

**PROJECT AVIATION SAFETY PLAN (PASP)
WILD BURRO POPULATION AND LOCATION STUDY
Mojave National Preserve, California**

Mission: sUAS Site Survey	Project Name: Burro-Flight	Unit: PVDR for NPS	Small Unmanned Aircraft Systems
Anticipated Project Date(s): October 01, 2018 extended through October 31, 2018			
Project Plan Prepared by: Mark S. Meyers		Title: Executive Director for Peaceful Valley Donkey Rescue, Inc.	Date:
Project Plan Reviewed by:		Title: Project Aviation Manager	Date:
Project Plan Reviewed by:		Title: Forest Aviation Officer	Date:
Project Plan Reviewed by:		Title: Forest Fire Management Officer	Date:
Project Plan Reviewed by:		Title: Regional Aviation Safety Mgr.	Date:
Project Plan Reviewed by:		Title: Regional Aviation Officer	Date:

PROJECT DESCRIPTION/MISSION OBJECTIVES:

Compliance with the operational procedures outlined in this Project Aviation Safety Plan is required.

Locate wild burros, their water sources, travel patterns and numbers to assist in the removal of all feral burros from the Mojave National Preserve.

Project Plan Approved by: (Line Officer)	Title:	Date:

GENERAL LOCATION/DESCRIPTION

(Provide description and attach map—map must include aerial hazards)

The Mojave National Preserve 1,542,776 acres of desert terrain and mountain regions. It lies between the I-40 and I-15 freeways (with the exception of Clark Mountain) and lies within the San Bernardino County of Southern California.

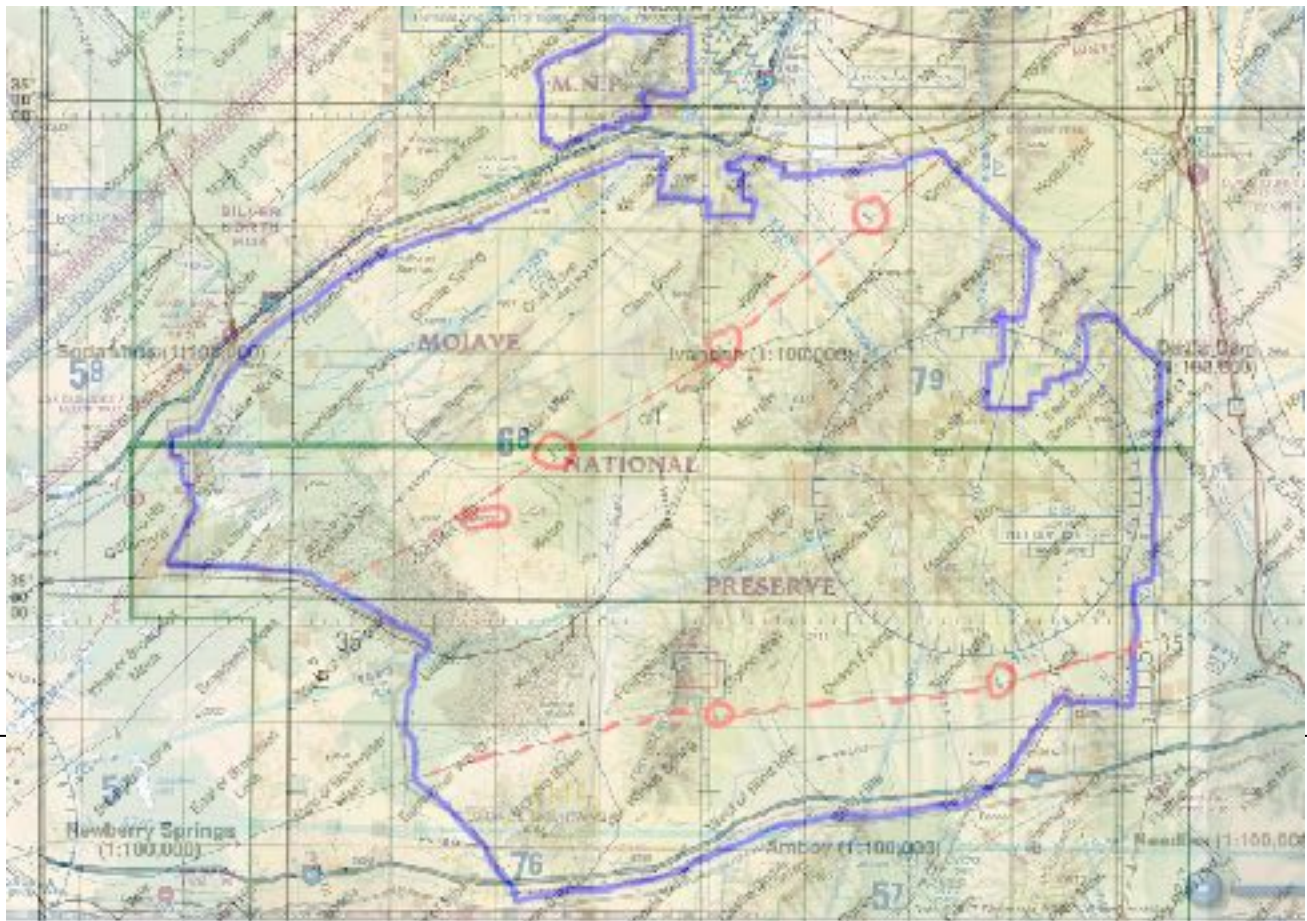
The Preserve offers no real hazards to drone flight, especially when the survey is conducted at a 100' AGL altitude. Ground teams need to be briefed on any ground safety hazards prior to each day's flights. These would include the existence of power line, mines shafts, or steep drop-offs (cliffs).

