

U. S. Fish & Wildlife Service

Southwest Region

Mexican Wolf Reintroduction Project

2015 ACETA Capture and Operations

Project Aviation Safety Plan

January, 2015

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Note to Reviewers: Appendixes A, C, D, E, and H are pertinent to internal project operations only and do not need to be reviewed for content unless pertinent to a question or issue within the body of the plan.

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1. Project Name and Objective

Helicopter Capture and Aerial Survey 2015 Action Plan

Objective: The U.S. Fish and Wildlife Service (USFWS) through an intra-agency agreement with the Office of Aircraft services (OAS) is contracting with Panhandle Helicopter or Aero Tech Helicopters to conduct STEP and ACETA training (1/28/15 – 1/30/14), and to count and capture (dart) uncollared wolves associated with known collared wolves (1/31/15 – 2/6/15). This is a four step operation: (1) use the airplane to locate collared wolves, (2) assess the potential for darting from the helicopter in the area, (3) have the biologists in the helicopter count the number of wolves associated with the collared wolf, and (4) capture targeted animals (uncollared wolves or wolves with old collars) in areas where the terrain allows. We will attempt to visually see the collared and uncollared animals associated with any of the wolves with functional collars in the area. The ultimate objective is to safely count all wolves in the BRWRA and capture through net gunning or darting and chemical immobilization with Telazol any uncollared wolves or wolves with old collars that can be safely captured.

2. Justification

Population counts and capture of Mexican wolves are a high priority of the U.S. Fish and Wildlife Service (USFWS), and the cooperating agencies (Arizona Game and Fish Department (AGFD), U.S. Forest Service (USFS), Wildlife Services (WS), and the White Mountain Apache Tribe (WMAT)) of the Mexican wolf reintroduction project (Project) in the Southwest Region. Mexican wolves were first reintroduced into the Blue Range Wolf Recovery Area (BRWRA) in 1998, and since have grown to a population of approximately 83 wolves. Since 2006, the Project has conducted aerial helicopter operations in order to improve the counting methodology of Mexican wolves in the BRWRA (See Appendix A: SOP 27.0: Population Monitoring of Mexican Wolves). Because population counts are criticized by members of the public, it is critical that the most accurate methods (e.g. helicopter observations) are utilized. In addition to counting wolves, a secondary goal will be to capture (dart or net-gun) uncollared wolves associated with known collared wolves during the operations. Radio collars on wolves allow the Project to track mortality, dispersal, reproduction, predation, depredation, and survival. Radio collars are critical to enabling Project biologists to understand the success of the reintroduction project and mitigate effects on private landowners.

In addition to the planned operations in January and February, the USFWS (in NM) or AGFD (in AZ), will be required to conduct emergency capture operations in each state periodically. These operations are related to removal of depredating wolves or nuisance wolves, and are required to quickly resolve a situation. Capture operations will also occasionally be required for Mexican wolves that have established territories outside of the boundaries of the MWEPA. Although these individual events are impossible to predict, this plan would be followed with the exception that these operations would be focused on a single pack. Thus, this document focuses on the planned operations but also approves other emergency operations conducted from February 2015 to December 2015. A specific plan (see Appendix H) will be prepared for each operation but other components in this plan will remain in place through December 2015.

Helicopter Vendors and Personnel

The 2015 helicopter operation will be funded by 2 agencies (one state, one federal) under 2 separate helicopter contracts. The USFWS, through an intra-agency agreement with OAS, will be contracting with Panhandle Helicopter from January 28, 2015 to February 7, 2015 to conduct Single-skid, Toe-in, and Hover Entry/Exit Procedures (STEP) and Aerial Capture, Eradication and Tagging of Animals (ACETA) training (1/29/15 to 1/31/15); and to count and capture (dart or net-gun) uncollared wolves associated with known collared wolves in NM using USFWS federal personnel and a contract gunner (2/1/15 to 2/7/15). In addition, we will capture collared wolves whose radio collars are scheduled for replacement. Our State

Partner, Arizona Game and Fish Department (AGFD) will be contracting with Papillon Helicopters from 1/18/15 to 1/25/15 to count and capture (dart or net-gun) uncollared wolves associated with known collared wolves in AZ. In addition, AGFD will capture collared wolves whose radio collars are scheduled for replacement. Papillon Helicopters is not compliant with ACETA policy regulations for the Department of Interior (DOI), therefore federal personnel will not be allowed to participate in ACETA operations on board a Papillon helicopter. However, USFWS may participate in point to point transport of crews for remote processing stations (no ACETA operations) during this time window, since Papillon Helicopters is carded for carrying federal employees (see Appendix I). STEP landings WILL NOT occur with DOI personnel on board Papillon Helicopters missions.

Panhandle Helicopter and Aero Tech Helicopters were approved for ACETA operations (see Appendix I). USFWS personnel can assist with the operations onboard these companies helicopters as muggers and/or darters provided that this document complies with the ACETA Handbook and associated policies (351 DM 2-351 DM 3, OPM 40, and 330 FW 4), which sets policies and standards for the DOI and the USFWS.

The aerial capture and count operations for federal personnel will be contracted with Panhandle Helicopter or Aero Tech Helicopters through the USFWS during 2015. DOI personnel will assist in helicopter operations in accordance with this plan. Personnel that will assist with ACETA operations will have completed STEP and ACETA training on January 29-31, 2015 for a HU369D or MD530FF (see 2015 STEP and ACETA Training and Operations Plan). STEP maneuvers will be authorized for the helicopter crew during this mission. In addition to this training, incident commanders and first line supervisors associated with the project will have completed M3 or M2 training and the A-200 training; DOI Aviation management training for Supervisors. All crew (regardless of agency) will meet the DOI required training for Aircrew Member with Hazmat requirement (Corse Codes A-100, A-110, A-116, and A-200).

The capture plan includes a risk analysis, identifying and quantifying risks inherent in this project. The capture plan has been written to implement controls and reduce the identified risks. This plan is considered additional to Mexican Wolf SOP 15.0: Helicopter Capture and Aerial Gunning (Appendix E) and associated Capture Plan (Appendix H) to meet ACETA guidelines for the DOI.

3. Project Dates

Helicopter Capture Operation (Arizona) 1/18/15 – 1/25/15; STEP and ACETA Training 1/29/15 – 1/31/15; Helicopter Capture Operations 2/1/15 – 2/7/15 (New Mexico); and emergency removal operations from 2/2015 until 12/2015:

Proposed Schedule: Schedule is subject to change based on weather.

Arizona Operation: January 18, 2015 – January 25, 2015

NOTE: Papillon helicopters will be conducting operations during this period.

1/17/2015

- Airplane will travel from Phoenix to Springerville, AZ.
- A telemetry flight will be done this day to locate all radio collared wolves in Arizona.
- Papillon Helicopters will arrive in Alpine, AZ.
- At 1730 Initial Briefing in Alpine, AZ at the Field Office. All Operations will operate out of the Alpine Helibase.

1/18/2015 AZ

- Operations will be conducted in Arizona.
- Helicopter crew (Pilot, Darter, Mugger) and Incident Commanders (IC) will meet at Springerville Airport at 0700. The fuel truck driver and helicopter pilot should be at the Springerville Airport at 0700.
- General ground crew should arrive at 0800.
- One mobile crew will meet at WMAT Game and Fish at 0730 to travel to Corn Creek and arrive there by 0800.
- A second mobile crew will remain at the Springerville airport based on weather conditions.
- Airplane crew members will meet the spotter plane at 0700 at the Springerville airport.
- Target groups include Hoodoo, Diamond, Hawks Nest, Tsay-O-Ah, Elk Horn and any single wolves
- The helicopter will return to Alpine, AZ at the end of the day.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at Alpine field office with permanent IFT staff and Pilots to go over any safety issues of the day, and to organize for the following day's priorities.

1/19/2015 – 1/20/2015 AZ

- Operations will be conducted in Arizona and continue as stated in 1/18/15.
- The helicopter and mobile ground crews may be based out of the Alpine helicopter landing pad (weather dependent).
- Helicopter crew (Pilot, Darter, and Mugger) and Incident Commanders (IC) will meet at the Alpine field office at 0700.
- The fuel truck driver and pilot should be at the Alpine field office at 0730.
- Mobile ground crew should arrive at 0700 and travel to PS ranch via truck, snow mobile, or helicopter to PS ranch area pending snow conditions.
- One ground crew will remain at the Alpine field office.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- Target groups for counting and potential capture include: Maverick, Rim, Bluestem, and wolves on FAIR and non-tribal Arizona
- The helicopter will return to Alpine, AZ at the end of the day.
- The spotter plane will return to the Springerville airport

1700 Debriefing-Alpine Field office. Determine translocation priorities for the rest of the week with permanent IFT staff and Pilots.

1/21/2015 AZ

- Operations will originate out of Alpine, AZ.

- The efforts will be made to “clean up” anything not accomplished in AZ from the previous two days. Operations will be conducted in Arizona and continue as stated in 1/20/15.
- The helicopter and mobile ground crews may be based out of the Alpine helicopter landing pad (weather dependent).
- Helicopter crew (Pilot, Darter, Mugger) and Incident Commanders (IC) will meet at the Alpine field office at 0700.
- The fuel truck driver and pilot should be at the Alpine field office at 0730.
- General ground crew should arrive at 0800. Airplane crew members will meet the spotter plane at 0630 at the Springerville Airport.
- Target groups for counting and potential capture include: Maverick, Rim, Bluestem, and wolves on FAIR and non-tribal Arizona.
- A mobile Processing crew will be either flown to or staged near PS cabin in AZ.
- One processing crew will remain at the Alpine office. If operations are completed in AZ, then the helicopter will survey wolf packs near the AZ/NM border.
- The helicopter will return to Alpine, AZ at the end of the day.
- The spotter plane will return to the Springerville airport

1730 Debriefing at the Alpine Field Office. Determine priorities for the next day with permanent IFT staff and Pilot

1/22/2015 AZ

- Operations will originate out of Alpine, AZ.
- IC and dispatcher arrive in Alpine by 0700.
- Helicopter crew (Pilot and observers) should be ready to depart Alpine Helipad by 0800.
- The IC and dispatcher will be at the Alpine office, by 8:00 am to maintain optimal communications between the fuel truck, and the helicopter crew and the spotter plane in the air.
- General ground crew should arrive at 0800 at Alpine, AZ
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- The helicopter will return to Alpine, AZ at the end of the day.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at the Alpine Field Office. Determine priorities for the next day with permanent IFT staff and Pilot

1/23/2015 AZ

- Operations will continue with captures and counts in Arizona.
- Helicopter crew (Pilot, Darter, Mugger) and Incident Commander’s (IC) will meet at the Alpine field office at 0700.
- The fuel truck driver should be at the Alpine field office at 0730.

- General ground crew should arrive at 0830.
- One ground crew will be located in Alpine.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- Target groups for counting and potential capture will be determined based on prior helicopter activities

1730 Debriefing at the Springerville Airport for permanent IFT staff and pilots. If there have been days that were cancelled due to weather, the ICs will discuss operations and priorities for the next several days.

1/24/2015 and 1/25/2015 AZ

- These two days are set aside for fill-in days for days where weather conditions do not allow for helicopter operations.
- The location and priorities for operations will depend on what has been accomplished to date.

STEP and ACETA Training Operation: January 29, 2015 – January 31, 2015
See corresponding 2015 STEP and ACETA Training and Operations

New Mexico Operation: February 1, 2015 – February 7, 2015

Proposed Schedule: Schedule is subject to change based on weather.

NOTE: Panhandle helicopter will be conducting operations during this period.

1/31/2015--Training

ACETA aerial operations will occur for trainees. Capture Elk in Unit 1.

At 1730 Debriefing on training and Initial Briefing in Alpine, AZ at the Field Office. Initial Operations will operate out of the Alpine Helibase.

2/1/2015 NM

- Operations will originate out of Alpine, AZ.
- The IC and dispatcher will be at the Alpine office at 0700.
- An individual will flight follow from the Alpine Field Office.
- The Fuel Truck will be staged from the Alpine Office.
- Helicopter crew (Pilot and observers) and Incident Commander (IC) will meet at the Alpine Office at 0700, and be ready for counts by 8am.
- The fuel truck driver and the truck crew intern should arrive by 8am at Alpine Heliport.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport. (Spotter plane crew members should monitor for single animals throughout all flights)
- Priority counts/captures of wolf packs will be Fox Mountain, San Mateo, Mangas, and Willow Springs.
- Two processing crews will be stationed at the Jewett Landing Area, and the Tularosa landing area.

- Fuel Truck will leave Alpine after the initial fuel up and proceed to Jewett Landing Area for second fuel up.
- Fuel Truck will leave Jewett and proceed to Tularosa for third and subsequent fuel ups.
- The Helicopter and fuel truck will return to the Reserve Helipad to overnight.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at the Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot

2/2/2015 NM

Field operations will continue to capture and count wolves in New Mexico as above initiating from the Reserve Helipad.

- IC and dispatcher arrive in Reserve by 0700.
- The fuel truck driver should be at the Reserve Helipad at 0730.
- Helicopter crew (Pilot and observers) should be ready to depart Reserve Helipad by 0800.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- Target groups for capture and counting include Dark Canyon, Prieto, Luna, Willow Springs, single 1338.
- IF ROADS ARE PASSIBLE,
 - One ground crew will be located at Negrito Helibase.
 - One ground crew will be located at Collins Park.
 - Fuel Truck will proceed towards Negrito Helibase with options for fueling depending on operations and road conditions, including: Frisco Plaza, Sheep Basin, Rainy Mesa, and Negrito landing spots.
- IF ROADS ARE NOT PASSIBLE, OR QUESTIONABLE
 - One ground crew will proceed to Frisco Plaza or Sheep Basin.
 - One ground crew will remain at Reserve Helipad
- The Helicopter will return to Reserve Helipad at the end of the day.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/3/2015 NM

Operations will continue with captures and counts in New Mexico exactly as described in the 2/2/2015 Operations, except:

- Target groups for capture and counting include Dark Canyon, Iron Creek, Canyon Creek, and the Lava pack.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/4/2015

Field operations will continue to capture and count wolves in New Mexico as above initiating from the Reserve Helipad.

- IC and dispatcher arrive in Reserve by 0700.
- The fuel truck driver should be at the Reserve Helipad at 0730.
- Helicopter crew (Pilot and observers) should be ready to depart Reserve Helipad by 0800.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- Target groups for capture and counting include Iron Creek, Lava, and Coronado, 1286, and 1284.
- Fuel truck will proceed to Glenwood, NM helipad following initial fuel up.
- One capture crew will proceed to Glenwood, NM with Fuel Truck. One crew will remain in Reserve, NM with the IC.
- The Helicopter will return to Reserve Helipad at the end of the day.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/5/2015

Operations will continue with captures and counts in New Mexico exactly as described in the 2/1/2015 Operations, except:

- Operations will originate out of Reserve, NM
- Target groups will depend on previous efforts
- Third fuel up may be in Omega, NM or Tularosa, NM depending on location associated with 1282.
- One ground crew will be located at Jewitt Landing Area and the second at Omega, NM or Tularosa, NM.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/6/2015 to 2/7/2015 NM

These two days are set aside for fill-in days for days where weather conditions do not allow for helicopter operations. The location and priorities for operations will depend on what has been accomplished to date. Base of Operations will be Reserve, NM.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

4. Locations (See Figures 1 and 2)

Primary Base of Operations:

- (1) Alpine Work Station Heliport: 33 50.394, 109 07.430: This will be the base of operations for the work in Arizona and will be the Helicopter Landing Zone for Papillion helicopters. This will be the initial meeting location of the ground and helicopter crew on 1/17/15 and any subsequent AZ flight days. It will also be utilized for initial landing of Panhandle helicopter on 1/31/15.
- (2) Reserve Forest Service Heliport: 33 42.822, 108 46.710. This site is the base of operations for the work in New Mexico and will be the Helicopter Landing Zone for Panhandle Helicopter. Operations for all packs and singles in NM will likely be conducted out of this Heliport. Notify Reserve District prior to use to open up the site.
- (3) Springerville Airport: 34 07.86 109 18.463. This site can be utilized to overnight the helicopter on 1/29/15 and 1/30/15 (can also utilize Sipe Wildlife Area). Ground crews may also process wolves out of the Springerville Airport during Arizona operations.
- (4) Sipe Wildlife Area: 34 01.913 109 13.787. This landing site will be utilized during training on 1/30/15 and 1/31/15.

