Short-term salinity tolerance of northern pike, *Esox lucius*, fry, related to temperature and size

The short-term tolerances of northern pike, *Esox lucius* L., fry reared in a freshwater hatchery, to salinity were examined in the laboratory. Survival of two size groups of pike fry (mean length 21 +/- 2 mm SD and 37 +/- 4 mm SD) was examined over 72- to 96-h periods at 9-14 ppt salinity in combination with temperatures of 10, 14 and 18 degrees C. A parametric survival model found a significant correlation between survival of pike fry and temperature and salinity, respectively. L(C)50 values after 72 h were between 11.2 and 12.2 ppt, being lowest at 10 degrees C. Pike fry did not survive more than 13 ppt. Mortality at 12 ppt was significantly faster at 18 degrees C than 10 or 14 degrees C. Moreover, mortality was higher and faster for large than for small pike fry at 12 ppt and 14 degrees C. These results imply that pike raised in fresh water can survive stocking into brackish waters below 11 ppt at least for a short time.

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