



Department of Ecology Unmanned Aerial Systems (UAS)
Project Description and Checklist

Ecology Program	Environmental Assessment Program	
Project Title	Assessing macroalgae coverage and biomass on beaches	
Ecology Project Manager	Christopher Krembs	Phone: 360-407-6675
Ecology Unit Supervisor	Julianne Ruffner	Phone: 360-407-6154
Ecology Section Manager	Stacy Polkowske	Phone: 360-407-6730
Ecology Program Manager	Annette Hoffman	Phone: 360-407-6699
Type of UAS operation (select one)	<input checked="" type="checkbox"/> Ecology owned and operated <input type="checkbox"/> Contracted <input type="checkbox"/> Volunteer (not Ecology employee)	
UAS Pilot(s) in Command (if known)	Brad McMillan – ITSO/GIS	Phone: 564-200-2415
	FAA Remote Pilot Certified: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Reason for using UAS	A drone could quickly assess the percent macroalgae cover of a beach while concurrent groundwork assesses the beach wrack biomass as wet weight. Increase in efficiency by supplementing ground-based sampling with aerial perspective.	
Project Location	Freeland County Park/Holmes Harbor (Island County) Dash Point State Park (King County) Edmonds Underwater Park (Snohomish County) Larrabee State Park, Wildcat Cove (Whatcom County)	
Project Description/Purpose	Macroalgae are not quantified on beaches, yet are a significant eye sore and health risk (E. coli survivability is high). This project would use a drone to fly transects along selected beaches. This would complement the MMU BEACH program and relate eutrophication issues with Eyes Over Puget Sound which showcases images of algal mats in the water work. Estimates of wet weight for beach wrack resonates with the public since they have consequences for coliform exposure on beaches. Thickness and weight of beach wrack on beaches can be assessed along randomly selected quadrants in conjunction with drone footage flying along the beach.	
Scheduled Dates of Project	Start Date: 4/1/2022 End Date: 10/1/2022	
Does airspace require additional authorization by FAA or Air Traffic Control (ATC)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Will UAS be used regularly during project?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Type of data to be collected	<input checked="" type="checkbox"/> Environmental monitoring <input checked="" type="checkbox"/> Mapping/Orthomosaic <input checked="" type="checkbox"/> Site Photos <input type="checkbox"/> Temperature/Thermal imaging	<input type="checkbox"/> Structure-from-motion (SfM) <input checked="" type="checkbox"/> Imagery <input type="checkbox"/> Lidar Other <i>Enter here</i>
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	If applicable, Ecology has approved a Quality Assurance Project Plan (QAPP) for monitoring projects that include data collection with a UAS	

Project Checklist	
<input checked="" type="checkbox"/>	Pilot in command (PIC) has FAA Part 107 certification, and the training necessary to operate the UAS used in this project
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	Proper notification and permissions from air traffic control (ATC) were received if UAS flight will occur in airspace class B, C, D, or E airspace.
<input checked="" type="checkbox"/>	PIC has reviewed and understands the Department of Ecology UAS Policy 22-06 (applies to Ecology employees only).
<input checked="" type="checkbox"/>	PIC has provided the Project Manager with a copy of the UAS Standard Operating Procedure (SOP).
<input checked="" type="checkbox"/>	PIC has read The National Telecommunications and Information Administration's (NTIA) document "Voluntary Best Practices for UAS Privacy, Transparency, and Accountability"
Signatures	
Ecology Project Manager: Christopher Krembs	Date 8/1/2022
Ecology Supervisor or Manager: <i>Julianne Ruffner</i>	Date 8/2/2022
Ecology Program Manager: <i>Amelia Hoff</i>	Date 08/02/2022
Ecology Deputy Directory:	Date 8/4/2022

NOTE: Proper documentation of project and UAS use must be included on Ecology's website after approval of this checklist and project according to Ecology's UAS Policy 22-06