**Falcy, Matt – Oregon Department of Fish and Wildlife**

**Presentation Title:** **Effects of Sea Lion Predation on Willamette River Winter Steelhead Viability**

Abstract for the 2018 Pacific Coast Steelhead Management Meeting

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California sea lions (CSL) began to regularly appear at Willamette Falls in the mid 1990s. A rigorous monitoring program began in 2014, revealing that CSL have consumed an average of at least 5300 salmonids per year in the immediate vicinity of Willamette Falls. At the same time, winter steelhead, which are listed as "threatened" under the federal Endangered Species Act, have declined in abundance. We conducted a population viability analysis of Willamette River winter steelhead to quantify extinction risk under current CSL predation rates, and the effect of removing CSL on steelhead extinction risk. The North Santiam population of winter steelhead has a 0.64 probability of extinction over 100 years if the 2017 predation rate by CSL is perpetuated, but probability of extinction drops to 0.015 if CSL are absent. Other steelhead populations in the Willamette River showed qualitatively similar responses to CSL. Though many assumptions were needed to perform this work, the results suggest that CSL can extirpate winter steelhead populations, which has already occurred at "Ballard Locks" Washington. Removing CSL from Willamette Falls would greatly improve extinction risk.