Alternative Sites

Arizona:

- (5) Hwy 60 and 117 at the corral: 34 13.784, 109 31.589
- (6) Hwy 260 and 117 at the sheep pen: 34 3.23, 109 33.548:
- (7) Strayhorse Work Center: 33 32.303, 109 18.662
- (8) Corn Creek: 33 40.256, 109 52.087

New Mexico:

- (9) Apache Creek: 33 49.942, 108 37.588
- (10) Bursum Road 33 43.644, 108 18.619 (not likely to be used)
- (11) Collins Park 33 38.347, 108 27.997
- (12) Frisco Plaza 33 36.444, 108 45.191
- (13) Glenwood 33 18.497 108 53.40
- (14) Tularosa: 33 55.552, 108 26.872
- (15) Jewett Landing Area: 33 00.335, 108 40.352
- (16) Long Canyon 33 47.432, 108 21.555(not likely to be used)
- (17) Negrito Airstrip 33 31.344, 108 32.445
- (18) Luna Helispot: 33 49.368, 108 56.492
- (19) Omega Helispot 34 18.957, 108 18.555
- (20) Rainy Mesa 33 32.972, 108 37.548
- (21) San Mateo 34 02.639, 107 36.291 (not likely to be used)
- (22) Sheep Basin 33 35.039, 108 44.098

Figure 1: Arizona Landing Areas

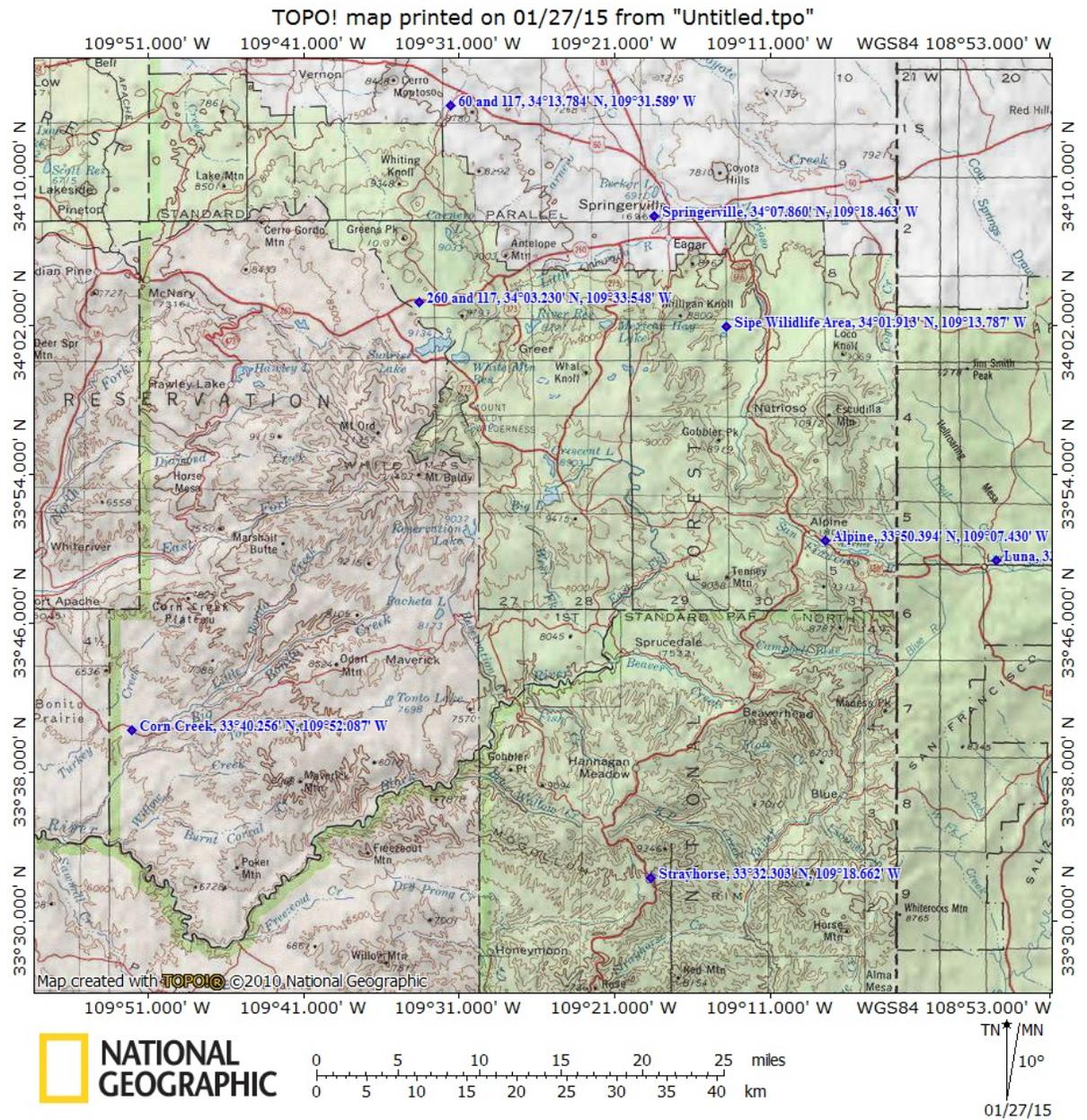
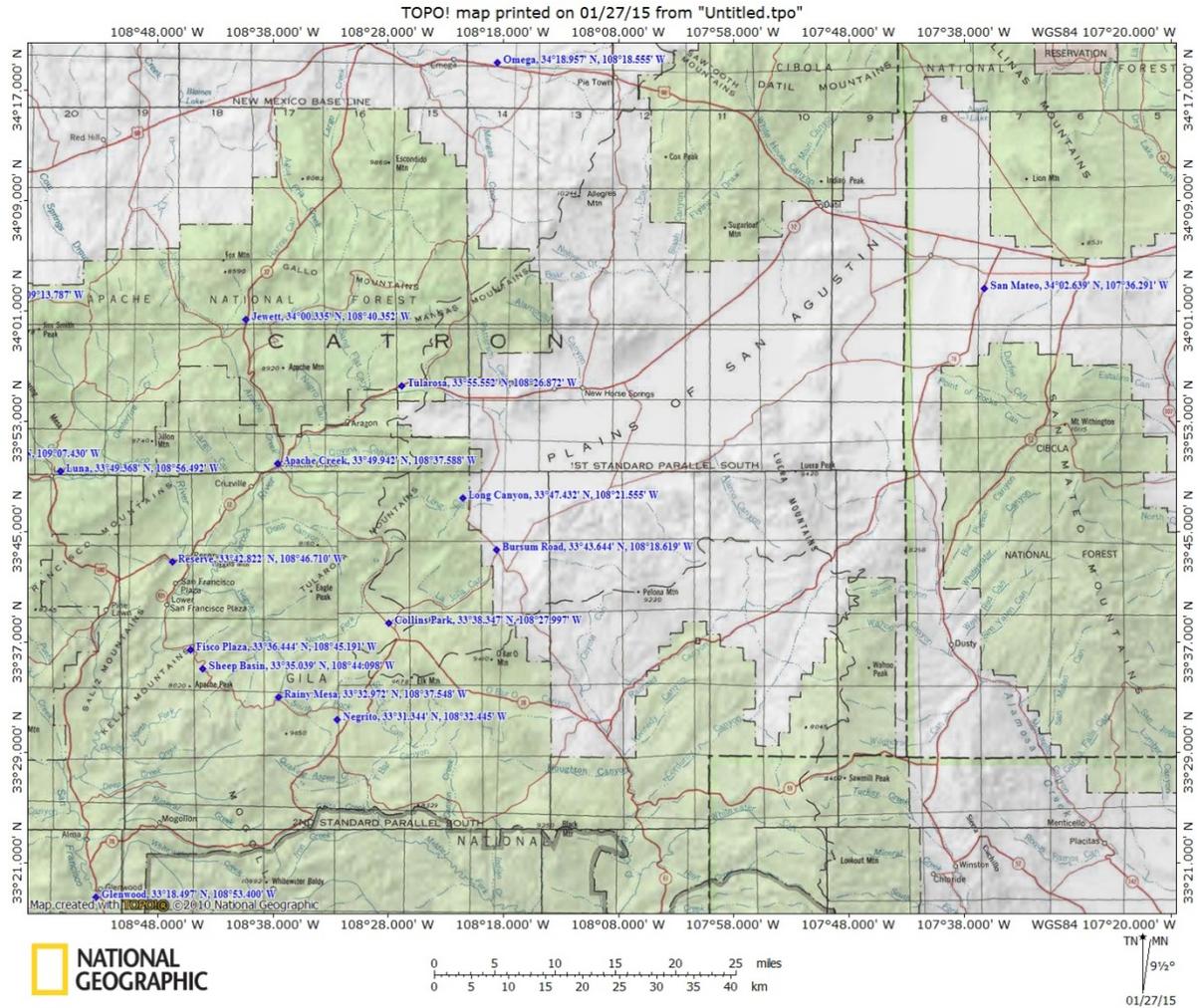


Figure 2: New Mexico Landing Areas



5. Projected Cost of Aviation Resources

Note: Projected costs and flight hours do not consider operations in Arizona or operations for training. In Arizona, the operation is under the operational and financial control of AGFD. Projected cost and flight hours for the training are covered in the 2015 STEP and ACETA Training and Operations Plan.

Flight hours	46 (inclusive of ferry time back to the origin)
Flight Costs	\$39,330
Misc Expenses	\$5,000
Pilot	covered in flight cost
Observer	USFWS personnel.
Total	\$44,330

6. Aircraft

Aircraft: All aircraft are OAS approved for the specific mission.

Airplanes:

- (1) AGFD Cessna 185, Tail Number N61298,
- (2) AGFD Cessna 185, Tail Number N1816R,
- (3) AGFD Cessna 185, Tail Number N103RA.

Helicopters:

Panhandle Helicopter, Inc.

Model – Hughes 369D

Color – Red and White

Tail Number – N662PB

Aero Tech:

Model – Hughes MD 530FF

Color – Red with white and black trim

Tail Number – N20AT

Papillion:

Model – A-star

Color – Red and Gold

Tail Number – N838PA or N836PA

7. Pilot

<u>Name</u>	<u>Qualified Aircraft</u>	<u>Qualified Missions</u>	<u>Pilot Card Expiration Date</u>	<u>Dates of Operations</u>	<u>Operation Description</u>
John Martin	Hughes 369D	See Appendix I	See Appendix I	1/30/15 – 1/31/15	ACETA/STEP Training
John Martin	Hughes 369D	See Appendix I	See Appendix I	2/1/15- 2/7/15	USFWS Count/Capture Operations
Cameron Stallings	McDonnell Douglas 530FF	See Appendix I	See Appendix I	01/30/15 – 01/31/15	ACETA/STEP Training
Cameron Stallings	McDonnell Douglas 530FF	See Appendix I	See Appendix I	February – December 2015	USFWS Emergency Capture Operations
Mike Brinkworth	A-Star 350b3e	See Appendix I	See Appendix I	01/18/15 – 01/25/15	AGFD Count/Capture Operations

8. Participants

Papillon Helicopters will have AGFD employees as crew for wolf count and captures in AZ (1/18/2015 to 1/25/2014). Panhandle Helicopter and Aero Tech Helicopters will have federal USFWS personnel and a contract gunner as crew for wolf count and captures in NM (2/1/2015 to 2/7/2015). While federal employees are authorized aboard a Papillon Helicopter for transport in AZ, they are not allowed to engage in any ACETA capture or pursuit activities (see Appendix I). In this mission, USFWS employees may be transported to serve as part of a remote processing crew with Papillon Helicopters (1/18/2015 to 1/25/2015).

The three (3) contractors will provide the helicopter, pilot, and a fuel truck and driver as specified in their respective contracts. The contracted personnel for Aero Tech are carded to meet DOI requirements for ACETA pilots (see Appendix I). The contracted personnel for Panhandle helicopter will be carded during the training operations for an ACETA and STEP pilot (note: the pilot has recently switched companies but was previously carded for a different company). The contracted personnel for Papillon Helicopters are carded to meet DOI on call and survey requirements for OAS pilots (see Appendix I). All crew members (AGFD, USFWS, and WS employees) will have been trained for helicopter STEP and ACETA procedures during the January 2015 training (see 2015 STEP and ACETA Training and Operations Plan), prior to USFWS operations.

Appendix B identifies key duties for personnel.

Incident Commanders (IC)

ICs are responsible for implementation and oversight of the project when operations are in their jurisdictional area. Primary ICs on any given day will only perform oversight tasks for that day. ICs perform pre and post flight briefings, identify priority targets for counts and captures during the operation and ensure that the operations are safely conducted.

Jeff Dolphin (109) AZGFD Assistant Incident Commander in New Mexico

Mike Godwin (107) AGFD- Incident Commander in Arizona, Assistant Incident Commander in New Mexico

Deon Hinton (194 Boy) WMAT- Incident Commander on Fort Apache Indian Reservation (FAIR)

John Oakleaf (193) USFWS - Incident Commander in New Mexico, Assistant Incident Commander in Arizona.

Vicente Ordonez (195 Adam) USFS – Assistant Incident Commander in Arizona and New Mexico (As needed).

Joseph Perez (194 Charlie) – Assistant Incident Commander on FAIR.

Julia Smith (197) – AGFD –Assistant Incident Commander in Arizona.

Janess Vartanian (194) – USFWS – Assistant Incident Commander in New Mexico

Flight Personnel: (USFWS contract with ACETA approved Panhandle Helicopter or Aero Tech Helicopters).

Flight personnel are all responsible to help ensure safe operations and are encouraged to discuss any uncertainty with the helicopter and/or airplane pilots and the IC's. At any time, any flight personnel may make a no go call based on safety concerns. Ultimate decision authority for the safety of the crew lies with the pilots. Pilots will not fly in terrain or weather circumstances that are not conducive for conducting a safe mission. While many personnel are listed below, the primary helicopter team for Panhandle Helicopter will consist of the helicopter pilot (John Martin), one darter (Dr. Ole Alcumbrac/Sterling Simpson/Justin Martens), and one mugger (Janess Vartanian/Allison Greenleaf/Justin Martens/Sterling

Simpson) in NM at any given time. The primary helicopter team for Papillon Helicopters will consist of the helicopter pilot (Mike Brinkworth), one darter (Jeff Dolphin/John Hervert), and one mugger (Ed Davis/Julia Smith/Brent Wolf) in AZ at any given time. Net-gunning will only be performed by John Hervert in AZ. Processing of wolves will be performed by ground crews, and on-site by the mugger and darter. Airplanes and pilots in AZ will be managed by the AGFD, and are approved for low level operations by OAS (see Appendix I). Airplanes and pilots in NM will be managed by the USFWS, and are approved for low level operations by OAS. DOI personnel will be in the spotter planes.

Dr. Ole Alcumbrac, D.V.M. (193 George) - Helicopter Gunner in NM

Pete Applegate (706) - AGFD - Spotter Plane Pilot

Mike Brinkworth – (AZ Helicopter Pilot) – Helicopter Pilot (Papillion Helicopters)

Bill David (701) - AGFD - Spotter Plane Pilot

Ed Davis (199) – AGFD - Helicopter Mugger/Spotter Plane Observer

Jeff Dolphin (109) - AGFD – Helicopter Gunner in AZ, Spotter Plane Observer in NM

Allison Greenleaf (190) – USFWS – Spotter Plane Observer/Helicopter Mugger in NM

Preston Hunting (702) – Spotter Plane Pilot

Justin Martens (198) – USFWS – Helicopter Mugger Trainee, Helicopter Gunner Trainee in NM. Spotter Plane Observer.

John Oakleaf (193) - USFWS - Spotter Plane Observer

Sterling Simpson (196) - WS - Helicopter Mugger, Helicopter Gunner Trainee.

Julia Smith (197) – AGFD – Helicopter Mugger/Spotter Plane Observer

Steve Sundae (704) - AGFD - Spotter Plane Pilot

Janess Vartanian (194) - USFWS - Spotter Plane Observer/Helicopter Mugger in NM

Brent Wolf (192) - AGFD - Helicopter Mugger/Spotter Plane Observer

Ground Crews:

Ground crews will be stationed at various landing sites in Arizona and New Mexico. All lead processors and the majority of other personnel have previously handled wolves and have taken a Chemical Immobilization course within the previous year. This course discussed the current immobilizing drug Telazol and various emergency scenarios. Personnel will follow appropriate Project Standard Operating Procedures for managing control substances and handling wolves (See Appendix C: SOP 20: Requirements for Pharmaceutical Storage, Access, and Record Keeping, Appendix D: SOP 21: Handling, Immobilizing and Processing Live Mexican Wolves). In addition, the project veterinarian will be contracted with the USFWS to assist with processing and any emergency procedures that arise. Ground crews will also be responsible for ensuring that the Fuel Truck is accounted for and arrives safely at appropriate staging areas, as well as conducting uncollared sign searches and transporting wolves to translocation sites, if necessary.

Dr. Ole Alcumbrac (193 George) - Veterinarian Services

Sherry Barrett (193 Adam) – Ground Crew

Manuelita Canty (194 Frank) – Ground Crew

Ed Davis (199) – AGFD - Lead Processor in Arizona

Dr. Susan Dicks (193 Edward) - USFWS– Lead Processor

Maggie Dwire (193 Boy) – Ground Crew
Allison Greenleaf (190) – USFWS - Lead Processor in New Mexico
Theo Guy (194 Henry) – WMAT – Ground Crew
Deon Hinton (194 Boy) – WMAT - Lead Processor on FAIR
Melissa Kreutzian (193 Frank) – USFWS – Lead Processor
Justin Martens (198) – USFWS – USFWS –Lead Processor
Vicente Ordonez (195 Adam) – USFS – Ground Crew
Joseph Perez (194 Charlie) – WMAT – Ground Crew
Lionel Perry (194 Ida) – WMAT – Ground Crew
Julia Smith (197) – AGFD - Lead Processor in Arizona
Cathy Taylor - (195 Boy) – USFWS – Ground Crew
Janess Vartanian (194) - USFWS – Lead Processor
Dewey Wesley (194 Adam) – USFWS – Lead Processor
Brent Wolf (192) - AGFD – Lead Processor in Arizona

Radio Traffic Control and Office Management:

The radio operator will be responsible to ensure that operation status checks are occurring every 15 minutes and key information is relayed to the appropriate IC. In addition, radio operators will ensure that radio checks are performed prior to initiation of operations.

