Environmental And Biological Factors Contributing To *Salmincola* Sp. Infections In Missouri River Rainbow Trout[AFS]

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During the summer and late fall of 2002, Montana Fish, Wildlife and Parks personnel received reports of Missouri River rainbow trout infected with *Salmincola sp.* gill parasites. During June and July of 2003 and 2004, sampling was conducted to determine the extent and severity of the parasite in Missouri River rainbow trout. Rainbow trout were sampled by nighttime electrofishing in two sections of the Missouri River. Length and weight were recorded on all sampled fish, and all fish were examined for the presence of the parasite. Infected fish were classified into 3 categories: 1 (mild), 2 (moderate), and 3 (severe)

infections. In 2003, 79.3 percent (n = 63) and 31.8 percent (n = 66) of sampled rainbow trout were infected with the parasite in the Craig and Pelican Point sections, respectively. Most (78%) of the infections observed in the Craig area were classified as grade 1 or 2; however, 22 percent were severely (grade 3) infected. In the Pelican Point area, all infected rainbow trout had mild infections. In 2004, 52 percent (n = 50) and 9 percent (n = 64) of sampled rainbow trout were infected with the parasite in the Craig and Pelican Point sections, respectively; however, all infected fish had mild infections. The infection rates observed throughout this study are considerably higher than those reported in literature for wild fish. We hypothesize that the severity of the infection was related to environmental conditions (low flows and high water temperatures) coupled with a rainbow trout population with an abnormally high proportion of large (and old) fish.