

Poster presentation preferred
Student presenter

Identification of microplastics and quantification of plasticizers in marine mammals off the California coast. D. Lin, University of California, Davis, Davis, CA, E. R. Berlin, University of California, Davis, CA, J. B. Lang, University of California, Davis, Davis, CA, L. M. Wigger, University of California, Davis, Davis, CA, J. L. Gjeltema, University of California, Davis, Davis, CA. With globally rising levels of plastic pollution in marine systems, there are growing concerns over the extent of microplastic exposure in marine top predators. Due to the high surface area of microplastics, chemicals such as phthalates can leach into water or gastrointestinal fluid, leading to endocrine disruption in exposed organisms. In this study, samples of feces, liver, and blubber from marine mammals off the California coast were analyzed for microplastic content and phthalate concentration. The goal of this study is to evaluate the potential use of phthalates as markers of microplastic exposure. During necropsy, samples of feces, liver, and blubber were collected from wild California sea lions (*Zalophus californianus*) and Harbor seals (*Phoca vitulina*). Microplastic concentration was determined using Raman microspectroscopy and phthalate concentration was quantified using gas chromatography-mass spectrometry for each sample. The concentration of plasticizers in each tissue type was compared to determine the best sample types for estimating microplastic exposure. This pilot study will provide important preliminary data, determine species prioritization for further investigations, and define methods for future research on the use of plasticizers in non-invasive sample collection to estimate the health effects of microplastics in marine ecosystems.