Mike Godwin (107) - AGFD - Radio Operator

Julia Smith (197) – AGFD – Radio Operator

Helicopter Manager:

John Oakleaf (USFWS) will be responsible for implementing this plan in NM with Panhandle Helicopter or Aero Tech Helicopters and providing general oversight for the USFWS to the helicopter operations, including compliance with applicable laws and safety requirements. John will perform these duties at the start of each day. During the rest of the day John will be an IC in NM. Safe landings and take offs as well as fueling processes will be at the discretion of the contractor, but will be observed by ground crew members.

9. Communication Plan, Flight Following, and Emergency Search and Rescue

Communication:

Bolded frequency will be the primary communication for the ground crew and between ground crew and aircraft personnel. Aircraft personnel will communicate on Air to Air when specifically conducting operations. Spotter plane personnel or IC's will communicate with Phoenix Dispatch on F1.

Radio Frequencies

Communication between the ground crew and the aerial crews will occur on AZ Game and Fish Wolf Frequencies.

Frequencies Communication between muggers and the helicopter will be on AGFD tactical frequency.

Air to Air: 123.456

(All frequencies below are narrowband!)

AZ Game and Fish Tactical: 151.340

AZ Game and Fish Region 1 Voter Channel:

Transmit Frequency: 159.375

Receive Frequency: 151.460

PL Receive Tone: 88.5

PL Transmit Tone: 167.9

AZ Game and Fish Wolf Frequencies – Alpine and Greens Peak

Alpine Tower

Transmit Frequency - 159.270

Receive Frequency - 151.385

PL Receive Tone – 88.5

PL Transmit Tone – 107.2

Greens Peak Tower

Transmit Frequency - 159.270

Receive Frequency - 151.385

PL Receive Tone – 88.5

PL Transmit Tone – 91.5

Used in AZ and NM

Flight Following

Aircraft radios will be compatible. The Helicopter, spotter plane, radio operator, and the IC will be the primary persons monitoring radio transmissions. Call ID numbers for individuals and aircraft numbers will be used in all radio transmissions. The radio operator and IC will provide flight following with the on-duty contractor that day through the spotter plane during operations. The spotter plane will monitor helicopter position and report location and operational information to the radio operator or IC every 15 minutes, or when locations are changed. The helicopter will fly from the operation area to/from refueling areas without fixed wing monitoring, but will be reported by the IC on landing and takeoff from the bases of operation. Helicopter operations can be conducted if the operations are able to be monitored either visually or auditorily by ground personnel. The spotter plane will notify the radio operator and IC when the helicopter leaves operation areas and is inbound for a base of operation. In addition, Panhandle Helicopter, Aero Tech Helicopters and Papillon Helicopters has Automated Flight Following (AFF) capabilities and the IC or dispatch can call the company office at anytime to determine the location of the helicopter.

General Safety Operations:

At the end of each day the people involved in the operations will meet at the Alpine Field Office to discuss safety issues of the day, next day priority operations, and needs. IC's will remain on the ground unless they delegate authority to an assistant IC prior to their departure. Review of hazard and wolf occupancy maps will occur on the morning of the operations between the helicopter manager, the IC and the helicopter pilot. In addition, areas where wolves are not to be captured should be reviewed prior to operations with the helicopter crew. A satellite phone will be in possession of the IC and fully charged during each day.

10. Aerial Hazard Analysis

Aerial hazards consist of powerlines, tree snags (prevalent in some areas due to forest fires), radio transmission towers and wind testing towers. The potential area of operations are across a very large area (Arizona and New Mexico). Maps with detailed charts annotated with known/plotted aerial hazards (Appendix J) will be reviewed by the IC, Helicopter Manager and pilots each day prior to operations. Hazards that are observed during flights should be plotted (e.g., GPS reading and the type of hazard) and relayed to the IC for incorporation in GIS layers at the USFS Office. In addition, airplane or ground support will generally be in the area of operations prior to the helicopter arriving on scene and will relay hazards to the helicopter prior to arriving. The relay of this information is critical for safe operations due to the variable locations of animals.

11. Protective Clothing and Equipment

All personnel will wear appropriate clothing and personal protective equipment (PPE) for the mission. This will include Nomex pants and shirt or Nomex flight suit, leather, Aviation Life Support Equipment (ALSE) Handbook approved boots, leather or Nomex gloves, approved flight helmet and eye protection.

12. Weight & Balance / Load Calculations

The Pilot in Charge (PIC) calculates the weight and balance before every flight per FAA and USFWS regulations. No unusual load configurations are used during the operations. The typical aircraft configuration during operations is one pilot, one gunner, one mugger. We do not intend to have more than three people in the Hughes 369D or MD530FF during the operations. However, an additional mugger may be dropped off in the area of operations prior active chases or maximum performance operations. Flights to drop ground crews in Arizona may include two additional passengers on the A-Star for transport flights. Survival gear, radios, processing gear, navigation charts, and appropriate fuel for the flight will be on each flight. The aircraft will be loaded each day so that it remains within the certified gross weight capacity and balance limits.

Maximum gross weight limits of helicopter used during this mission varies by helicopter:

Hughes 369D: 3000 lbs

MD530FF: 3100 lbs

A-Star350b3e: 5225 lbs

13. Risk Assessment / Safety Management System (SMS)

Flight Planning

Each day the IC will file a general flight plan, providing the following information to AGFD dispatch, Apache-Sitgreaves National Forest dispatch for AZ and the Gila National Forest dispatch for NM. If flying over either of the reservations, White Mountain or San Carlos dispatch will be contacted.

- tail number and description of aircraft
- pilot name and contact phone number
- approximate flight path
- expected time of arrival back at base

-- expected time and place for fuel stops

Hazard Identification

Field Risk Assessments will be completed daily by the Helicopter Manager on site for NM operations. The IC and Helicopter Manager will be on hand to discuss hazards before and after every flight during fueling breaks. The hazards and controls identified below are pertinent to and will be closely followed during the capture operations.

a. Environmental Hazards (Weather): Capture operations take place within a dynamic, sometimes hostile environment in rugged high elevation mountain ecosystems. The mountains located in the BRWRA are subject to rapid changes in weather and all the variables of mountain weather including strong gusty winds, sudden storms, low visibility, and temperature extremes.

Controls: Shut down operations if wind speeds exceed standards 30 knots (35 mph) or if variation in wind speeds exceeds 15 knots (18 mph), if decreasing or descending clouds impair visibility, or if freezing rain/snow develops. Due to the hazardous nature of this work, the crew will shut down operations when wind degrades their effectiveness even if below these maximum standards. Weather reports should be reviewed daily, and changes in weather patterns carefully monitored. The helicopter crew and ground crews should carry emergency food and cold weather gear and be prepared to hike out or bivouac.

b. Environmental Hazards (Terrain): Animals may be found on steep and hazardous terrain, creating hazardous access or traveling conditions for ground crew.

Controls: Pilot and darter must exercise considerable judgment in selecting darting opportunities where the helicopter can be safely maneuvered during darting opportunities and where animals can be contained in areas that can be safely accessed by ground crews. To control for hazards associated with steep terrain, the crew will not dart animals in terrain steeper than 35°.

c. Aircraft performance limitations: Animal capture involves rapid approaches and aircraft maneuvers to both place the darter within range of a shot and contain the darted animal. This activity will occur in steep and difficult mountainous terrain, or in confined valleys, or near forest edges.

Controls: Pilot must ensure weight and balance are within aircraft operating requirements. Pilot will let out the Mugger, as needed during darting operations to maintain suitable aircraft performance. It is the Pilot's responsibility to maintain proper weight and balance during darting operations.

d. Pilot skill and fatigue: Flying animal capture missions in mountainous terrain is extraordinarily demanding, requiring low-level flight of very mountainous terrain, avoidance of obstructions, updrafts and downdrafts, maintaining visual contact with the target animals. Performance at this level is very fatiguing.

Controls: Strict adherence to pilot duty schedules and flight times. Pilot has full authority over decisions to suspend operations and where to conduct capture operations to ensure safety of aircraft and crew.

e. Toxicity of Animal Immobilizing Drugs: The immobilizing drug currently utilized for wolves is Telazol. Its use requires specialized training and monitoring (see SOP 20 and 21, Appendix C and D). If the usual precautions are observed the chance of accidental

exposure is unlikely. If the wolf is not fully immobilized, the animal will be re-dosed with Medetomidine. Medetomidine could be absorbed through the skin. Gloves will be worn whenever handling the drugs. If there is accidental injection of Medetomidine alone, the antidote (Atipamezole) will be given by the lead processor or project veterinarian at the scene. In the case of accidental injection of Telazol, the affected person will be monitored for aversive reactions and taken to the hospital. In addition, elk will be captured utilizing Carfentanil, which is an extremely powerful opioid. If there is an accidental injection, the antidote (Naltrexone) will be given by any personnel. Prior to handling Carfentanil, doses of antidotes should be drawn and available for to quickly dose anyone who is exposed to Carfentanil. In addition, project veterinarians will be on-site during the use of Carfentanil.

Controls: Dosage calculations and dart loading will be performed by selected individual IFT members at the bases of operations (see above) in order to limit potential exposure to the drugs. Telazol poses minimal risk to humans at the dosages used for wolves. However, Carfentanil can be lethal to humans if a reversal is not administered. In the event of an incidental injection to personnel, they will be transported to the nearest hospital for monitoring following administering of appropriate reversal agent for the drug. During helicopter operations individuals will have two doses of reversal agents drawn and available. Accidental exposure to drugs will result in the immediate termination of capture operations and return to a base of operations. For safety of crew, and possible rescue teams, the capture drugs will be stored, while not in use with ground crews, in a labeled cooler case. Emergency response protocol and medical plans for the accidental treatment of Telazol and Carfentanil injection have been developed. All used needles will be disposed of in a SHARPS container that will be kept on the helicopter and at base stations.

f. Darting and Net-gunning: The use of firearms from a helicopter to dart or net-gun wolves poses several potential risks, including accidental discharge of a dart, or serious injury to a darter. The helicopter will be flown with doors off to improve the darter's range of movement.

Controls: All gunners have been approved by their agency for adherence to safety requirements. Loaded darts will not be carried in the dart gun until the helicopter is in final approach to a targeted wolf. Similarly, the charge for the net-gun will not be inserted until the helicopter is on final approach for a targeted wolf. The muzzle of a loaded dart gun or net gun will be pointed outside the helicopter and downward at all times. Darters will wear an OAS approved harness system.

g. Techniques of animal recovery: Single-skid, Toe-in Exit/entrance Procedures (STEP): The preferred method to deliver capture crews to wolves after darting will be decided by the pilot. STEP landings will be authorized to be used at the pilots discretion when operating in New Mexico.

Controls: To mitigate risks, capture operations will be limited to slopes 35°, and the pilot will herd animals to the best possible landing site after darting. The pilot and crew will use their extensive experience to determine suitable landing sites.

Risk Analysis

The following risk analysis has been completed as part of the operations plan for helicopter count and capture of wolves in BRWRA. The analysis is intended to identify and quantify risks inherent in the operation. Appropriate measures to mitigate identified risks are included in this plan. In addition, the analysis provides a continuing basis for "Go-No Go" decision

making for the Helicopter Manager, Incident Commanders and Pilot. The analysis should be considered a working document, as well as a tool to be implemented throughout the project.

ABBREVIATIONS:

Effect: (n=negligible, m=moderate, crit=critical, cat=catastrophic)
Probability: (u=unlikely, s=seldom, o=occasional, l=likely, f=frequent)
Risk: (l=low, m=medium, h=high, e=extremely high)

RISK FACTOR I: METHOD

1. Do safer or more efficient methods than aerial darting or net-gunning from helicopters with exist? NO. The helicopter operations are primarily conducted to count the wolves and are the most effective means to gain an accurate count. This capture plan relies on the use of a helicopter as darting platform and for population counts. From the standpoint of both safety and project objectives it would be impossible to radio collar and complete an accurate population count on wolves without the use of a helicopter.

Capture is a secondary goal, however it is advisable and cost effective to do both if the helicopter is already in the area for population counts. Therefore, all crew members are instructed that capture is not the primary goal and risks should not be taken to capture animals, as safety is far more important. The alternatives to helicopter capture through darting and net gunning are ground based darting or trapping. Trapping is only conducted during the winter with hourly checks due to freezing conditions. Thus, few wolves are captured via traps in the winter time due to the intensity of this effort. Ground based darting is largely ineffective for wolves and elk, except in unique circumstances. This project is using immobilizing drugs (see e. above). Appropriate reversal agents will be drawn and ready to utilize. The capture and ground crew have all been through a chemical drug training course and are certified through the project veterinarian for use.

Effect=cat Probability=s Risk=h

2. Is the method approved and do detailed operations plans for safe accomplishment exist? YES. The OAS and USFWS authorize this method of capture. Department of Interior (DOI) standards exist for the safe operation of aerial-darting in the form of Aerial Capture, Eradication and Tagging of Animals (ACETA) handbook and associated policies (351 DM 2-351 DM 3, OPM 40, and 330 FW 4). The capture plan and all associated operation plans specific to this operation have been developed in coordination with USFWS Aviation Operations & Safety Specialist, and has been approved by the Mexican Wolf Recovery Coordinator.

Effect=cat Probability=u Risk=m

3. Is accidental injection possible? YES. Safety precautions are identified in the approved capture plan to minimize all risks of accidental exposure or injection. We have prepared protocols for accidental human exposure to the immobilizing drugs to mediate risks. Detrimental long-term effects to people are not likely as a result of an incidental injection of Medetomidine and Telazol. In the short-term, individuals may show an affect similar to drugged wolves. However, Carfentanil used for elk can be lethal to humans if a reversal is not administered. Reversal agents (Naltrexone) will be available (in a syringe for quick administration) prior to the start of operations. Two such doses will be available in the helicopter at all times.

Effect=m Probability=s Risk=m

4. Have adequate following and communications methods been established? YES. An incident communications plan has been prepared and approved. The spotter plane, or ground crews (either visually or auditorilly) will monitor helicopter position and report information for both aircraft to the radio operator every 15 minutes, or when locations are changed. The spotter plane will maintain communications with Helicopter Manager and IC's to permit efficient responses to any emergencies. The capture crew will carry a hand held radio when they are on the ground and not in direct communication with the helicopter. All communications will be conducted on AGFD and Alpine Wolf operating radio frequencies.

Effect=n Probability=u Risk=l

5. Have adequate evacuation and rescue routes and procedures been established? YES. A Mishap Response Plan (Appendix F: Page 60) has been established. The mishap response plan contains procedures for a variety of emergency situations.

Effect=n Probability=u Risk=l

RISK FACTOR II: MEDIUM (Environment)

1. Can environmental factors (i.e. weather, terrain) which would increase risk be circumvented or mitigated? YES. Weather conditions will be monitored and operations will be shut down if lack of visibility and/or high winds threaten operational safety. Specifically forecasted weather will be reviewed in the evening for the operations to be conducted during the following day. The IC and the Pilot In Charge (PIC) will determine if operations will be conducted the following day. During operations, the PIC will have ultimate discretion over operations related to weather, but everyone in the operation should be cognizant of rapidly changing weather. Review of weather conditions will be continuous during operations between the PIC, the helicopter manager, and the IC. All personal should report unsafe weather to the IC or PIC. Operations will be shut down if IHOG limits are met (e.g., if sustained wind speeds exceed 30 knots (35 mph) or if gust spread exceeds 15 knots (18 mph)). The PIC, at his/her discretion, may shut down operations at lower wind speeds. Because airplanes are utilized to locate wolves prior to capture operations, the IC and PIC will be advised of weather conditions in potential operation area prior to capture. In addition, airplane crews will monitor approaching weather cells from a higher altitude during capture operations and relay pertinent information to the helicopter. In particular, airplane crews will look for any scenario that may result in loss of Visual Flight Rules (VFR) for the helicopter. Indeed, operations can only occur under VFR conditions.

Effect=crit Probability=o Risk=h

2. Can low altitude flying be avoided? NO. Low altitude flying is the only means of conducting aerial capture operations and accurate count of wolves.

Effect=cat Probability=o Risk=h

3. Have hazards to low-level flying been identified to all participants? YES. The pilot and flight crew will be briefed on the aerial hazards (Appendix J) existing in and near the operations areas by the Helicopter Manager and all load calculations will be reviewed by Helicopter Manager, IC, and pilots. In addition, the airplane crew will inform the helicopter of any hazards in the area prior to their arrival. However, not all low level hazards are noted

on aerial hazard maps (Appendix J), or high elevation reconnaissance by the airplane (i.e., snags above the elevation of trees). Only diligent visual detection and crew communication will prevent collision with these objects. All crew members should actively and assertively communicate hazards to the pilot. The pilot will acknowledge the hazard. These communication processes will be practiced with the pilot prior to USFWS operations in New Mexico.

