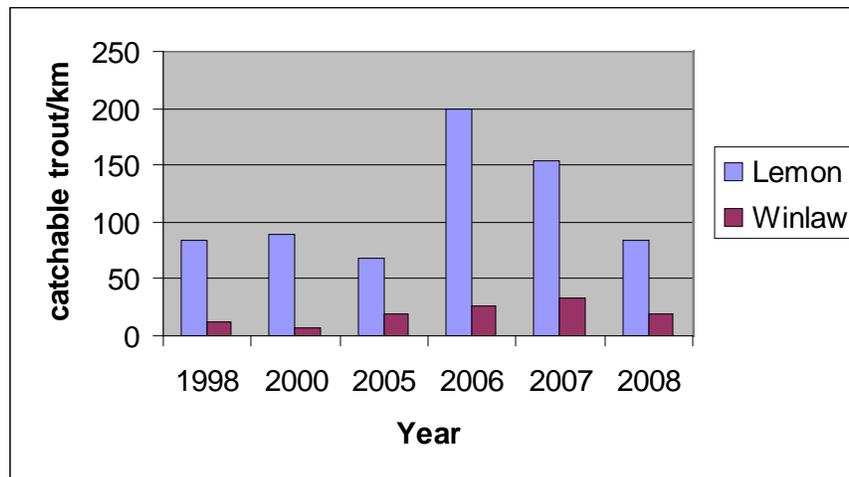


Figure 2. Long term trends the number of catchable trout (20 cm > fork length)/km for 2 sites in the upper Slocan River.

The data clearly indicates a spike in the population in 2006, driven by the production of trout in the Lemon index site (see Figure 1). By 2007, the trout from the Lemon site have redistributed themselves throughout the river, causing a reduction in the number of trout in the Lemon site while the other sites in the river experience an increase in trout numbers. By 2008 we see a reduction in the overall number of trout, returning to population levels experienced pre 2006 (see Figure 2). It would appear that the importance of the Lemon index site can not be understated and is responsible for much of the productivity of rainbow trout in the Slocan River.

A further analysis of environmental conditions in the river which may have caused these trends; both the increase in 2006 and the reduction in 2008, will be undertaken pending available funds.