**Notice Morphological and physiological differences among resident and coaster brook trout juveniles, Lindsey M. Larson, Rachel R. Holman, Jesse L. Karner, of CopyrightedJ. B. K. Leonard\*, Northern Michigan University, Biology Department, Marquette, MI 49855, jileonar@nmu.eduMigratory freshwater brook trout (Salvelin Material**

**Material Description:** Stayner, L., et. al. Human cancer risk and exposuus fontinalis), commonly called coasters, are a vital part of the Lake Superior watershed, but with limited data available on their life history, itre to 1,3-butadiene – a tale of mic has been difficult to classify their role within the Salmonidae family. Brook trout exhibit highly variable life history traits within the speciese and men. *Scand ; there often exist both anadromous (migrant) and nonanadromous (non-migrant or resident) forms within a population. Lake Superior coaster brook trJ Work Environ Health*. 2000; 2out typically occupy near-shore areas at one time or another during their lives. The mechanisms involved in the determination of migration or resid6(4): 322-330.

The above referenced document was submitted to ency are not well understood, however, morphometrics and the metabolism of the fish likely play important roles. It is believed that coaster brook the docket as an attachment to ctrout exhibit changes that can be compared to smolting, the preparation that fish undergo to survive in a saltwater environment prior to leaving a fomments from NIOSH.  The document is subject to copyright protections and therefore is not being made available by DOL in reshwater stream. Some metabolic patterns and morphological traits can be indicative of the smolting process in coaster strains. Four strains of bthe electrook trout (three coaster, one stream-resident) were sampled once a month over four consecutive days. Sixteen fish from each strain were sampled peronic docket.  The dor 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 mecument is included in the docket maintained in haasurement and tissue sampling. Morphometrics were analyzed by principle comprehensive analysis to assess differences between coasters and residentsrd copy at the Department of Labor, Office . Lactate dehydrogenase (LDH), citrate synthase (CS), and pyruvate kinase (PK) activities in liver and white muscle were measured using microplate of the Assistant Secretary for Policy, Suite S-231spectrophotometer colorimetric assays. We expect to see various morphological differences, such as increased size and elongation of body dimensions2, 200 in coasters, as well as observed spikes of enzyme activity. There may also be an increase in CS levels indicative of higher aerobic capacity/activ Constitution Aity in coaster strains. Metabolic shifts and morphological differences may be indicators of greater tolerance to the transition between freshwater and saltwater.venue, N.W., Washington, DC.   The document is available for review only at the Department of Labor and consistent with copyright law cannot be reproduced.