Effect=m Probability=o Risk=m

4. Is there potential for airspace conflict? Yes. There will be a fixed wing aircraft also associated with this project. Both aircraft will maintain communication notifying the other ship at all times which wolf they will be going after, and their location at all times. When operating in the same area, as is often the case, the fixed wing aircraft will circle >500 feet above the working helicopter. On clear weather days, private pilots are also known to fly over BRWRA, so pilot and crew will remain vigilant for other aircraft at all times. The military use the BRWRA Military Operating Areas (MOAs) at times. The base of these areas is 6,000 MSL not including the airspace within 1200 feet of the ground. In flight, pilots may contact MOAs' scheduling office at **505-846-7431** in AZ, and **520-295-6371** in NM for updates and to confirm aircraft are actually using the MOA, when the darting mission takes them into this airspace. In addition, USFS personnel will work with USFS dispatches to de-conflict airspace and advise the military that our operations are occurring.

Effect=cat Probability=o Risk=m

5. Do adequate landing areas exist? YES. Each of the bases of operations used for fueling and staging meet standards for Type-3 helicopter landing zones. Darter wolves will either be processed at the site of capture, or brought back to the defined landing zones where the lead processing crew will be standing by. The pilot and crew will use their extensive experience and judgment to determine suitable landing sites. To mitigate risks, the protocol restricts darting to terrain with less than 35 degree slopes.

Effect=crit Probability=o Risk=h

RISK FACTOR III: PERSONNEL

1. Are all flight personnel properly carded? YES. The Panhandle and Aero Tech pilot and aircraft are OAS carded for ACETA missions (see Appendix I). Papillion is OAS carded for point to point missions and surveys (see Appendix I). All flight personnel (both state and federal employees on the project) will have met DOI ACETA qualifications prior to USFWS led operations by attending STEP and ACETA training in January 2015.

Effect=n Probability=u Risk=l

2. Will flight be concluded within Pilot flight time/duty requirements? YES. The Helicopter Manager will ensure that the mission will meet ACETA contract flight and duty requirements and be flown in accordance with DOI regulations. Operations may need to be suspended earlier if crew or pilot begin to fatigue or lose focus.

Effect=crit Probability=o Risk=h

3. Have the minimum number of personnel necessary to accomplish the mission safely been assigned and do they meet ACETA requirements? YES. All USFWS personnel will meet or exceed the minimum requirements for the operation.

Effect=m Probability=f Risk=h

4. Will adequate briefings be performed before flight? YES. An operation briefing with all personnel involved will take place the evening prior to or the morning of the operation. Pilot and Helicopter Manager will conduct aircraft safety briefings prior to all flights. Daily and situational briefings will be held as needed. The roles and responsibilities of crew members in providing briefings are described in this capture plan.

Effect=crit Probability=s Risk=m

5. Are users aware that the PIC has final authority over any operations conducted involving the aircraft or its components? YES. All personnel will be informed of the authority of the pilot-in-command (PIC) regarding aircraft operations.

Effect=n Probability=u Risk=l

6. Are the flight personnel highly experienced in this type of operation? YES. Panhandle Helicopter and Aero Tech Helicopters was awarded an ACETA contract by OAS because of their extensive level of pilot training in ACETA operations. Each of the helicopter crew members will have completed ACETA and STEP training in 2015 prior to the USFWS led project. Papillion Helicopters who will be contracted by AGFD in AZ has been involved in state contracted capture operations for many years.

Effect=m Probability=o Risk=m

7. Are the pilots highly experienced in this type of operation? YES. Panhandle and Aero Tech helicopters were awarded an ACETA contract by OAS because of their extensive level of pilot training in ACETA operations. The pilot for Papillion Helicopters has extensive experience with aerial capture operations.

Effect=cat Probability=o Risk=h

RISK FACTOR IV: MACHINE AND MATERIALS

1. Is the delivery system safe? YES. The darts used to deliver drugs to the animals are very safe. Net-gunning is safe provided the individual has extensive experience with a net gun. The only gunner authorized to utilize a net gun will be John Hervert, who has extensive experience capturing animals through this method. The capture plan outlines dart and net gun loading and firearms safety within the helicopter to mediate risk, including those handling darts wearing gloves, and keeping loaded darts in a cooler while being transported on the helicopter.

Effect=cat Probability=u Risk=m

2. Is the safest suitable immobilization agent being employed? YES. The use of Telazol on other helicopter operations to capture wolves has been used extensively in North America. Telazol with a redosing of Medetomidine allows for quick induction and a wide safety margin with the Medetomidine being reversible with Atipamizole. While the recovery time

can be as long as 5 hours before a wolf is able to walk/run away from the location of release, our personnel and mobile field crews will be monitoring the recovery of wolves under Telazol. Telazol and Medetomidine pose minimal risk to humans from an accidental injection. Carfentanil or other opioids are required to drug large ungulates. While untreated injection in humans could cause death to humans, the reversal agent is very effective and ameliorates risks. Only, an untreated accidental exposure could be dangerous. Crews will be advised to evaluate other crew members during the operations to look for unusual behavior.

Effect=cat Probability=s Risk=h

3. Are the equipment and materials (aircraft, drug transfer system, immobilization agents) appropriate for the selected method? YES. Helicopters that were awarded this ACETA contract is considered to be adequate and capable for this type of operation. Pneu-dart guns and darts (or like systems) are some of the safest delivery systems for both humans and wolves. Net-guns with 4 inch mesh have been used to capture wolves in the U.S. and Canada.

Effect=n Probability=u Risk=l

4. Are aircraft properly approved for the intended mission? YES. The Helicopter that will be used by USFWS employees in NM for this mission meets contract requirements under the terms of the ACETA contract for aerial darting and has been inspected and approved for this operation (see Appendix I). The Helicopter Manager will again verify pilot and aircraft carding prior to flight activities (but see Appendix I for current verification). The contractor that will be used for the capture operation in AZ (Papillon Helicopters) is not ACETA approved, but is approved for OAS point to point missions (see Appendix I). USFWS personnel will be allowed to board this contractor for point to point transport of ground processing crews.

Effect=n Probability=u Risk=l

AVIATION RISK ASSESSMENT WORKSHEET

Describe Hazard:	Probability (A-E)	Effect (I-IV)	Risk Level
Pre-Mitigation hazards rate out as: High			
1. Low Level flights. Collision with obstacles.	C	I	High
2. Deep Snow Landings. Stuck helicopter/rollover.	C	II	High
3. ACETA operations including darting wolves from the helicopter. Collision with obstacles.	C	I	High
4. Utilization of both fixed wing and rotor wing aircraft. Mid-air collision.	D	I	High
Mitigation Controls:	Probability (A-E)	Effect (I-IV)	Risk Level
Post-Mitigation hazards rate out as: Medium			
1. Brief Pilot with flight hazard maps (Appendix J) and communicate know hazards in the area.	E	I	Medium
2. Pilot will be carded for snow landings and aircraft will be equipped for snow landings.	D	II	Medium

3. All personnel involved in ACETA operation will be approved through OAS.	E	I	Medium
4. Aircraft will be in communication with each other at all times and will maintain >500' vertical separation. Pilots will communicate when entering or exiting the project area.	E	I	Medium

RISK ASSESSMENT MATRIX			HAZARD PROBABILITY				
			Frequent	Likely	Occasionally	Seldom	Unlikely
			A	B	C	D	E
EFFECT	Catastrophic	I	Extreme		High		Medium
	Critical	II	High	High		Medium	Low
	Moderate	III	High	Medium			
	Negligible	IV	High				
Hazard Risk Assessment Code Risk Level			Appropriate Management Level for go/no-go decision				
I-A, I-B, II-A		EXTREMELY HIGH		Do not conduct operations			
I-C, I-D, II-B, II-C, III-A		HIGH		Project Leader			
I-E, II-D, III-B, III-C, IV-A		MEDIUM		Incident Commander			
II-E, III-D, III-E, IV-B, IV-C, IV-D, IV-E		LOW		Fixed wing or Flight Manager			

Risk Decision

The identified risks were weighed against the benefits of performing the operation. The operation is considered high risk due to the unlikely hazard probabilities associated with catastrophic or critical effects of low-elevation darting in mountainous terrain.

Risk Controls

All aviation operations have been planned and will be implemented with maximum consideration given to safety. The Helicopter Manager will ensure that flights in NM are conducted as planned and in accordance with DOI and USFWS policy and procedures. Operations in Arizona and Papillion Helicopters are controlled by AGFD. Federal employees will be allowed to board only to transport ground crews under a cooperator letter (351 DM 4, Appendix I). The pilot always retains final authority for the operation when safety of the aircraft and occupants are a factor.

The hazard mitigation control recommendations for the operation are as follows:

- 1) Conduct an operations and safety briefing (including radio check) prior to actual operation.
- 2) Conduct daily pre-and post-operations briefings.
- 3) Contractors will operate within all DOI ACETA and contract requirements
- 4) No federal employees will board Papillion Helicopters (a state contracted helicopter) in AZ during ACETA or count missions

- 4) Brief pilot and flight crew members of aerial hazards in and near the operations area.
- 5) Instruct the pilot to move wolves over less steep (<35degrees slope) terrain prior to initiating capture operations
- 6) Ensure that all air operations personnel on Panhandle Helicopter and Aero Tech helicopters wear full personal protective equipment for flight operations. Similarly DOI personnel transported in Papillon helicopter operations will wear full personal protective equipment
- 7) Discuss Contract requirements with the pilot to curtail operations if wind speeds or variation in wind gusts exceed standards (e.g., 30 knots (35 mph) or variation in wind gusts exceed 15 knots (18mph) or if any conditions exceed pilot/crew comfort level required for safe operations.

Daily Aviation Briefing Checklist

The IC's and Helicopter Manager will conduct a project briefing with the contract crew on the afternoon preceding the first captures. IC's, Helicopter Manager and Capture Crew will perform a briefing each day that capture operations are planned. Both the project and daily briefings will emphasize safety requirements of the project. The briefing will follow the following format and checklist:

Project Briefing

1. Project Mission and Objectives (IC's for NM/AZ)
2. Project Safety and Planning (IC's for NM/AZ)
 - Flight planning (Section III. A)
 - Communications and Flight Following (Section III.B)
 - Accidental Human Exposure to Carfentanyl, Medetomidine, or Telazol(Section IIIC and Appendix D)
 - Mexican Wolf Mishap Response Plan (Appendix F)
3. Risk Assessment and Controls (IC's AZ/NM)
 - Environmental Hazards, Weather (Section IV.A.a.)
 - Environmental Hazards, Terrain (Section IV. A.b)
 - Aircraft Limitations (Section IV.A.c)
 - Pilot Fatigue (Section IV.A.d)
 - Toxicity of Immobilizing Agents (Section IV.A.e)
4. Drug handling and dosages (IC's for NM/AZ)
 - Dosages
 - Dart Storage
 - Dart Retrieval and Disposal
5. Animal Welfare and Handling (SOP 21, Appendix D) (IC's/project veterinarian)
6. Animal Emergency Procedures (SOP 21, Appendix D) (IC's/project veterinarian)

Daily Pre-flight Briefing

- Review daily mission objectives including review of maps and preferred locations of daily operations
- Review hazards, including other aircraft operating in area (IC, Pilot, and helicopter manager)
- Review load calculations (IC, Pilot, and helicopter manager)
- Helicopter safety briefing (IC, Pilot and helicopter manager)
- Review daily go/no go decision (visual flight rules apply and wind limitations are not exceeded)
- Review flight following requirements (Section III-B)
- Review risk assessments and controls (Section IV-A) (Helicopter Manager)
- Review go/no go decision tree for darting
 - The wolf is not a priority target (e.g., the wolf has a functioning collar that does not need to be replaced (no go. Select new target)
 - Target <1/4 mile from a major road (Herd away from road or no go)
 - Target on steep slopes >35 degrees (move away from steep slope or no go)
 - Suitable landing zone present (herd toward suitable landing zone or no go)
 - Target has been actively chased for two 8 minute periods with a 5 minute rest (no go. Select new target)
 - Target is on private land or wilderness areas where authorization to dart has been denied or not obtained (herd towards suitable darting areas or no go).

Daily Post-flight Briefing

Review any problems/issues or suggestions for improvement. IC's, Helicopter Pilot, and Helicopter Manager will make the ultimate decision on improvements

Fuel Management

Helicopter (Jet-A) Fuel will be supplied from a mobile fuel truck (owned or contracted by the helicopter contractor). The fuel truck will be stationed at one of the Base of operations listed above depending on the operations priorities and location of the wolves on a given day. The IC for the daily operation will direct the fuel truck and ground crews to the appropriate location. The fuel truck will remain in contact with the helicopter via private radio channels. In addition, the fuel truck with Aero Tech helicopters has mobile Automated Flight Following capability.

Aircraft Management

Panhandle Helicopter and Aero Tech Helicopters will adhere to OAS ACETA award contract requirements. The Helicopter Manager is responsible for managing the aviation operation for the USFWS, and will ensure compliance with OAS flight regulations. The IC for Arizona (AGFD employee) will ensure that Papillon Helicopters will adhere to state contract requirements while conducting ACETA operations with the state of Arizona

14. Operational Safety

Capture Methods

The spotter plane will notify the IC of the most available wolves (based on terrain) for potential counting and capture at 0800 of any day. John Hervert may net-gun and/or dart from

the helicopter in AZ. Any other gunner will only dart from the helicopter. John Hervert has net-gunned hundreds of animals and has the experience and techniques to safely capture wolves. John Hervert will make the determination whether to use a net-gun, dart, or both based on the terrain and his experience. In general, darting requires less running, stress and likelihood of injury to wolves, less hazardous flying, and reduces the necessity of exiting helicopters under dangerous circumstances to retrieve netted wolves. Wolves will be immobilized utilizing the drug Telazol, and redosed with medetomidine. Dosage calculations and dart loading will be performed at the Alpine Office or Reserve Office to limit potential exposure. This drug combination poses minimal risk to humans at the dosages used for wolves. However, in the event of an incidental injection to personnel, they will be transported to the nearest hospital for monitoring. In general, the capture crew will capture one animal and either 1) process the wolf on site, 2) transfer processing duties to a mobile field crew near the capture site, or 3) transport the wolf back to ground crews if the wolf is in a medical emergency, or if directed to do so by the IC.

Details of drug administration, helicopter darting techniques, and animal handling welfare are contained with Appendixes C-E. General logistics of the capture operation are described below.

The capture operation will use either a Hughes 369D (Panhandle), Hughes MD 530FF (Aero Tech) or an A-Star 350 BIII (Papillon) as the darting/net-gunning platform. The spotter plane will continuously monitor the helicopter during capture operations. The IC will oversee the counting and capture from a base of operation (see above). The capture crew will consist of a mugger, a gunner, and the helicopter pilot. The IFT personnel within the helicopter and plane will monitor capture activities (per MW SOP 15, Appendix E) including duration of chase (10 minutes maximum per chase) and 2 active chases with 5 minute recovery periods in between. The spotter plane will notify the IC through the local dispatch upon switching of packs to monitor at least once every 15 minutes during capture operations. Panhandle helicopter and Aero Tech will adhere to flight and duty limits specified in the ACETA contract. To permit completion of capture operations before the end of the day, we will not dart a wolf later than 4 pm. Further, we will suspend capture operations if excessive heat poses threats to animal safety. The darter will not dart wolves in excessively steep terrain (>35% slope) that may pose dangers to the wolf or crews. Aerial darting operations will occur up to maximum tolerable wind conditions (30 knots [35 mph] or variation of wind speeds exceeding 15 knots [18 mph]). Due to the nature of the work, the crew can terminate operations when wind degrades their effectiveness even if below these maximum standards. The helicopter crew will not attempt to capture wolves inside of the wilderness, primitive areas, or private lands of individuals not contacted or not allowing access to their lands. The helicopter may visually observe and count the wolves in these areas, or push wolves a short distance to other areas, where capture is permitted.

Individual ground crews (minimum of 2 people) will be stationed at the appropriate helicopter landing area listed above. Mobile field crews (minimum of 2 people) will be located along accessible roads in close proximity to packs that are targeted for capture attempts that day. These mobile field crews would serve 2 purposes; they would be responsible for processing a wolf handed off to them by the helicopter field crew, or they would arrive at the wolf after processing to monitor the animal's recovery from the immobilizing drug, particularly if the capture was located near a road, town, or by a hazard.

The IC will designate a lead for each ground and mobile crew. Once any wolf is captured, either darted or net-gunned, the wolf will be subdued, muzzled, hobbled, and either processed on-site, transported to the closest ground crew via the helicopter, or transferred to a mobile processing crew if one is in the area. The ground crew will process (per SOP 21, Appendix D) any wolf that is captured and transport it back to the area where it was captured. The mobile field crews will process (per SOP 21, Appendix D) any wolf that is captured and

monitor its status in the field at the original capture location and allow it to return to the pack on its own. Any wolf that is captured outside of the Blue Range Wolf Recovery Area (i.e. San Carlos), will be released within the recovery area inside of their normal home range or at an appropriate translocation site.