There are no air fields within the preserve.

JUSTIFICATION FOR AIRCRAFT USE:

Burros have been removed from this area for decades using manned helicopters, water and bait traps and mounted wranglers. Over the past 10+ years, the NPS has removed many of the old cattle ranch water sources forcing the burros into new unknown patterns. As this entire project is being funded through private citizen's charitable donations, all care must be taken to be prudent with those funds. Small Unmanned Aircraft Systems operate faster, provide real time data and fly extended periods of time at less than 5% of the cost of a manned system.

sUAS are also less intrusive to park visitors and native wildlife.



AIRCRAFT INFORMATION		
Cooperator / Agency / Vendor / Military /RAIDS / Other		
Type of Flight:		Desired Make/Model:
Vendor:	Phone:	Cell:
Aircraft N#:	Make & Model: DJI Phantom 4	Aircraft Color: White
Pilot Name: Mark S. Meyers		Pilot Contact number: 325-276-1662
Pilot Carded: Yes No Expiration Date:		A/C Carded: Yes No Expiration Date:
Type Procurement:		Charge Code:
Estimated Flight Hours: 120 per sUAS Team		Estimated Cost:

SUPERVISION	
Project Aviation Manager:	Contact Number:
Forest/Unit Aviation Officer:	Contact Number:

PARTICIPANTS- list individuals involved in flight(s)	
Name: Mark S. Meyers	Project Role/Responsibility: Pilot in Command (Senior)
Name: Mike Brown	Project Role/Responsibility: Pilot in Command (Junior)
Name: Blaine Yañez	Project Role/Responsibility: Visual Observer
Name: Kyle Nealey	Project Role/Responsibility: Visual Observer
Name: Curtis Beatty	Project Role/Responsibility: Burro Documentation
Name: Jack Yañez	Project Role/Responsibility: Burro Documentation

CARGO		
Weight: n/a	Hazardous Materials Yes No	Pilot Briefed Yes No
Weight: n/a	Hazardous Materials Yes No	Pilot Briefed Yes No

FLIGHT FOLLOWING		
Flight Follow: AFF Radio (15 minute check in)		Request or Flight #:
FM Receive:	FM Transmit:	Tones:
FM Receive:	FM Transmit:	Tones:
FM Receive:	FM Transmit:	Tones:
AM Air to Air:	AM Unicom:	Other:

MILITARY TRAINING ROUTE (MTR) or MILITARY OPERATING AREA (MOA)

INFORMATION -Aircraft Manager must confirm with dispatch prior to the flight that affected routes' schedules have been contacted for route activity

MTR/ MOA	Route Legs-Altitude	Activity	Time		Time Zone
			Start	Stop	UTC Local
		Hot Cold	Start	Stop	UTC Local
		Hot Cold	Start	Stop	UTC Local
		Hot Cold	Start	Stop	UTC Local
		Hot Cold	Start	Stop	UTC Local

