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PERSPECTIVE ARTICLE

A Perspective on the Toxicity of Low Concentrations of Petroleum-Derived Polycyclic Aromatic Hydrocarbons to Early Life Stages of Herring and Salmon

David S. Fager,¹ Peter M. Chapman,² Peter F. Landrum,³ Jerry Neff,⁴ and Ralph Ertter⁵

¹Bowdoin College, Chemistry Department, Brunswick, ME, USA; ²Golder Associates Ltd., Burnaby, BC, Canada; ³Southern Illinois University, Carbondale, Department of Zoology, Carbondale, IL, USA; ⁴Neff & Associates LLC, Danbury, CT, USA; ⁵Ralph Ertter, Aquatechnics Inc., Carlsberg, WA, USA

ABSTRACT

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This article presents a critical review of two groups of studies that reported adverse effects to salmon and herring eggs and fry from exposure to 1 µg/L or less aqueous total polycyclic aromatic hydrocarbons (TPAH), as weathered oil, and a more toxic aqueous extract of "very weathered oil." Exposure media were prepared by continuously flowing water up through vertical columns containing gravel oiled at different concentrations of Prudhoe Bay crude oil. Uncontrolled variables associated

flow rate differences. Based on a review of the evidence from published project reports, peer-reviewed publications, chemistry data in a public database, and unpublished reports and laboratory records, the reviewed studies did not establish consistent dose (concentration) response or causality and thus do not demonstrate that dissolved PAH alone from the weathered oil resulted in the claimed effects on fish embryos at low µg/L TPAH concentrations. Accordingly, these studies should

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