Drug Security and Safety

All DEA scheduled substances used in this project, and compliance with DEA regulations, will be administered by members of the IFT that have been certified to handle these drugs by the Project's veterinarian or by the Project's veterinarians themselves (see SOP 20, Appendix C). The IFT and project veterinarian will safely store all scheduled substances in compliance with DEA regulation, and will label and account for all drug dosages loaded, and expended. All loaded darts will be transported within a clearly labeled container. Telazol does not have an antidote. Emergency response protocols (Appendix F (Page 60: Mishap Response Plan), and Medivac plan (Appendix F) will be in the helicopter in case of accidental exposure. These drugs are considered safe for humans and people should simply sleep if exposed to the drug at the dosage levels in the dart.

Accidental Human Exposure to Carfentanil, Medetomidine or Telazol

Gloves will be worn whenever handling drugs. If there is accidental injection of Carfentanil, the reversal agent (Naltrexone) will be given by the project veterinarian, lead processor, or the first available trained personnel (note: all IFT members have been trained with these agents). If there is an accidental injection of Medetomidine alone, the reversal agent (Atipamezole) will be given by the lead processor or project veterinarian at the scene. In the case of accidental injection of Telazol, the affected person will be monitored for aversive reactions and taken to the hospital. Medetomidine and Telazol pose minimal risk to humans in the case of accidental exposure. However, Carfentanil can be lethal to humans if untreated with the reversal agent. The lead processor and helicopter mugger will carry an emergency kit with the reversal agent for emergency treatment of accidental exposure, a copy of the medical protocol, and pharmacological insert describing the immobilizing drugs. The lead processor will also have water on hand to treat accidental spills.

Medical Plan

Emergency response protocols (Appendix F: Page 60), and a Medivac plan (Appendix F) has been prepared containing necessary phone numbers for Medivac in AZ or NM (Appendix F).

15. Signatures

ACETA and CAPTURE OPERATION PLAN

Mexican Wolf Count and Capture in Arizona and New Mexico

Draft: December 15, 2014

Final: January 12, 2015

Modification: January 27, 2015

Prepared by:	<u>John K. Oakleaf //s//</u> Mexican Wolf Coordinator, USFWS, Region 2	<u>12/12/14</u> Date
Reviewed by:	<u>Steve McEvoy //s//</u> Regional Aviation Manager, USFWS, Region 2	<u>12/18/14</u> Date
Approved by:	<u>Sheryl L. Barrett //s//</u> Mexican Wolf Coordinator, USFWS, Region 2	<u>1/4/2015</u> Date
	<u>//Approved// Brian J. Mullin</u> National Aviation Operations and Safety Specialist, USFWS	<u>1/12/2015</u> Date

APPENDICES

Appendix A: SOP 27: Population Monitoring of Mexican Wolves Blue Range Mexican Wolf Reintroduction Project Adaptive Management Oversight Committee Standard Operating Procedure

Title: Population Monitoring of Mexican Wolves

Number: 27.0

File Name: MW SOP 27. Population Monitoring of Mexican Wolves.Final.20080507.doc

Purpose: The purpose of this Standard Operating Procedure (SOP) is to define the method by which the Reintroduction Project annually records the minimum number of wolf packs and a minimum count of the total population size of reintroduced Mexican wolves within the Blue Range Wolf Recovery Area (BRWRA). Information regarding population size and distribution is useful in deciding when and where to translocate and initially release wolves.

The number of wolves and breeding pairs within the BRWRA is projected in the Final Environmental Impact Statement for the Reintroduction of the Mexican Wolf within its Historic Range in the Southwestern United States (USFWS 1996) and can be used as a measure of progress, or in developing and implementing management plans.

This procedure supersedes relevant sections of the 1998 Mexican Wolf Interagency Management Plan (USFWS 1998), and therefore represents, in part, the “Service Approved Management Plan” referenced in the Mexican Wolf Final Rule (50 CFR 17.84(k)).

Exceptions: None. Per SOP 2.0, AMOC must approve any exceptions to this SOP.

Background: Most wolf management or research projects base their population estimates on calendar year-end or mid-winter counts (Kunkel et al. 2005). Wolves are much more difficult to count in the spring, summer, and fall, as their numbers fluctuate widely with pup production, pup mortality, sub-adult dispersals, and natural and human caused mortalities. Documented Mexican wolf mortality is low during the winter, which provides a stable population for a relatively long period. Winter counts are also used because snow cover provides a contrasting background that facilitates detecting and observing wolves.

However, to make more accurate assessments of year-end wolf populations, monitoring throughout the year is also crucial. Reproductive success must be documented for each known pack and efforts must be made to document additional, previously unknown packs. Documentation of pup presence throughout the late summer and fall may aid in determining the relative rate of wolf dispersal and mortality. Through intensive monitoring and capture/collaring, the Project will also emphasize documenting pup survival into their second year of free-ranging existence.

The objectives of this SOP are to:

1. Describe the methods used to record the minimum number of wolf packs and minimum population size for the year-end annual count.
2. List the specific products of population assessments resulting from implementing this SOP.
3. Measure progress toward achieving approved population objectives for the Reintroduction Project.

General Year-Round Confirmation Criteria

Wolf presence can be confirmed in many ways, such as observation of scats, tracks or howling. Generally, more than one form of evidence is used to confirm the presence of wolves. Reports from the public will be encouraged and agency efforts will focus on locating breeding pairs or pack units. Reports of lone wolves can be difficult to validate because of the high mobility of such animals. Therefore, suspicions of lone wolf activity will be low priority and will typically not result in agency field response unless conflicts (e.g. depredation, nuisance activities) are documented. Confirmation of breeding units and packs will be dependent on evaluation of all the available evidence by appropriate agency personnel.

Confirmation of Non Radio-collared Packs

Reports of wolves or wolf sign outside of radio-collared wolf home ranges may be investigated as a potential new pack. Confirmation of persistent wolf presence may require many types of sign (tracks, scats, vocalizations, etc.) or repeated visuals with photographic evidence. Once an area is identified as a new pack territory, extensive trapping efforts will be made to radio-collar these wolves. If trapping is unsuccessful, wolves may be documented through systematic or opportunistic howling, tracks, scat collections, feeding site investigations and/or visuals. Breeding status may be confirmed through field documentation of paired raised-leg urinations and bloody urine. Remote cameras on carcasses or lures may also be used to document wolf presence.

End-of-Year Population Minimum Count

Because the current BRWRA Mexican wolf population is relatively small, the most appropriate population measure is a minimum count (which does not have confidence intervals) near the end of winter, as has been the case with other studies monitoring small wolf populations (USFWS et al. 2007). When the BRWRA population reaches a point at which statistical sampling techniques are more appropriate, this SOP will be updated to reflect that change. Meanwhile, the IFT shall be responsible for producing an annual, end-of-year minimum count of the number of Mexican wolves and breeding pairs in the BRWRA by February 7 of each year.

The end-of-year minimum count will include:

1. All currently radio-collared wolves and their pack associates actively being monitored as of December 31 of each year;
2. Radio-collared wolves whose collars are not functioning but for which evidence exists indicating they were likely to have been on December 31, as determined by the IFT; and
3. Uncollared wolves confirmed by IFT personnel anytime during November, December, and January.

BRWRA end-of-year counts extending from November into January are not likely to be significantly different than if they had they been conducted solely at the end of December. There is virtually no possibility of recruitment through breeding during that period, and immigration seems almost equally unlikely. Winter at these latitudes is not likely to create significant wolf population stresses (e.g. starvation or disease) and mortality, as has been documented in the more severe winters typical of northern states. Weekly monitoring throughout the count period reduces the likelihood that dispersal of known wolves (e.g. collared wolves or uncollared wolves associating with collared wolves) will occur undetected. Also, variability in snow cover in the Southwest emphasizes the need to conduct more intensive aerial monitoring when the best survey conditions exist, and that typically occurs in January. Thus, annual helicopter capture and survey activities are normally conducted in January, which provides more opportunity to confirm collared pack numbers that have been documented in November and December, or earlier. By consistently conducting minimum counts during November through January of each year, the results over time will also reliably indicate trends in the population.

Products

Each Project Annual Report will include the following population measures obtained through the end-of-year count and other pertinent information from year-round monitoring:

1. Minimum number of breeding pairs as of December 31;
2. Minimum number of free-ranging wolves as of December 31;
3. A map of the size and location of the minimum occupied wolf range (per 10(j) Rule);
4. Maps of locations of packs and minimum pack size with different symbols used for radio-collared packs and uncollared but agency-confirmed packs; and
5. A description of the annual survival and cause-specific mortality rates of all radio-collared wolves and a comparison of those rates with annual changes in the wolf population level.

Reviewers

The following individuals contributed to the development of this SOP, but they are not responsible for its content: Adrian Wydeven, Wisconsin Department of Natural Resources; Richard Thiel, Wisconsin Department of Natural Resources; L. David Mech, United States Geological Survey (Adjunct Faculty, University of Minnesota); Warren Ballard, Texas Tech University; and Ed Bangs, USFWS.

Approval:

The Mexican Wolf Blue Range Reintroduction Project Adaptive Management Oversight Committee approved this SOP (with Lead Agency Director concurrence) on April 22, 2008.

Literature Cited

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U.S. Fish and Wildlife Service. 1996. The final environmental impact statement for the reintroduction of the Mexican wolf within its historic range of southwestern United States. U.S. Department of the Interior, Albuquerque, New Mexico.

U.S. Fish and Wildlife Service, Nez Perce Tribe, National Park Service, Montana Fish, Wildlife & Parks, Idaho Fish and Game, and USDA Wildlife Services. 2007. Rocky Mountain wolf recovery 2006 annual report. C.A. Sime and E.E. Bangs, eds. USFWS, Ecological Services, 585 Shepard Way, Helena, Montana 59601.

Appendix B: Duties of Key Personnel

A. Incident Commander Responsibilities during the Helicopter Operation

There will be an Incident Commander (IC) and an Assistant Incident Commander (AIC) assigned to the following areas:

Arizona-which includes SCAR and non-FAIR lands in Arizona
Fort Apache Indian Reservation
New Mexico

a. Duties of Incident Commanders:

1. Supervises and directs all field activities of the project, including establishing project objectives, priorities, and strategies, and direct daily capture operations.
2. Accomplish all the necessary operational and logistical planning required to achieve the project objectives.
3. Purchase necessary equipment, supplies, materials, and services.
4. Conduct daily operational briefings for all personnel. Daily drug safety precautions will be reviewed by Incident Commander.
5. Ensure that capture activities are conducted according to approved procedures.
6. Conduct daily staff debriefings, incorporate these results to improve daily operations, and compile information for use in an operations review at the conclusion of the project.
7. Conduct an operations review at the conclusion of the project.
8. Designate “Wolf Processing Teams” (this includes transport teams, processing leads, processing crews) and hand out daily assignments.
9. Designate Fuel Truck Transport Teams (depending on personnel available we would like to have a project vehicle in front of and a project vehicle behind the fuel truck to ensure timely arrival to refueling stations (if two project vehicles/personnel aren’t available, at least 1 project vehicle should be assigned to the Fuel Truck on a daily basis).
 - a. Provide AZ and NM Maps to Transport Teams and Fuel Truck Driver
 - b. Provide FAIR Maps to Transport Teams and Fuel Truck Driver if necessary
10. Determine if wolf locations allow for darting operations (see below for details)
11. Designate Dart Making Teams for daily dart assembly and disassembly
12. Have a fully charged Satellite Phone with you at all times for reliable communication purposes (make sure the phone is charged each night if necessary and make sure before you hand it off the next IC that it is fully charged).
13. Have a fully charged hand-held radio with you
14. Make sure all components of your processing teams, helicopter crew, plane crew, and AIC have fully charged hand held radios everyday to ensure the best possible communication. If cell phones are utilized, then make sure the phone numbers are distributed appropriately.
15. Make sure your AIC is fully briefed on a daily basis about ongoing operations, and make sure they know what is required of them if they need to take over IC duties.
16. Have all emergency phone numbers available and know the order in which to use them if an emergency arises.
17. Have good working knowledge of the areas where the helicopter and plane are operating and be able to let Emergency Personnel know if they can get to an area via ground transport or if they need to come in via air transport.
18. Have reliable communication with the spotter plane and personnel in the plane in order to keep the aerial operation as well as the ground crews well informed.

19. A way to determine if the helicopter is over private land that we do not have permission to land on. (ie A laptop computer with the ability to plot out wolf locations and to determine if the wolves are in an area where darting can occur.
20. Knowledge of private landowners in the Helicopter Operation Area who have not granted us permission to land on their private lands. These areas should be marked on a map for quick reference using general UTMS or Lat Longs
21. A plan for wolf translocations, including translocation spots complete with directions and UTMs for Transport Crews.
 - a. Any wolves captured on SCAR lands
 - b. Other wolves located outside the MWEPA boundary and/or on private land (ie Paradise)

B. Helicopter Manager

The duties of the helicopter manager will be executed by John Oakleaf, USFWS.

a. Duties of Helicopter Manager:

1. Ensures compliance with all safety and handling protocols identified in this Capture Plan.
2. Discuss aircraft safety, drug safety, and operational protocols/safety with pilots and Incident Commander(s).
3. Assist in maintaining base of operations and ensuring safe landing zones.
4. Assist with operation radio-communication and flight following
5. Assist in emergency action procedures

C. Spotter Plane Observer

Spotter plane observers will be variable personnel from the IFT.

a. Duties of Spotter Plane Observer:

1. Maintain contact with Radio Room for Flight Following communication (if being used).
2. Maintain contact with IC, for focus direction and priorities.
3. Find all target wolves with telemetry
4. Make assessment of the area for open meadows, low canopy cover, and other factors affecting the potential for a helicopter capture attempt. Inform IC of wolves' locations and capture potential of wolves in the area. Notify IC if there is concern about location relative to wilderness or private property based on ocular view of the location.
5. If helicopter becomes involved, keep an eye on the subject wolf or other potential animals from a higher elevation rotation.
6. Videotape and photograph operation as time allows to document wolf numbers and other activities.
7. After the helicopter has wolf in hand, proceed to the next potential wolf or follow direction from the Incident Commander.
8. Do not leave the helicopter until the helicopter has lifted off of the ground and is in route to a base of operation.
9. Inform the IC of population counts on the wolves.
10. Assist in monitoring the time of active chase of the wolves.

D. Helicopter Darter/Net Gunner

Darters/Net Gunners require extensive experience to achieve desired goals. We have two of the most experience people in the southwest working with us. John Hervert (AGFD) has net-gunned, or darted

from a helicopter antelope, elk, bighorn sheep, and wolves for many years and has been the primary darter/net gunner for the project during 2006-2012. John Hervert is the only gunner that has the experience to safely utilize a net-gun on this project, and thus is the only gunner that is authorized to do so. Dr. Ole Alcumbrac (DVM) has been involved in the Mexican wolf project since the first wolves were put on the ground in 1998. Dr. Alcumbrac has darted elk, antelope, horses, jaguars, and wolves from a helicopter. Dr. Alcumbrac has been contracted by the state of New Mexico and the USFWS for previous operations. Dr. Alcumbrac is the primary gunner for New Mexico for this project and will only be using a dart gun. John Hervert and Dr. Alcumbrac will receive STEP refresher training and ACETA gunner training in January 2015. Jeff Dolphin (AGFD) is the primary gunner for Arizona operations during 2015. Mr. Dolphin has darted deer, sheep and wolves. Mr. Dolphin has been the primary gunner for AGFD from 2012 to 2015. In addition, we are training two people to serve as alternative darters on the project (Sterling Simpson (USDA-WS) and Justin Martens (USFWS)). As part of the STEP and ACETA training, Mr. Simpson and Martens will receive training darting elk prior to attempting darting a wolf.

a. Duties of Helicopter Darter/Net-gunner:

1. Safely handle the firearm ensuring that it is never loaded inside of the helicopter.
2. Only load the gun with charges on final approach to a wolf.
3. Assist with counting wolves prior to attempting darting of the animals.
4. To the degree possible, select appropriate priority wolves for capture.
5. Take safe shots. The priority is for a count of wolves, a secondary priority is for capture. Remember, that not capturing a wolf is never a bad scenario as long as the crew and animals are safe.
6. Assist mugger with transporting a wolf from a capture site back to the helicopter.
7. Discuss any safety concerns with pilot, IC's, and Helicopter Manager.
8. Discuss dart making with IFT responsible for making the darts in the morning.
9. Safely store darts/nets that are not currently in use.
10. Have enough warm weather clothing to camp out, if necessary, in case of an emergency.
11. Ensure that his/her Personnel Protective Equipment is worn and in good working order.
12. Ensure that helicopter harness system is properly fitted and in good working order.
13. Ensure that dart-gun/net-gun is in good working order.