PERSONAL PERSONAL PROTECTIVE EQUIPMENT

Type of Operation – check applicable boxes	Personal Personnel Protective Equipment Requirements
Rotor Wing Ground Operations	Fire resistant clothing, hardhat w/chin strap or approved aviator flight helmet, fire resistant and/or leather gloves, all leather boots, eye protection, hearing protection.
Rotor Wing All Flights	Fire resistant clothing, approved aviator flight helmet, fire and/ or leather gloves, all leather boots, hearing protection.
Doors off Flight	Personnel will remain seated and inside fuselage during all flights, approved secondary restraint harness for doors off flights (only for PLDO, HRAP, HRSP, Aerial Photography, IR Operator, ACETA Gunner, Cargo Letdown)

PERFORMANCE PLANNING

The pilot is responsible for the accurate completion of load calculations. Trained personnel shall ensure that aircraft scheduled are capable of performing the mission(s) safely and within the capabilities of the aircraft selected. The Helicopter or Flight Manager shall ensure that manifests and load calculations/ weight and balance calculations are completed properly using accurate environmental and aircraft data.

SEARCH AND RESCUE – EMERGENCY RESPONSE

Crash/Search and Rescue Procedures:

- ~ **Contact Dispatch who will initiate the Interagency Aviation Incident/Accident Response Plan.** This initiation includes accomplishing all emergency and administrative notifications.
- ~ **On-site emergency response will be handled by the aircraft personnel and other project personnel, and will comply with appropriate guides (examples: Interagency Helicopter Operations Guide (IHOG) or Forest’s Aviation Incident/Accident Response Guide.**

SPECIAL CONSIDERATIONS and JUSTIFICATIONS:

(List justifications for deviating from SOP, policy etc.)

sUAS operations vary greatly from manned operations. No personnel will ever be airborne. The sUAS will be kept in constantly visual during the entire flight by the Pilot in Charge or his appointed Visual Observer. The forward most team member shall have immediate access to a fire extinguisher in the unlikely event of a fire resulting from a crash.

All flight/project members will have current First Aid Certifications and access to professional backcountry first aid kits, inspected for contents prior to each flight.

All Team's Pilot in Charge will conduct a safety check of his aircraft system each day before the first flight and after any unforeseen collision. Any defects found will ground that particular aircraft system until repairs can be made. If a backup sUAS is not available, the flight team will be grounded.

The Senior Pilot in Charge will study weather data the night before each and the morning of each flight. While rain poses no threat to the ground team or Drone, lightening must be taken seriously and no flights will be made when lightening is a possibility. Because of the advanced avionics on these sUAS, safe flights can be performed on windy days with no adverse effect on the Aircraft, Video Feed or crew safety.

Due to the remoteness of many areas of the preserve, each team will have their own transportation vehicle with spare fuel, spare water, drinking water, emergency rations, first aid kit and a Garmin Inreach Satellite GPS and Emergency Contact Beacon. All team members will be connected through FCC licensed hand held radios. For safety purposes, all team members will wear yellow safety colors while on duty.

Any crash resulting in the destruction of Preserve assets will be reported to the Preserve Liaison immediately, as will any accident involving bodily injury to any team member or member of the public.

FAA sUAS Flight Rules

Altitude limit of 400' AGL

Maximum Speed 100mph

Fly the sUAS in Line-of-sight (Pilot in Command or Designated Observer)

Give way to manned aircraft

Do not fly over non-participants

The Senior Pilot In Command shall designate each pilot with their USGS Grid(s) that they will be flying the following day. This will allow each Team Leader to verify any obstructions or challenges in their designated flight zones. No more than one sUAS will operate within a USGS Grid at any one time.

CRASH RESCUE/MEDI-EVAC PLAN – highlighted area is the minimum information regarding medical/emergency response to be filled out prior to review and approval. The remaining fields should be completed as much as practical prior to the day of operation.

General Instructions:

In the event of an accident, the _____ Operations project manager will supervise and coordinate the crash rescue activities. Specific crash rescue duties will be assigned to _____ operations personnel each morning before flights of any kind. Crash rescue and first aid equipment will be located near the _____ operations site and equipment's location made known to all personnel. Information and instructions will be sent/ received through the local dispatch office or communications.

