**Notice of Copyrighted Material**

**MateMorphological and physiological differences among resident and coaster brook trout juveniles, Lindsey M. Larson, Rachel R. Holman, Jesse L. Karner, J. B. K. Leonard\*, Northern Michigan University, Biology Department, Marquette, MI 49855, jileonar@nmu.eduMigratory freshwater brook trout (Salvelinus fontinalis), commonly called coasters, are a vital part of the Lake Superior watershed, but with limited data available on their life history, it has been difficult to classify their role within the Salmonidae family. Brook trout exhibit highly variable life history traits within the species; trial Description:** Stayner, L., et. al. Human cancer risk and exposure to 1,3-butadiene – a tale of mice and men. *Scand J Work Environ Health*. 2000; 26(4): 322-330.

The above referenced document was submitted to the docket as an attachment to comments from NIOSH.  The docuhere often exist both anadromous (migrant) and nonanadromous (non-migrant or resident) forms within a population. Lake Superior coaster brook trout typically occupy near-shore areas at one time or another during their lives. The mechanisms involved in the determination of migration or residency are not well understood, however, morphometrics and the metabolism of the fish likely play important roles. It is believed that coaster brook trout exhibit changes that can be compared to smolting, the preparation that fish undergo to survive in a saltwater environment prior to leaving a freshwament iter stream. Some metabolic patterns and morphological traits can be indicative of the smolting process in coaster strains. Four strains of brook trout (three coaster, one stream-resident) were sampled once a month over four consecutive days. Sixteen fish from each strain were sampled per day by placing eight in a saltwater challenge tank and another eight in a freshwater tank. After twenty four hours, the fish were prepared for measurement and tissue sampling. Morphometrics were analyzed by principle comprehensive analysis to assess differences between coasters and residents. Lactats subject to copyright protections and therefore is not being made available by DOL in the electronic docket.  The document is included in the docket maintained in hard copy at the Department of Labor, Office of the Assistant Secretary for Policy, Suite S-2312, 200 Constitution Avenue, N.W., Washington, DC.   The document is available e dehydrogenase (LDH), citrate synthase (CS), and pyruvate kinase (PK) activities in liver and white muscle were measured using microplate spectrophotometer colorimetric assays. We expect to see various morphological differences, such as increased size and elongation of body dimensions in coasters, as well as observed spikes of enzyme activity. There may also be an increase in CS levels indicative of higher aerobic capacity/activity in coaster strains. Metabolic shifts and morphological differences may be indicators of greater tolerance to the transition between freshwater and saltwater.for review only at the Department of Labor and consistent with copyright law cannot be reproduced.