E. Helicopter Mugger

All potential helicopter muggers received STEP and ACETA training in January 2012. Primary Muggers will be: Ed Davis (AGFD), Julia Smith (AGFD), and Brent Wolf (AGFD) during Arizona operations, and Janess Vartanian (USFWS), Allison Greenleaf (USFWS), and Justin Martens (USFWS) during New Mexico operations. Secondary muggers if time and operational priorities allow will be John Oakleaf (USFWS), Susan Dicks (USFWS), and Melissa Kreutzian (USFWS).

a. Duties of Helicopter Mugger:

1. Count all wolves in the monitored pack
2. Monitor radio-telemetry signals in the helicopter and communicate locations to gunner and pilot.
3. Keep track of the length of a chase where wolf is moving faster than a trot. Chase 8 minutes, rest 5 minutes, chase 8 minutes, end attempt.
4. Record the times for each dart that hit the wolf and administered drug.
5. Record the total number of darts used, number that hit wolf and number missed.
6. Put together and maintain a processing kit for use from the helicopter without any assistance from the ground crews (must include at least extra drugs, thermometers, muzzles, hobbles, y-stick, noose pole, vet wrap, water, heat pads, trauma pads,

- pressure bandages, SAM splint, radio-collar, processing forms, pencils, watch, stop watch).
7. Have enough warm weather clothing to camp out, if necessary, in case of an emergency.
 8. Ensure that his/her Personnel Protective Equipment is worn and in good working order.

F. Contractor Responsibilities

- a. Adhere to ACETA contract requirements, operation guidelines in this plan, and OAS regulations when federal employees are onboard.
- b. Ensure proper PPE is worn by pilot and crew
- c. Adhere to project capture plan.

G. Lead Processor

The lead processor is responsible for handling of animals at bases of operation. The lead processor is designated to lead the crew by the IC. Each lead processor has extensive experience handling wolves and has received appropriate training by the wolf veterinarian within the previous year. Lead processors and the ground crew will follow SOP 21 (Appendix D) for applicable wolf handling processes.

a. Duties of Lead Processor

1. Put together sufficient processing supplies for 4 wolves per day.
2. Put together all supplies listed below for wolf processing crew.
3. Supervise or delegate processing of all wolves.
4. Collect all completed data forms and enter the forms into the database.

G. Ground Crew Roles and Responsibilities

a. Assistant Incident Commander

1. Meet with the Incident Commander early in the day during a lull to discuss duties.
2. Be available to carry out tasks for the Incident Commander.
3. Be Flexible.

b. Fuel Truck Transport Crew:

1. Have the following equipment: (1) Apache-Sitgreaves Forest Map, (2) Gila National Forest Map, (3) GPS, (4) Extra Batteries for the GPS, (5) Radios (hand-held and truck) that are tested for AGFD F1 and F2 frequencies and a working knowledge of the radios, (6) Flagging to help set up a wind sock for helicopter landing zone.
2. Responsible to: (1) communicate with the fuel truck driver, (2) give the fuel truck driver directions to the appropriate base of operation, (3) lead the fuel truck driver to the appropriate base of operation as directed by the IC, (4) Notify IC of any schedule changes during travel, (5) Be prepared to notify the IC about setting up a refueling area for Helicopter while traveling to the staging area, (6) Assist the fuel truck driver in setting up a landing zone, (7) do not loose communication with the IC or drive away from the fuel truck.

c. Wolf Processing Crew:

1. Have the following equipment: (1) Capture and Handling Ground Processing Kit, (2) Y-Pole, Noose Pole, Jab Stick, (3) Watch, (4) Receiver, (5) Radio Collars, (6) Foam (for padding pup collars, if necessary), (7) Electrical tape, (8) White duct tape, (9)

Extra batteries, (10) Crate, (11) Sleeping bag, (12) Extra Fluids, (13) Extra First Aid equipment for dart wounds.

2. Responsible to: (1) Follow the instructions of the Lead Processor, (2) Review and have a working knowledge of the Capture Form (Appendix D), (3) Be as quiet as possible while handling and processing a wolf, (4) Wear a watch to record appropriate data during the processing, (5) While the wolf is recovering from the drug, move to an area away from the crate and keep the noise level down. This will help reduce the stress on the wolf as it comes out of the drug, (6) If you don't know how to do something, or feel uncomfortable with any requests that are being made of you, discuss this with the processing lead immediately, (7) Always remember HUMAN SAFETY AND WOLF SAFETY ARE OUR TOP PRIORITIES.

d. Wolf Mobile Field Crew:

1. Have the following equipment: (1) Capture and Handling Ground Processing Kit, (2) Y-Pole, Noose Pole, Jab Stick, (3) Watch, (4) Receiver, (5) Radio Collars, (6) Foam (for padding pup collars, if necessary), (7) Electrical tape, (8) White duct tape, (9) Extra batteries, (10) Crate, (11) Sleeping bag, (12) Extra Fluids, (13) Extra First Aid equipment for dart wounds.
2. Responsible to: (1) Follow the instructions of the Helicopter Crew if wolf is being transferred to you, or you have been provided the coordinates to walk in on a capture. (2) Review and have a working knowledge of the Capture Form (Appendix D), (3) Be as quiet as possible while handling and processing a wolf, (4) Wear a watch to record appropriate data during the processing, (5) While the wolf is recovering from the drug, move to an area away from the crate and keep the noise level down. This will help reduce the stress on the wolf as it comes out of the drug, (6) Observe the animals recovery for up to 4 hours or until the animal walks away, (7) Always remember HUMAN SAFETY AND WOLF SAFETY ARE OUR TOP PRIORITIES.

d. Wolf Release Crew:

1. Have the following equipment: (1) Apache-Sitgreaves Forest Map, (2) Gila National Forest Map, (3) GPS, (4) Extra Batteries for the GPS, (5) Radios (hand-held and truck) that are tested for AGFD F1 and F2 frequencies and a working knowledge of the radios, (6) Capture kit, (7) Y-Pole, (8) Emergency treatment drugs, (9) Watch to record release time.
2. Responsible to: (1) Be in communication with the IC via radio, (2) Have directions to your destination and understand how to get there, (3) Feel comfortable retraining the wolf to check temperature prior to release and feel comfortable stabilizing temperature prior to release if necessary, (4) Record release time and any processing procedures that were performed on the wolf prior to release on Capture Form, and (5) Clean crate after each use with a bleach and water solution

Appendix C: SOP 20: Requirements for Pharmaceutical Storage, Access and Record Keeping.
Mexican Wolf Blue Range Reintroduction Project
Adaptive Management Oversight Committee
Standard Operating Procedure

Title: Requirements for Pharmaceutical Storage, Access, and Record Keeping

Number: 20.0

File Name: MW SOP 20.Requirements for Pharmaceuticals.Final.20050430.doc

Purpose: This SOP establishes the requirements for storage, access, and use of pharmaceuticals provided or permitted by USFWS. Use of any pharmaceuticals provided by, or used pursuant to permits issued or held by, other cooperating agencies are subject to the provisions and constraints established by the appropriate cooperating agency. This SOP supersedes relevant sections of the 1998 Mexican Wolf Interagency Management Plan (USFWS 1998), and therefore represents, in part, the “Service Approved Management Plan” referenced in the Mexican Wolf Final Rule (50 CFR 17.84(k)).

Exceptions: Because of the legal requirements required under state and federal law for tracking pharmaceutical use, there are no exceptions to this SOP. Any deviation will require prior revision of this SOP, in accordance with SOP 2.0.

Background: Pharmaceuticals are often used for health maintenance, care, and handling (e.g. vaccines, antibiotics, anesthetics) of Mexican wolves. Some of these pharmaceuticals are federally classified as controlled substances, the use of which is regulated by the Drug Enforcement Administration (DEA) and state agencies to prevent diversion for illicit purposes. Proper storage of pharmaceuticals and documentation of use ensures that state and federal regulations are being met. This SOP does not supersede any state or federal policies or laws, but provides guidelines and defines appropriate actions that will allow the USFWS Mexican Wolf Recovery Program to comply with provisions of the Animal Medicinal Drug Use Clarification Act, and provide appropriate pharmaceuticals to the Reintroduction Project.

Pharmaceuticals controlled by the DEA may only be purchased and dispensed by persons currently licensed by the DEA. Dr. David Hunter, veterinarian for the Turner Endangered Species Fund (TESF; one of several formal cooperators with the USFWS Mexican Wolf Recovery Program.), is licensed by the DEA and has agreed to provide various pharmaceuticals to the Mexican Wolf Recovery Program, provided he has the necessary oversight to meet his ethical and legal responsibilities. Dr. Hunter has approved this SOP (see Approvals, below), and strict compliance by all IFT members or other individuals assisting the IFT is mandatory.

Procedures:

1. Use of pharmaceuticals provided by USFWS for the Mexican Wolf Recovery Program (including the Reintroduction Project) is subject to the direction of licensed veterinarian Dr. David Hunter, through his formal relationship with USFWS. While IFT personnel may be licensed for use of pharmaceuticals through their employer, and/or for uses in other situations, all use of pharmaceuticals provided by USFWS through Dr. Hunter is considered a federal action under the direction of Dr. David Hunter.
2. The standards listed below (Procedure 3 et seq.) are minimum criteria for all IFT members. Project personnel may also have more stringent agency-specific requirements regarding use of pharmaceuticals that require additional measures to be taken. This SOP in no way exempts or supersedes any agency-specific standards for use, handling, and storage of pharmaceuticals by that agency’s employees.

3. Controlled substance storage.
 - a. Security
 - i. All controlled substances will be stored in securely locked cabinets, safes, or refrigerators. Biologists using controlled substances in the field are not required to meet this storage requirement, but are required to ensure that all drugs are protected and secured by the best means available to prevent damage, accidental human exposure, or theft.
 - ii. All controlled substances will be maintained in possession of authorized biologists after removal from storage.
 - iii. Controlled substances will not be left in unattended vehicles.
 - b. Types of storage.
 - i. Inventory storage: Consists of all pharmaceuticals that are being stored until transferred to the ready supply.
 - ii. Ready supply: Consists of pharmaceuticals currently available for use or those supplies that can reasonably be expected to be needed in the immediate future.
 - c. Location of Inventory and Ready supply of pharmaceuticals.
 - i. Regional Office: Albuquerque, NM.
 - ii. Field Office: Alpine, AZ
4. Personnel
 - a. Training:
 - i. All personnel using pharmaceuticals are required to complete initial and yearly training regarding proper pharmaceutical handling, storage, and record keeping requirements. This training must be approved by the signing veterinarian (Dr. Hunter).
 - ii. All personnel will complete training as specified in SOP 3.0: Immobilizing and Processing a Mexican Wolf, regarding proper administration of pharmaceuticals.
 - iii. Under no circumstances will untrained or volunteer personnel be allowed to handle, administer, or possess controlled substances.
 - b. Authorized personnel by location: Only authorized personnel will have access to pharmaceuticals (Appendix A).
 - i. Regional Office:
 - (1) Inventory supply.
 - (a) Mexican Wolf Recovery Coordinator.
 - (b) Assistant Mexican Wolf Recovery Coordinator.
 - (c) David Hunter, D.V.M. or other licensed D.V.M. approved by Dr. Hunter.
 - (2) Ready supply.
 - (a) Mexican Wolf Recovery Coordinator.
 - (b) Assistant Mexican Wolf Recovery Coordinator.
 - (c) David Hunter, D.V.M. or other licensed D.V.M. approved by Dr. Hunter.
 - (d) Permanent field staff meeting the requirements of this SOP and approved by the Mexican Wolf Recovery Coordinator.
 - ii. Field Office:
 - (1) Inventory supply.
 - (a) Mexican Wolf Recovery Coordinator.
 - (b) Mexican Wolf Field Projects Coordinator.
 - (c) Assistant Mexican Wolf Recovery Coordinator.
 - (d) Assistant Mexican Wolf Field Projects Coordinator.
 - (e) David Hunter, D.V.M. or other licensed D.V.M. approved by Dr. Hunter.
 - (2) Ready supply.
 - (a) Mexican Wolf Recovery Coordinator.
 - (b) Mexican Wolf Field Projects Coordinator.

- (c) Assistant Mexican Wolf Field Projects Coordinator.
 - (d) David Hunter, D.V.M. or other licensed D.V.M. approved by Dr. Hunter.
 - (e) Permanent field staff meeting the requirements of this SOP and approved by the Mexican Wolf Recovery Coordinator.
5. Records.
- a. Requirements.
 - i. Records must be readily retrievable.
 - ii. Records must be accurate and reflect current inventory.
 - iii. All records shall be made available for inspection by duly authorized officials of the Drug Enforcement Administration (DEA).
 - b. Types of records.
 - i. Inventory (Appendix B).
 - (1) Inventory must be:
 - (a) Conducted every 2 years, by personnel authorized to access the inventoried supply of controlled substances, and must include:
 - (i) Name, address, and DEA registration number.
 - (ii) Date and time of inventory.
 - (b) Signed by person(s) taking inventory.
 - (c) Be maintained at the location appearing on the registration certificate for at least 2 years.
 - (2) Separate records for Schedule II drugs. It is not anticipated that the Mexican Wolf Recovery Program will use any Schedule II drugs, therefore no inventory form is included in this SOP. Use of these drugs will require a revision of this SOP.
 - c. Pharmaceutical Tracking Form (Appendix C).
 - i. This form is to be started upon receipt of pharmaceuticals by personnel authorized to access the inventoried supply of pharmaceuticals, and completed as pharmaceuticals are used. This form will include the following information:
 - (1) Pharmaceutical name, manufacturer, lot number, concentration and expiration date.
 - (2) Date received, amount received, initials of authorized person completing form and the location of storage.
 - (3) Date used, amount used, amount remaining, purpose and initials of person using or transferring pharmaceutical.
 - (4) Each vial of controlled substance will receive a unique nine-digit identification number upon receipt that will consist of the date received, first initial of the drug and vial number. For example, two vials of Telazol received on 7/15/02 would be labeled 071502T01 and 071502T02 respectively.
 - (5) The person transferring the controlled substance to ready supply will record the transfer on the Pharmaceutical Tracking Form and issue a Drug Tracking Record for Field Use (see Procedure 5e, below).
 - (6) Completed Drug Tracking Records for Field Use and empty vials of controlled substances are to be returned to the person authorized to access the inventoried supply of controlled substances who will then complete the Pharmaceutical Tracking Form.
 - (7) All completed forms are to be stored with the inventory supply of pharmaceuticals.
 - d. Drug tracking record for field use (Appendix D).
 - i. This form is to be completed by the authorized personnel using the controlled substance in the field. This form will include the following information:
 - (1) Controlled substance name, concentration, and expiration date.
 - (2) The date the form was issued and the date the vial was opened.
 - (3) Vial number.
 - (4) Date, amount used, amount remaining, wolf ID number, purpose and location of use.
 - (5) Initials of person using the controlled substance.

Appendix A for SOP 20.

Signature Page for Inventory Supply Access

By signing below, the undersigned acknowledge the receipt of a key(s) to the Inventory Supply safe referenced in SOP 20.0 at the location(s) specified, and agree that the key(s) will only be in their own possession or loaned only to those individuals on this list, if necessary. Upon termination of employment with the Mexican Wolf Project, the undersigned agrees to return the key(s) to the Mexican Wolf Recovery Coordinator.

_____ Date X RO key X Alpine key
Mexican Wolf Recovery Coordinator

_____ Date X RO key X Alpine key
Asst. Mexican Wolf Recovery Coordinator

_____ Date RO key X Alpine key
Mexican Wolf Field Coordinator

_____ Date RO key X Alpine key
Asst. Mexican Wolf Field Coordinator

_____ Date X RO key X Alpine key
David Hunter, D.V.M., TEF

Appendix B for SOP 20.

CONTROLLED SUBSTANCE INVENTORY

SCHEDULE III - V

DRUG	CONCENTRATION	AMOUNT

Name: _____

Address: _____

DEA registration number: _____

Date: _____

Time of Inventory: _____

Person(s) Taking Inventory:

Signature(s): _____

Appendix D. SOP 21: Handling, Immobilizing, and Processing Live Mexican Wolves

Blue Range Mexican Wolf Reintroduction Project Adaptive Management Oversight Committee Standard Operating Procedure

Title: Handling, Immobilizing, and Processing Live Mexican Wolves

Number: 21.0

File Name: MW SOP 21.Handling and Immobilization.Final.20050430.doc

Purpose: This SOP describes the standard procedure by which approved personnel are allowed to handle, immobilize, and process a Mexican wolf using USFWS pharmaceuticals and operating under USFWS permit. Adherence to this procedure will: (1) help ensure safety of both the wolf and handling personnel; (2) provide for safe recovery of the wolf; (3) ensure that released wolves can be monitored and/or identified after release into the wild or within the captive population; (4) provide a standard procedure for immobilizing, processing, and collecting data on Mexican wolves; and (5) ensure data entry into the Mexican wolf program database, thereby facilitating access for Mexican wolf recovery. This SOP supersedes relevant sections of the 1998 Mexican Wolf Interagency Management Plan (USFWS 1998), and therefore represents, in part, the “Service Approved Management Plan” referenced in the Mexican Wolf Final Rule (50 CFR 17.84(k)).

Exceptions: None. Per SOP 2.0, AMOC must approve any exceptions to this SOP.

Background: Mexican wolves are routinely captured and handled for a variety of reasons. Handling is essential to success of the Mexican wolf reintroduction project. Mexican wolves are trapped, darted, or netted in the wild to resolve depredation problems, other management issues, affix radio-collars, or to collect data to ensure accurate monitoring of the free-ranging wolf population. Wolves are also captured in captive facilities (in pens) to prepare them for release, perform health checks, collect data, or move them to a different location. Ensuring the safety of wolves during immobilization and associated processing, and ensuring the safety of individuals involved in capture and handling, are essential elements of Mexican wolf recovery.