EMT (S) ON PROJECT

Names

AVAILABLE MEDIVAC HELICOPTERS

FAA #	HEMB or Contact
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Litter/Rappel/Extraction Capable?

Remarks

FAA #	HEMB or Contact
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Litter/Rappel/Extraction Capable?

Remarks

NEAREST MEDICAL FACILITY	Name/Location
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Latitude	Longitude	Contact Freq
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VOR	Nautical Miles	DEG
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NEAREST BURN CENTER	Name/Location
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Latitude	Longitude	Contact Freq
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VOR	Nautical Miles	DEG
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LIFEFLIGHT	Name/Location
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Type Aircraft	Phone #	Contact Freq
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SPECIFIC INFORMATION AND INSTRUCTIONS (Utilize cell phone if possible. Do not use names over the radio)

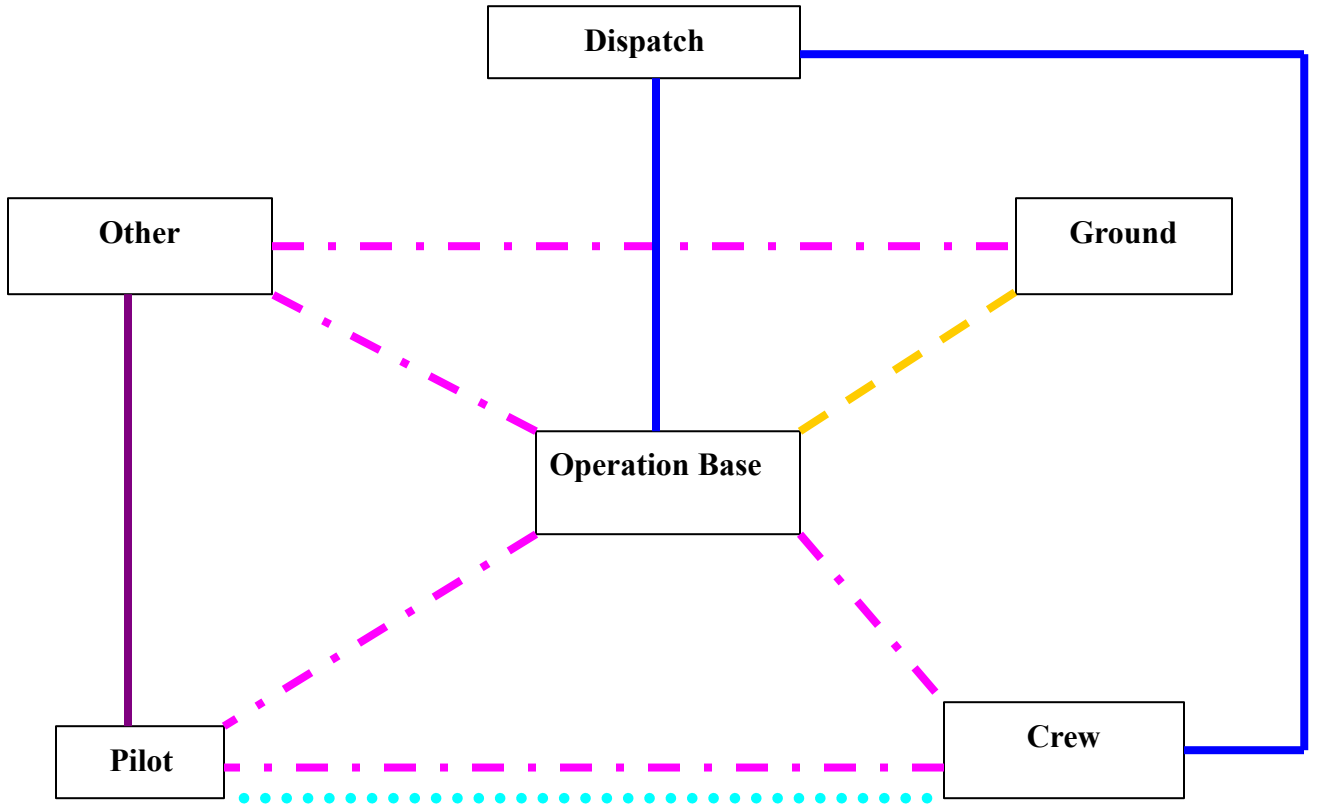
Nature of the injury(s)/illness
Is medical help needed? If available supply vital signs!
What transportation is needed? Is patient(s) ambulatory?
Location of victim.
Route to be taken (use land marks as guide).
Equipment needed.
Name of contact on site.
Notify appropriate agency line officer.

