**Notice of CopyrightedMorphological and physiological differences among resident and coaster bro ok trout juveniles, Lindsey M. Larson, Rachel R. Holman, Jesse L. Karner, Material**

**Material Description:J. B. K. Leonard\*, Northern Michigan University, Biology Department, Marqu** Stayner, L., et. al. Human cancer risk and eette, MI 49855, jileonar@nmu.eduMigratory freshwater brook trout (Salvelinxposurus fontinalis), commonly called coasters, are a vital part of the Lake Supe to 1,3-butadieerior watershed, but with limited data available on their life history, itne – a tale o has been difficult to classify their role within the Salmonidae family. f mice and men. *Scand J Work Environ Health*. 2000; 26(4): 322-330.

The abovBrook trout exhibit highly variable life history traits within the speciese referen; there often exist both anadromous (migrant) and nonanadromous (non-migraced document want or resident) forms within a population. Lake Superior coaster brook trs submitted to the dockout typically occupy near-shore areas at one time or another during their et lives. The mechanisms involved in the determination of migration or residas an attachment to comments from NIOSH.  The document is subject ency are not well understood, however, morphometrics and the metabolism ofto the fish likely play important roles. It is believed that coaster brook copyritrout exhibit changes that can be compared to smolting, the preparation thght proteat fish undergo to survive in a saltwater environment prior to leaving a fctions anreshwater stream. Some metabolic patterns and morphological traits can bed therefore i indicative of the smolting process in coaster strains. Four strains of bs not being made availablrook trout (three coaster, one stream-resident) were sampled once a month over four consecutive days. Sixteen fish from each strain were sampled pee by DOL inr day by placing eight in a saltwater challenge tank and another eight in the electronic doa freshwater tank. After twenty four hours, the fish were prepared for mecket.  The document is included in the docket maintainasurement and tissue sampling. Morphometrics were analyzed by principle ced in homprehensive analysis to assess differences between coasters and residentsard co. Lactate dehydrogenase (LDH), citrate synthase (CS), and pyruvate kinasepy at the Departme (PK) activities in liver and white muscle were measured using microplate nt of Labor, Ospectrophotometer colorimetric assays. We expect to see various morphologffice of the Assistant Secretary for Policy, Suite S-2312, 200 Constitical differences, such as increased size and elongation of body dimensionsution Avenue, N.W., Washington, DC. in coasters, as well as observed spikes of enzyme activity. There may al so be an increase in CS levels indicative of higher aerobic capacity/activ ity in coaster strains. Metabolic shifts and morphological differences ma The document is available for review only at the Department of Labor and consistent with copyrighty be indicators of greater tolerance to the transition between freshwater and saltwater. law cannot be reproduced.