Procedures:

Note: Your personal safety is the most important consideration, followed by the wolf’s safety. Do not compromise the safety or health of a wolf to collect data. Before capturing or handling a wolf: 1) Make sure you have all necessary equipment, 2) All necessary equipment is in good working order, and 3) You are knowledgeable about use of the equipment, and handling and capture procedures. If at any time you are concerned about the wolf’s health, or unsure of what to do in a particular situation, kennel the wolf and get help from a senior crew member or veterinarian.

This SOP also applies to coyotes, wolf-dogs (i.e. not of Mexican wolf origin), and potential Mexican wolf hybrids (i.e. hybrid of Mexican wolf and another canid) that are taken while attempting to capture Mexican wolves. However, vaccines may not be administered to, and radio-collars may not be affixed to, wolf-dogs or potential Mexican wolf hybrids.

Captured wolf-dogs should be taken to a local animal shelter. Potential Mexican wolf hybrids must be held in captivity at the Sevilleta or Ladder Ranch captive wolf facilities for genetic testing.

If non-target wildlife are captured, assess their condition and released them on site. It may be necessary to use immobilizing drugs on some non-target animals (i.e. bear or mountain lion).

When a wolf is captured or handled, the following steps should be followed in the order given:

Note: No one shall use USFWS-issued immobilizing drugs or handle Mexican wolves under the USFWS permit for drug use until they have attended an approved USFWS wolf immobilizing course and have signed the USFWS Mexican Wolf Recovery Protocol for Drug Tracking and Handling, indicating they understand the Procedure. IFT members must also adhere to their own agency's policies on use of immobilizing drugs.

1. During processing, record any drug or medicine administrations, data collected, and other pertinent information on a processing sheet (Appendix A). However, do not risk the health or safety of a wolf by taking time to write something down.
2. Subdue the wolf as quickly as possible to decrease the likelihood of escape, injury, hypothermia, or other stress related conditions.
 - a. A Y-pole or pin stick can be used to restrain the wolf by placing the “Y” of the pole to the neck of the wolf and pinning it to the ground without the potential problems associated with a catchpole. A Y-pole is very effective to restrain a wolf that is in a trap, cornered in a pen, or after the wolf has been netted.
 - i. Caution should be used because the animal may slip out if not held correctly.
 - b. Snare or catchpoles are effective in subduing a wolf that has restricted movement and they also provide a fair amount of safety to the handler. They can be dangerous to the wolf when used improperly for the following reasons:
 - i. If the cable on a catchpole is worn or not maintained it may not release properly after being tightened around the neck of the animal. Be sure to test the catch pole each time before using. Keep a good pair of wire cutters on hand in case it doesn't release properly.
 - ii. Once tightened around the neck of an animal there is the potential to restrict its breathing. If there is any reason to suspect this, including a panicked, open-mouth response, pawing at its mouth, gasping and lack of breathing, pale or bluish gums and tongue, or unconsciousness, immediately relax the cable.
 - iii. Damage to the neck muscles and/or vertebrae may occur if the animal is thrashing or if the pole is used to drag the animal or subdue it when it has a wide or extensive range of movement. If this is the case, use another method described below to subdue it.
 - c. Large salmon nets are effective in subduing a wolf that has a wide range of movement, or when there exists a higher possibility of escape before it can be subdued and immobilized. Nets should be used in combination. A Y-pole should be used when using nets. A netted wolf often maintains control and movement of its head and mouth, so care should be taken when removing it from the net when only physical restraint is being used to immobilize the animal.
 - d. Only in cases where the wolf cannot be subdued physically should darting be considered. Refer to SOP 22.0.
3. Once a wolf is restrained, assess the condition of the animal (i.e., temperature). After the stress of the initial capture event you may want to place the animal in a kennel to allow it cool and settle down before anesthetizing the wolf. This allows the wolf to calm down and allows the handler to properly prepare for the processing event.
4. Chemical immobilization is the preferred method when doing a complete processing of a wolf. However, a judgment call may be made whether to use physical or chemical immobilization under certain circumstances.
 - a. Chemical immobilization should not be used, or used with extreme care, in the following situations:

- i. Avoid using any drugs to immobilize pregnant or lactating females.
 - ii. Avoid using chemical immobilization on wolves that are completely or partially paralyzed, or that you suspect for any reason to be sick. Sedation will make it more difficult for a veterinarian to diagnose any problems.
 - iii. Avoid using any drugs on wolves that you suspect to be hypothermic (body temp. <96°F), especially if in shock (see Step 5). Administering chemical immobilization drugs can lead to hypothermia, so would compound the problem (see Step 5 on dealing with hypothermia).
5. Physical restraint can effectively be used by applying a muzzle and restraining all four legs with hobbles or rope. Do not leave a wolf in a trap, or with a catch pole attached, and never leave a wolf unattended. An apparently subdued wolf could suddenly break free and run off, with a muzzle or catch-pole, and sustain injury.
- a. Make sure the wolf can breathe easily. Continue to monitor the animal's respiration during entire handling event. If respiration or cardiac rate slow dramatically or stop refer to Step 5c.
 - b. Check for shock. Though rare, shock is potentially life threatening to a wolf.
 - c. Signs of shock:
 - i. Rapid Heart Rate
 - ii. Hyperventilation, Respiratory rate is typically rapid (panting)
 - iii. Low Blood Pressure, Capillary refill time more than 2 seconds. Check this by pressing on gums or tongue and noting the time it takes to refill with blood, turning pinkish.
 - iv. Mucous membranes are typically pale, cold, and dry.
 - v. Cool extremities.
 - d. Treatment for shock:
 - i. Administer 500-1000 ml lactated ringers intravenously (IV), and run fluids full open. If you cannot hit a vein, administer subcutaneous (SQ), under the skin. Avoid over hydration (could lead to fluid in lungs) - check gums or tongue for capillary refill time and moisture and listen to lungs if possible (fluid in lungs may produce crackles).
 - ii. Administer Dexamethasone sodium phosphate IV (can be administered through IV line already established) 5mg/kg. Apply slowly (approximately 30 seconds [Kreeger 1996]).
 - iii. Ensure a clear airway.
 - iv. Any wolf recovering from shock should be contained, minimally, overnight. Consult a veterinarian.
 - e. Obtain a body temperature. If it is within normal range (100°F-103°F) recheck in five minutes to determine if it has decreased or increased to hyper- or hypothermia. Watch for a trend in body temperature and continue monitoring throughout the handling process.
 - i. If hyperthermic (>103°F) or you notice a rapid increase in body temperature leading to hyperthermia, cool the wolf in one or more of the following ways: (Kreeger 1996).
 - (1) Cease all further administration of immobilizing drugs
 - (2) Cool the animal using the following methods:
 - (a) Pouring water or an alcohol-water mixture over the animal is a quick way to reduce body temperature. Avoid submersing an animal in water, because it makes it difficult to restrain the animal.
 - (b) Apply water to ventral surface, particularly under legs and in the groin.
 - (c) Apply alcohol to footpads and inside surface of ear.
 - (d) Place the animal in the shade
 - (e) Use of icepacks should also be used to reduce body temperature

- (f) Administer lactated ringers solution intravenously. This will rapidly cool temperature and is helpful in shock prevention and/or management.
- (3) Administer appropriate antagonist IV.
- ii. If a wolf becomes hypothermic (< 99°F) or you notice a rapid decrease in body temperature leading to hypothermia, warm the wolf using one or more of the following methods; use heat packs under the legs against the body and/or wrap with a blanket or something similar. You can also hold the wolf inside a truck with the heater running if handling permits. Finishing the handling event as soon as possible and releasing the wolf will allow it to produce more heat and recover. Be sure to check for shock. It is better to stabilize the wolf's body temperature first and prevent further cooling (provide blanket, but not heat packs).
 - (1) Apply heat packs under the legs against the body to heat the core body area where it will affect the animal's temperature most.
 - (2) Wrap the wolf in a blanket, a sleeping bag, or something similar to conserve body heat.
- 6. Chemical immobilization is a very effective means of restraining a wolf for extended periods of time and allows for a greater degree of safety for the handler, and a lower level of stress for the wolf during processing. **DO NOT LEAVE A SEDATED WOLF UNATTENDED AT ANY TIME!** It is also very important when using chemical immobilization that you understand what the particular drugs are used for, how they work, and the proper dosages (see Appendix B). Have the necessary drugs on hand for reversing the effects of chemical immobilization and handling emergencies. Ensure that the drugs are not expired. *See procedure on using drugs or vaccinations on pregnant or lactating females and pups* (Appendix C). *Assume that all wild adult (and yearling) females captured after February 1 and before June 1 to be pregnant or lactating.*

Note: Obtaining a body weight before sedating will facilitate administering more accurate dosages. It is not necessary and should not be done at the risk of injury to the handler or the wolf, or in cases where it would take an extended length of time to obtain. Estimate the body weight to determine dose if a precise weight cannot be obtained.

- a. Administer initial dose intramuscular (IM) to immobilize the wolf.
 - i. The preferred chemical immobilization method for a Mexican wolf is a mixture of Medetomidine (Med) and Butorphanol (But). For field captures where the wolf is processed and released on site, both of these drugs should be reversed using Atipamezole (Ati) and Naloxone (Nal), respectively. When wolves will be transported after capture, it may be desirable to reverse only the Medetomidine using Atipamezole. Leaving Butorphanol "on board" serves to mildly sedate the animal and provide some analgesic effect, to calm the animal during transport. After administering Med/But draw up the reversal (Ati/Nal), in a labeled syringe while waiting for the wolf to become sedated. That will ensure it is accessible quickly during an emergency. If after 15 minutes the wolf does not become sedated, inject 50 percent of the original Med/But dose. Doses of these drugs (volume) injected intramuscularly are displayed in Appendix B.
 - ii. Unless necessary, avoid using Ketamine/Xylazine if you do not have enough Yohimbine on hand for reversal. If using Ketamine/Xylazine draw up the reversal, (Yohimbine), into a labeled syringe while waiting for the wolf to become immobilized. That way it will be accessible quickly during an emergency.
 - iii. If Ketamine/Xylazine is used and wolf is not immobilized within ten minutes, or it recovers from sedation before you are finished processing it, administer additional Ketamine only. Administer 50 mg IV or 100 mg IM. Record the time and repeat

- after 10 minutes if necessary. It is preferable to repeat administering Ketamine only once. Do not administer additional Xylazine or Ketamine/Xylazine in combination.
- iv. If Telazol is used and wolf is not immobilized within 15 minutes, administer additional Telazol IM at 50 percent of the original dose, or Ketamine IM at 25 percent of original dose.
 - b. Continuously monitor the airway during handling event and ensure that the airway is kept clear.

Note: When assessing vital signs, including respiratory and heart rates, body temperature, and capillary refill time monitor trends over time, not just the initial assessment. Vital signs should be monitored every 5-10 minutes during the processing event.

- c. Determine if the wolf is in respiratory arrest or distress. The normal rate is 10-30 breaths/minute. If distressed perform the following until breathing is restored and/or back to a normal rate:
 - i. Administer appropriate antagonist.
 - ii. Administer Dopram IV.
 - iii. Lay wolf on side and compress the chest. If the handler is proficient in using an intubation tube and ambu bag this technique can be used to provide artificial respirations.
 - d. Determine if the wolf is in cardiac depression, or has a decreased heart rate. Normal is 60-120 beats/min. If so, perform the following until heart rate is stable:
 - i. Administer appropriate antagonist.
 - ii. Administer Atropine IV or IM.
 - e. Check for shock. (see Step 4.c. above)
 - f. Check body temperature and treat hyper- or hypothermia (see Steps 4.b.i and ii).
 - g. Apply Paralube or similar eye lubricant to both eyes. A muzzle with a head cover should be left on the wolf for the entire processing to cover the eye to keep debris out of open eyes; it will also keep the animal calmer as it recovers from sedation.
 - h. When you are finished processing and handling the wolf, if using Med/But administer Ati/Nal IM at least 15 minutes after last administration of Med/But, even if you are not releasing it. If the animal will be transported, you may reverse only the Medetomidine (See step 5.a.i). If you are releasing the wolf, whether in a pen or the wild, wait until you are confident it is alert and coordinated.
7. Check the wolf thoroughly for any leg fractures or dislocations, or any other medical condition requiring veterinary care. If veterinary attention is required, kennel the wolf immediately and transport it for treatment. Note the general condition, including coat, body fat, tooth wear, etc.
 8. Obtain a body weight.
 9. Identify the wolf's studbook number, if it is not yet known, by checking for a transponder chip or radio collar. Identifying the individual wolf will help determine if vaccinations should be administered, or if the collar needs to be replaced.
 10. Look inside the mouth for any lodged sticks or other debris. If there is anything lodged or stuck, it will need to be removed on-site or by a veterinarian. Look all the way to the epiglottis to ensure a clear airway.
 11. Draw blood into two purple tops and two red tops.
 - a. Label the tubes with the sex of the animal, wolf number (if known), and date.
 - b. Store the tubes in a cooler. See SOP 23.0 on handling blood samples.

12. Administer vaccinations IM:
 - a. Administer rabies vaccination if more than 90 days have elapsed since last administration. Why are we doing this when rabies vaccines are either for 1 or 3 years?
 - b. If less than four 5-way vaccinations have been administered to date, repeat only if more than 13 days have elapsed since the last administration. Otherwise administer only if more than 90 days have elapsed.
13. Administer Ivermectin SQ only if greater than 30 days have elapsed since the last administration.
14. If you have not attempted to read a transponder chip yet, do so at this time. If one cannot be read, then inject a transponder chip between the shoulder blades. Read the transponder ship prior to injecting and record the number. Once the chip is inserted and positioned correctly, then test it with the reader. Be sure to double-check the number on the processing sheet.
15. Place a radio collar on the wolf at this time if applicable.
 - a. Test the collar to be sure it is working. This will also ensure that the magnet is removed.
 - b. Be sure to record the frequency and serial number of the collar on the capture and handling form (Appendix A).
 - c. If the wolf weighs more than 45 pounds place a model 500 collar on it. If it is weighs between 25 and 45 pounds place a model 400 collar on it.
 - i. When collaring pups, fit the collar at the recommended size for an adult (17 inches for females and 18 inches for males). Line the collar with foam and use a moderate amount of electrical tape. Error on the side of caution when fitting pups with collars. We would rather lose the collar than injure an animal.
 - ii. Make sure the collar is secure enough that it cannot be pulled over the wolf's head, but loose enough not to restrict breathing. With younger animals a judgment call will need to be made to allow for growth and a winter coat.
 - iii. Tighten the collar nuts securely without over tightening and breaking the bolts.
 - iv. Cut off the extra belt but do not cut through the antenna.

Note: When capturing radio-collared wolves in the wild, record the fit and condition of the old collar while processing the wolf before fitting it with a new collar.

16. Obtain body measurements and record them on the processing sheet (Appendix A).
17. Check the entire body for ectoparasites. Spend one minute on the body and one minute on the head. Collect specimens and record the type and number found on the processing sheet.
18. Collect a fecal sample in a plastic bag for checking endoparasites. Label the bag with wolf number (if known) and date.
19. Take pictures as indicated on processing sheet (Appendix A).
20. Before releasing a wolf, check the processing sheet for anything that may have been missed.
21. Administer the appropriate antagonist and observe the animal from a safe distance until the drug has worn off and the wolf moves away from the area.
 - a. When releasing a wolf back into a pen, hold the animal in a kennel or quarantine area away from other wolves until it has fully recovered.
22. Fill out the processing sheet (Appendix A) as soon as possible. Preferably, the handler should fill in the form during the processing of the wolf.

- a. Within 24 hours (ideally the same day), make a copy of the processing sheet and place in the folder in the file cabinet in the Alpine Field Office. Send the original to the Assistant Mexican Wolf Recovery Coordinator in Albuquerque for data entry.

Approval:

The Mexican Wolf Blue Range Reintroduction Project Adaptive Management Oversight Committee approved this SOP on November 23, 2004.

References:

Kreeger, T.J. 1996. Handbook of Wildlife Chemical Immobilization. International Wildlife Veterinary Services.

