

Guidance Flowchart for U.S. Fish & Wildlife Service Small Unmanned Aircraft System (sUAS) Missions v.20161130

Please contact FWHQ_UASG@lists.fws.gov with questions.

Step 1. What is the purpose of the action?

To carry out the USFWS mission (e.g., refuge management action or monitoring to inform management)
Go to Step 2

To use USFWS-owned lands for recreation, commercial use or research where the USFWS will not obtain or use any of the data (e.g., refuge use)
Go to Step 6 on Page 2

Step 2. Are UAS an appropriate tool? (e.g., for remotely sensed data, consider spatial & spectral resolution, type of sensor, revisit frequency, etc.)

Area of Interest	Desired Resolution	Recommended Platform
1-1000 sq miles	>6"	Satellite
1-100 sq miles	3"-40"	Manned aircraft or large UAS
1-640 acres (1 sq mile) or up to 2 linear miles	1"-3"	Fixed wing small UAS
1-50 acres (single flight)	0.5"-3"	Rotary small UAS

If yes, go to Step 3. If no, pursue appropriate tool.

Step 3. Will USFWS assume OPCON* of the UAS mission? Note: All UAS are defined as aircraft by the FAA & DOI. USFWS may not obtain or use data acquired by hobbyists, whether they are paid or not.

No, USFWS will not assume OPCON

- Cooperator government agency or public university has OPCON -or-
- Commercial operators may assume OPCON **only** if their services are procured via end-product contract in which there is no reference to UAS or aircraft.
- Note:** USFWS may be present, but cannot direct the initiation, operation or termination of flights and may not serve as line-of-sight observers for the mission
- Note:** Generally, entity with OPCON assumes liability
Complete Step 4

Yes, USFWS will assume OPCON

- Qualified USFWS staff conduct the mission -or-
- USFWS works with a cooperator government agency or public university and directs initiation, operation and termination of flights -or-
- USFWS secures commercial UAS services through OAS (link [here](#))
- Note:** USFWS assumes liability
Complete Steps 4 and 5

Step 4. Checklist of requirements when the UAS operation is carried out to further the USFWS mission

- ☐ Operator is in compliance with FAA regulations:
 - ☐ DOI operator follows provisions of the Small UAS Rule (sUAS rule; [Part 107](#)), a COA, an emergency COA, or the [DOI-FAA MOA](#)
 - ☐ Non-DOI government agency/public university operator follows provisions of the sUAS Rule ([Part 107](#)) or a COA
 - ☐ Commercial operator (end-product contract only) follows provisions of the sUAS Rule ([Part 107](#))
- ☐ Operator obtains permission from the landowner to conduct the mission
A [Letter of Authorization \(LOA\)](#) is recommended
- ☐ USFWS is in compliance with NEPA
An [Environmental Action Statement \(EAS\)](#) for Categorical Exclusion will cover most cases; an Environmental Assessment (EA) may be warranted in some cases (contact regional NEPA specialist)
- ☐ USFWS is in compliance with ESA
A [Biological Opinion \(BO\)](#) may be warranted if project impacts T&E species (contact regional ESA specialist)
- ☐ USFWS is in compliance with the Wilderness Act
A Wilderness Minimum Requirement Analysis may be warranted if the mission overlaps designated wilderness (contact regional Wilderness Act specialist)

Step 5. Additional requirements if USFWS has OPCON

- ☐ DOI operator obtains aircraft that are approved by OAS and DOI crew completes required UAS training (see [OPM 11](#))
- ☐ Commercial aircraft and crew must be contracted through OAS (link [here](#)); the contracting process is under development
Note: this option replaces directions above for commercial operators in Step 4
- ☐ USFWS develops a Project Aviation Safety Plan meeting minimum requirements of [OPM-6](#)
- ☐ USFWS reports flight hours to OAS

***Operational control (OPCON):** OPCON with respect to a flight means the exercise of authority over initiating, conducting, or terminating a flight. USFWS should document the entity with OPCON in all planning documents prior to commencement of flight operations.

