## Mariana Arc of Fire National Wildlife Refuge

2022 Special Use Permits

Special Use Permit #	Type of Permit	Issued To	Affiliation	Ship Name	Project Name
12542-22001	Mapping	Douglas Wood	Office of Coast	NOAAS Rainier	Hydrographic Surveys
Description	SurveyRainier and two survey boats survey nearshore waters with high-frequency multibeam echo sounders ranging in frequency from 40 – 400 kilohertz (kHz). Conductivity, Temperature, and Depth instruments (CTDs) and disposable Expendable Bathythermographs (XBTs) for profiling the water column. During the surveys, Coast Survey may anchor, as needed. No benchmarks, tide gauges, or GPS tide buoys would be installed for the project 				