SITE CONDITIONS

Latitude:	Longitude:	Contact Freq:
Wind Speed:	Elevation (msl):	Temperature:
Terrain Factors:	Helispot Minimum Size:	
Proximity of Helispot to Injury Site :		Visibility/Sunrise/Sunset Limitations:
Flight Hazards:		
Other Aircraft in Area (Call Signs & Freq.):		
Ground Contact & Frequencies:		

COMMUNICATIONS PLAN

Legend	Frequency List:		
	Name	RX / Tone	TX / Tone
Command			
Air to Ground			
Tactical			
Flight Following			
Air to Air			



Risk Assessment Matrix				
	Severity			
Likelihood	Negligible IV	Marginal III	Critical II	Catastrophic I
Frequent A				
Probable B				<i>High 4</i>
Occasional C				
Remote D				
Improbable E	<i>Low 1</i>			

Severity Scale Definitions		
Catastrophic	Results in fatalities and/or loss of the system.	
Critical	Severe injury and/or major system damage.	
Marginal	Severe injury and/or minor system damage.	
Negligible	Less than minor injury and/or less than minor system damage.	
Likelihood Scale Definitions		
Frequent	Individual Fleet	Likely to occur often. Continuously experienced
Probable	Individual Fleet	Will occur several times. Will occur often.
Occasional	Individual Fleet	Likely to occur sometimes. Will occur several times.
Remote	Individual Fleet	Unlikely to occur, but possible. Unlikely but can reasonably be expected to occur
Improbable	Individual Fleet	So unlikely, it can be assumed it will not occur. Unlikely to occur, but possible.

The below matrix is utilized for decision making during the operation period

Appropriate Management Level for Operational Risk Decisions		
Risk Level	Fire	Project
High	Incident Commander or Operations Sections Chief	Line Officer/Manager
Serious	Incident Commander or Operations Sections Chief	Line Officer/Manager
Medium	Air Operations Branch Director	Project Aviation Manager
Low	Base Manager	Helicopter or Flight Manager

SAFETY MANAGEMENT SYSTEM ASSESSMENT AND MITIGATION

Assessment and Mitigation of:

System-

		Pre Mitigation			Post Mitigation			
Sub System	Hazards	L i k e l y h o o d	S e v e r i t y	R i s k L e v e l	Mitigation	L i k e l y h o o d	S e v e r i t y	R i s k L e v e l
EXAMP LE: Environ ment	Conflicting Airspace Environment	O c c a s i o n a l	C r i t i c a l	S e r i o u s	Local agency must provide orientation and “situational awareness” overview to SEAT pilots on Special Use Airspace, MTR, TFR, ect. Assure that dispatch and aviation personnel are trained. In dispatch procedures for SUA. Use aerial supervision when available.	R e m o t e	C r i t i c a l	M e d i u m
Final Assessment Value:				Prepared By:			Date:	
Operation Approved By:				Title:			Date:	

PROJECT AVIATION SAFETY PLAN BRIEFING

A copy of this briefing page will be submitted to the Agency Forest Aviation Officer/Unit Aviation Manager within 5 days of the completion of this project.

Briefing Leader: _____

Briefing Date: _____ Time: _____ Location: _____

Discussion Items:

- a. Hazard Analysis (as outlined in plan)
- b. Safety Air Ops (Ground)
- c. Safety Air Ops (Flight)
- d. Military Training Routes
- e. Flight Following
- f. Frequencies
- g. Fueling
- h. Emergency Evacuation. Plan
- i. Authorities
- j. Weather Considerations
- k. Other

SPECIFIC TO LAW ENFORCEMENT MISSIONS—refer to the **LAW ENFORCEMENT AVATION MANAGEMENT PLAN** for protocol for these items:

- Weapons carried aboard aircraft
- Hazardous Materials---mace/pepper spray
- Canines aboard aircraft
- Prisoner Transport
- Covert flight following procedures
- Risk assessment protocol for unplanned landings, etc

**PROJECT AVIATION SAFETY PLAN BRIEFING
SIGNATURE PAGE**

Attendees Signature and Concurrence:

Name	Project Responsibility/Role	Date