Step 6. Checklist of requirements when the UAS operation is considered a use of USFWS-owned lands (recreation, commercial use or research where USFWS will not obtain or use any of the data)

- ☐ Refuge Appropriate Use and Compatibility Policy
 - ☐ USFWS finds use is appropriate for a refuge [603 FW 1](#)
 - ☐ USFWS determines use is compatible for a refuge [603 FW 2](#)
A Compatibility Determination (CD) with public review is recommended (see regional planner).
 - ☐ USFWS determines the mission will not result in harassment of wildlife on a refuge [50 CFR 27.34](#); [50 CFR 27.51](#)
- ☐ USFWS grants permission to conduct mission on federal land (e.g., Special Use Permit or other authorization) [50 CFR 27.34](#)
- ☐ Operator is in compliance with FAA regulations:
 - ☐ DOI operator follows provisions of the Small UAS Rule (sUAS rule; [Part 107](#)), a COA, an emergency COA, or the [DOI-FAA MOA](#)
 - ☐ Non-DOI government agency/public university operator follows provisions of the sUAS Rule ([Part 107](#)) or a COA (and provides a copy of COA to USFWS)
 - ☐ Commercial operator follows provisions of the sUAS Rule ([Part 107](#))
 - ☐ Hobbyist follows provisions for hobby aircraft ([Public Law 112-95, Section 336](#))
- ☐ USFWS is in compliance with NEPA
An [Environmental Assessment \(EA\)](#) may be warranted (contact regional NEPA specialist)
- ☐ USFWS is in compliance with ESA
A [Biological Opinion \(BO\)](#) may be warranted if projects impacts T&E species (contact regional ESA specialist)
- ☐ USFWS is in compliance with Wilderness Act
A Wilderness Minimum Requirement Analysis may be warranted if the operation overlaps designated wilderness (contact regional Wilderness Act specialist)
- ☐ Operator maintains operational control of UAS assets at all times

ACRONYMS

BO: Biological Opinion
COA: Certificate of Authorization
DOI: Department of the Interior
EA: Environmental Assessment
EAS: Environmental Action Statement
ESA: Endangered Species Act
FAA: Federal Aviation Administration
LOA: Letter of Authorization
MOA: Memorandum of Agreement
NEPA: National Environmental Policy Act
OAS: Office of Aviation Services
OPCON: operational control
OPM: Operational Procedure Memorandum
sUAS: Small UAS (those weighing <55 lbs)
USFWS: U.S. Fish and Wildlife Service

LIST OF GOVERNMENT AGENCIES WITH ESTABLISHED UAS PROGRAMS THAT HAVE PARTNERED WITH USFWS

- [National Aeronautics and Space Administration](#) (NASA)
- [National Oceanic and Atmospheric Administration](#) (NOAA)
- [U.S. Geological Survey](#) (USGS)
- [Bureau of Land Management](#) (BLM)

LINKS TO UAS RULES AND REGS

Note: FAA and DOI consider all UAS to be aircraft ([50 CFR 10.12](#))

- (1) Code of Federal Regulations [50 CFR 27.34](#)
 - “The unauthorized operation of aircraft, including sail planes, and hang gliders, at altitudes resulting in harassment of wildlife, or the unauthorized landing or take-off on a national wildlife refuge, except in an emergency, is prohibited. National wildlife refuge boundaries are designated on up-date FAA aeronautical charts.”
- (2) Code of Federal Regulations [50 CFR 27.51](#)
 - “Disturbing, injuring, spearing, poisoning, destroying, collecting or attempting to disturb, injure, spear, poison, destroy or collect any plant or animal on any national wildlife refuge is prohibited except by special permit unless otherwise permitted under this subchapter C.”
- (3) [DOI policy: DOI UAS Homepage](#)
- (4) [DOI policy: Aviation Management Plans \(OPM-6\)](#)
- (5) [DOI policy: DOI UAS Operations \(OPM-11\)](#)
- (6) [DOI policy: End Product Contracts \(353 DM 1.2A\(3\)\)](#)
- (7) [DOI policy: Identification of End Product/Service and Flight Service Procurement \(OPM-35\)](#)
- (8) [DOI guidance: Guidance for end-product contracting with UAS](#)
- (9) [FAA policy: Small UAS Rule \(Part 107\)](#)
- (10) [FAA policy: Hobby/Recreational Operations \(Public Law 112-95, Section 336\)](#)

GENERAL UAS INFORMATION

<http://knowbeforeyoufly.org/>
<https://www.faa.gov/uas/>

USFWS UAS Resource Guide

<https://sites.google.com/a/fws.gov/region-1-unmanned-aerial-systems-uas-resource-guide/>