Appendix A of SOP 21.0

MEXICAN WOLF CAPTURE AND HANDLING DATA FORM FORM B

DATE (M/D/Y) ___/___/___ TIME (Military) _____ RECENT RECAPTURE Y N
 SPECIES _____ STUDBOOK # _____ SEX M F ADULT SUB PUP
 LOCATION (GPS) _____ (Desc.) _____
 PURPOSE _____
 METHOD _____ Foothold trap: Front Rear Left Right (note foot damage below)

PERSONNEL _____

<u>TIME</u>	<u>TEMP</u>	<u>PULSE</u>	<u>RESP</u>	<u>DRUG</u>	<u>DOSE</u>	<u>COMMENTS</u> (signs, procedure, vial 's)
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

SAMPLES: Fecal Ectoparasites Vaginal swab Urine Skin scraping Ear swab Hair
 Other _____ **Blood** Red tops (# of tubes) _____ Purple tops _____
 TREATMENTS: **Fluids** Y N _____ ml IV SQ
Vaccines: DHPPC (1ml, IM) Y N Rabies (1ml, IM) Y N Ivermectin (0.1ml/10lbs, SQ) Y N

Vaccine serial # exp. Date	vaccine serial # exp. Date	vaccine serial # exp. date
-------------------------------	-------------------------------	-------------------------------

MARKINGS: **PIT tag** inserted Y N Verified Signal Y N Location _____ PIT # _____
Radio Collared Y N Verified Signal Y N Frequency _____ Serial # _____
 Model _____ Mortality delay _____ hrs. Circumference _____ in. Color _____
 Collar fit, neck condition: _____

EXAMINED MOUTH: Y N Photo Y N Dentition (staining/wear) _____
 Canine measurements UL _____ mm UR _____ mm LL _____ mm LR _____ mm
 Upper spread _____ mm Lower spread _____ mm

BODY MEASUREMENTS: Est./Act. Weight _____ lbs Body Condition (poor to excellent) 1 2 3 4 5
 Body length _____ cm Tail length _____ cm Shoulder height _____ cm Ear length _____ cm
 Testicles (adults) Length _____ mm Width _____ mm Vulva (adults) L _____ mm W _____ mm turgid
 Inguinal teats L _____ mm W _____ mm color _____ flaccid

FOOT MEASUREMENTS: Front pad length L R _____ cm Front pad width L R _____ cm
 Rear pad length L R _____ cm Rear pad width L R _____ cm Total rear foot length L R _____ cm

PHOTOS: Y N , head frontal / full body lateral

DISPENSATION OF ANIMAL: released on site relocated other _____
 Relocation date ___/___/___ time _____ location (GPS, desc.) _____

COMMENTS:

Appendix B of SOP 21.

Drug Dose using Medetomidine/Butorphanol combination (for animals under 40 lbs, consult with a veterinarian):

Wolf Weight (lbs)	Anesthesia (ml or cc; and given IM)		Reversal (ml or cc; and given IM)	
	Medetomidine	Butorphanol	Atipamezole	Naloxone
40	0.7	0.7	0.7	0.7
45	0.8	0.8	0.8	0.8
50	0.9	0.9	0.9	0.9
55	1.0	1.0	1.0	1.0
60	1.1	1.1	1.1	1.1
65	1.2	1.2	1.2	1.2
70	1.3	1.3	1.3	1.3
75	1.4	1.4	1.4	1.4
80	1.5	1.5	1.5	1.5

Alternative Drugs for Mexican wolves:

Ketamine/Xylazine 5:1 Mix: 100 mg/ml Ket.+ 20 mg/ml Xyl.

Administer 10 mg:2 mg/kg body weight

Antagonist: Yohimbine Administer .15mg/kg body weight

Drug Dose using Ketamine/Xylazine combination:

Wolf Weight (lbs)	Anesthesia	Antagonist
	Ket/Xyl (ml or cc and given IM)	Yohimbine (ml or cc and given IM)
40	1.8	1.4
45	2	1.5
50	2.3	1.7
55	2.5	1.9
60	2.7	2.0
65	3.0	2.2
70	3.2	2.4
75	3.4	2.6
80	3.6	2.7

Yohimbine: (.15 mg/kg) IV if needed to reverse quickly in an emergency

If additional Ketamine is needed administer 100-150 mg after initial dose (1-1½ ml)

Administer Yohimbine 40 minutes after last administration of Ketamine

Telazol: 10 mg/kg body weight - dosage depends on concentration

Suggested for darting: 100 mg/ml = 3 ml in a 3 cc dart

Drugs used for emergency treatment (ml or cc and given IV):

Body Weight (lbs)	Dexamethasone (shock)5mg/kg	**Atropine (bradycardia)	Dopram (resp. arrest) 2mg/kg	*Epinephrine (cardiac arrest)	Diazepam (seizures) 10mg/animal
40	30	2	1.8	1-2	2
45	34	2.25	2.0	1-2	2
50	38	2.5	2.3	1-2	2
55	42	2.75	2.5	1-2	2
60	45	3	2.7	1-2	2
65	49	3.25	3.0	1-2	2
70	53	3.5	3.2	1-2	2
75	57	3.75	3.4	1-2	2
80	61	4	3.6	1-2	2

* can be given intracardially (IC), dose is using 1:10,000 concentration

** do not use with MED/BUT, it may kill the wolf

Table of Reference:

Drug	Conc. (mg/ml)	Dosage (mg/kg)	Method Admin.	Use/Application
Medetomidine	1	.04	IM	Immobilization
Butorphanol	10	.4	IM	Immobilization
Atipamezole	5	.2	IM	Antagonist
Naloxone	1	.04	IM	Antagonist
Ketamine	100	10	IM	Immobilization
Xylazine	20	2	IM	Immobilization
Yohimbine	2	.15	IM	Antagonist
Telazol	100	10	IM	Immobilization
Atropine	.54	.06	IV	Reduced Heart Rate/Salivation
Dexamethasone	3	5	IV	Shock
Diazepam	5	10mg/wolf	IV	Seizures/Salivation
Dopram	20	1-2	IV	Respiratory Arrest
Epinephrine	1	.2	IV/IC	Cardiac Arrest

Appendix C of SOP 21.

<i>Drug Procedure for Females and Pups</i>			
	Pregnant Females	Lactating Females	Pups
Ivermectin	NO	NO	≥ 6 weeks
Corticosteroids (Dexamethasone)	NO	OK	na
Medetomidine/ Butorphanol	NO**	OK	> 12 weeks
Telazol & Ket/Xyl	NO**	NO**	> 12 weeks
Antibiotics	OK*	OK*	na
5 way	NO	NO	≥ 6 weeks
Rabies	OK	OK	≥ 16 weeks

* Don't use tetracyclines

** Best if it can be avoided; only use when wolf can be given time to metabolize drugs before returning to pups

Justification:

Young pups don't have the ability to handle ivermectin well, so avoid administering to pregnant/lactating females and pups less than 6 weeks old.

Corticosteroids (dexamethasone) administering to pregnant females may cause an abortion.

Any immobilizing drugs administered, particularly to pregnant females, could kill the pups by depressing physiological systems so avoid if possible; with lactating females, if you have to administer drugs, try to give the wolf time to metabolize the drugs before returning her to the pups. Medetomidine and Butorphanol have been used on pregnant females. Free flowing oxygen should be used when a pregnant female is immobilized.

Appendix E: SOP 15: Helicopter Capture and Aerial Gunning

Mexican Wolf Blue Range Reintroduction Project Adaptive Management Oversight Committee Standard Operating Procedure

Title: Helicopter Capture and Aerial Gunning

Number: 15.0

File Name: MW SOP 15.Helicopter Capture.Final.20051010.doc

Purpose: This SOP describes the procedures by which IFT personnel conduct helicopter operations for capture or lethal control of Mexican wolves, and provides guidelines for contract crews to conduct capture operations. It supersedes relevant sections of the 1998 Mexican Wolf Interagency Management Plan (USFWS 1998), and therefore represents, in part, the “Service Approved Management Plan” referenced in the Mexican Wolf Final Rule (50 CFR 17.84(k)).

Note: As noted in SOP 1.0, Reintroduction Project SOPs are developed with cooperation from the White Mountain Apache Tribe and the San Carlos Apache Tribe for the benefit of the overall Project. However, on tribal lands any Project activities are governed by tribal authorities, laws, rules, policies, etc. and Statements of Relationship between each tribe and the U.S. Fish and Wildlife Service. Thus, IFT helicopter capture and/or aerial gunning activities may only be conducted on Tribal lands with prior approval by the appropriate Tribal authorities.

Exceptions: None. Per SOP 2.0, AMOC must approve any exceptions to this SOP.

Background: Mexican wolves are occasionally captured with the aid of a helicopter using net-guns and darting. At times this may be the most efficient and cost effective method to capture wolves in a short amount of time. The use of a helicopter may also be used for lethal control of wolves. It is imperative to ensure the safety of the personnel involved in the capture and the animals being captured during one of these operations.

Any IFT members involved in helicopter operations must follow their agency regulations with respect to aviation safety requirements, personal protective equipment, training, certification, and approval, including approval of aircraft and pilots.

Procedures:

1. Coordination.

- a. A written plan of action for the proposed capture will be established prior to any helicopter operation (see example in Appendix A), detailing:
 - i. The proposed handling procedure for the wolves to be captured.
 - ii. The procedures that will be performed on the wolf (radio collar, draw blood, weight, measurements, etc.).
 - iii. All personnel involved (helicopter and spotter plane pilots, net-gunner, darter, ground crew, etc.) and their respective responsibilities for the capture.

- iv. An Incident Commander (IC), designated by the IFT or the agency responsible for the capture, for each helicopter operation. The IC is responsible for the entire operation (see below).
 - v. Emergency contact information.
 - vi. If there is intent to land in recognized (legally declared) wilderness, prior approval from the appropriate land management agency must be secured.
- b. Communication must be established prior to the capture.
- i. Air to air (helicopter to spotter plane). Verify frequency and conduct a radio check.
 - ii. Air to ground (helicopter and spotter plane to ground crew). Verify frequency and conduct a radio check.
 - iii. Make certain the pilot can communicate with the ground crew.
- c. The Incident Commander (IC) will review the capture strategy with all personnel involved in the operation to ensure that everyone is clear on what needs to be accomplished with the capture and what the expectations are. The IC makes the final call on “Go” or “No Go.”
- d. The IC is the only point of contact to coordinate with the pilot, the gunner, and the ground crew, in order to limit confusion and maintain organization during the operation.
- e. All personnel handling wolves must be experienced with all handling procedures and familiar with necessary emergency procedures (according to SOP 3.0).
- f. The appropriate State and/or Tribal wildlife agencies and local law enforcement shall be contacted prior to use of a helicopter within a specific area, to ensure that no conflicting or potentially hazardous activities are being conducted within that area.
- g. All landowners in the area of the operation shall be contacted prior to the capture to obtain permission to access or land a helicopter on their property if necessary.
- h. The appropriate State or Tribal Interagency Field Team Leader will provide a schedule of routine flights to the Southwest Coordination Center (SWCC)(505) 842-3473. AGFD will provide contact frequencies to SWCC as well. If routine flights are rescheduled due to weather or other considerations the pilot, observer, or AGFD 24 hr dispatch will notify SWCC of the changes. SWCC will notify the appropriate USFS Forest Zone dispatch of pending aircraft activity. The purpose of this coordination is to mitigate potential airspace conflicts with other known agency aircraft operating in the same area. Pilots are also responsible for checking NOTAMs for any Temporary Flight Restrictions (TFR) or other airspace issues.
- i. When mission-specific flights (e.g. capture and darting) are planned, the appropriate State or Tribal Interagency Field Team Leader, observer, and/or pilot will contact SWCC to advise them of the event.
- j. Whenever possible, flights over wilderness/primitive areas will be at least 2000 feet above ground level.

2. Capture.

- a. A net-gun (Barrett 1982) may be used to capture wolves from a helicopter, using methods similar to those of Gese (1987) in suitable habitat.

- b. IFT members may serve as net-gunners only if they are trained and have approval from their respective agency.
 - c. If the helicopter pilot will allow an IFT member to work with the crew, the IFT will have someone in the helicopter to work as an animal handler. This person must be familiar with all procedures necessary to handle the wolf and must be proficient with different handling techniques.
 - d. A veterinary pack will be carried in the helicopter with all the necessary processing equipment for handling the wolf and emergency veterinary procedures.
 - e. A wolf may not be actively chased for more than 10 consecutive minutes for live capture, without allowing it to rest or recover.
 - f. Radio communication must be confirmed prior to the chase.
 - g. If IFT personnel are not allowed on the helicopter, a spotter plane will be used for the IC to make the “Go” or “No Go” call.
 - h. If the spotter makes the call to back off the chase, the helicopter will pull back and stop pursuit until the wolf has been given adequate time to recover before continuing.
 - i. After the wolf is captured, it should be stabilized and processed on site.
 - j. If IFT personnel are not allowed on the helicopter during the capture:
 - i. An IFT ground crew will be staged in an area within 10 minutes of where the capture occurs to process the wolf. This area must have a suitable landing site for the helicopter.
 - ii. The helicopter crew must physically restrain and stabilize the wolf before transporting it to the ground crew. The wolf should not be immobilized at this point, unless the helicopter crew cannot physically restrain the wolf.
 - iii. The wolf’s body temperature must be taken! Cooling agents (ice water, ice packs, rubbing alcohol) will be on board the helicopter.
 - iv. The muzzle should be removed and the wolf should be allowed to breath freely.
 - v. If the animal is hot, cool it down with water or ice packs. Rubbing alcohol may also be poured on the ears, paw pads, and leg pits.
 - k. A vari-kennel should be in the helicopter for transporting the wolf from the capture site to the ground crew. If a vari-kennel will not fit in the helicopter, a box muzzle will be used to protect helicopter personnel and allow the wolf to breath freely.
 - l. Upon transport to the ground crew, IFT personnel will continue to stabilize the animal and will not process the animal until it is stabilized.
3. Processing of the wolf will follow SOP 21.0.
4. Darting from a helicopter (see Ballard 1981).
- a. No one will dart a wolf from a helicopter without proper training.

- b. All IFT members must be approved in advance by their respective agencies in order to dart wolves from a helicopter.
- c. Darting will follow the same procedures as outlined in the helicopter net gun process (with the exception of Step 2.j.ii), and the processing event will follow the criteria established in SOP 21.0.

5. Aerial gunning and lethal control.

- a. Only personnel trained and certified by their respective agency shall perform aerial gunning and lethal control.
- b. All appropriate coordination must take place as outlined above for each aerial gunning and lethal control operation.

6. For instructions concerning proposed wolf captures in wilderness (see Appendix B).

Approvals:

The Mexican Wolf Blue Range Reintroduction Project Adaptive Management Oversight Committee approved this SOP on October 10, 2005.

References:

Ballard, B.W., A.W. Franzman, and C.L. Gardner. 1982. Comparison and assessment of drugs used to immobilize Alaskan gray wolves and wolverines from a helicopter. *Journal of Wildlife Diseases* 18:339-342.

Barrett, M.W., J.W. Nolan, and L.D. Roy. 1982. Evaluation of a hand-held net-gun to capture large mammals. *Wildlife Society Bulletin* 10:108-114.

Gese, E.M., O.J. Rongstad, and W.R. Mytton. 1987. Manual and net-gun capture of coyotes from helicopters. *Wildlife Society Bulletin* 15:444-445.

Appendix A for SOP 15.0 (Deleted from this plan but see Appendix H for the most recent example the Projects aerial capture or gunning plan)

Appendix B for SOP 15.0. Proposed Landings in Wilderness

For proposed helicopter landings, the proposing agency or AMOC must be able to show that the project is necessary to manage the area as wilderness, and that a helicopter is the "minimum tool" to accomplish the work. Minimum Requirements Decision Guide (MRDG) Worksheets must be completed for the proposal, and at least one non-motorized alternative must be considered. The MRDG may be found at www.wilderness.net.

Forest Service Policy:

The Regional Forester is responsible for approving transport and supply by aircraft, air drop, motor boat, or mechanical transport.

Use of motorized equipment or mechanical transport may be approved only to meet minimum needs for protection and administration of the area as wilderness, only as follows:

- a. A delivery or application problem necessary to meet wilderness objectives cannot be resolved within reason through the use of non-motorized methods.

OR

- b. An essential activity is impossible to accomplish by non-motorized means because of such factors as time or season limitations, safety, or other material restrictions.

APPENDIX F: Mexican Wolf Aviation Mishap and Response Guide and Checklist

Based on a
Publication of the
National Wildfire
Coordinating Group



Mexican Wolf Aviation Mishap Response Guide and Checklist

PMS 503
NFES 2659

January 2015

*Do not waste time trying to figure out if an event is an accident, that's not your job.
If you have an event with an aircraft that results in damage or injury no matter how slight,*

REPORT IT to DOI or USFS by calling 1-888-464-7427 (888-4MISHAP).

Has 911/ Search and Rescue (SAR) been notified?

Notify your Bureau / Agency and follow their procedures

Bureau / Agency Point of Contact and phone number:

Steve McEvoy Office: 505-248-6628 Cell: 505-550-7393

Administrative Information

All personnel involved in aviation operations should be familiar with the Aviation Mishap Response Guide and Checklist. **Ensure that your plan is up-to-date. It must be verified a minimum of annually AND prior to operations conducted in new locations.** When you review your Aviation Mishap Response Checklist, ensure that all of the points-of-contact listed and their respective phone numbers and e-mail addresses are still valid.

Priority of Actions. As soon as you are aware of the accident, ***START A LOG OF ALL ACTIONS AND CALLS***, then refer to the expanded subsections of this plan. The subsections are listed in order of priority.

- a. **Protect people** (Tab A). Lifesaving operations takes first priority.
- b. **Protect property** (Tab B). Property should be protected from unnecessary additional damage.
- c. **Preserve evidence** (Tab C). Treat the area as if it were a crime scene. Provide 24-hour security until the investigation team arrives. Identify witnesses; get their addresses, phone numbers, and email.
- d. **Notify and investigate** (Tab D). Report the accident using your organization’s chain-of-command and policies.

Do not delay reporting if detailed information is not immediately available.

- e. **Recovery operations** (Tab E). Everything at the site is under the control of the NTSB until released.

Practice — The absolute best way to be prepared for the unexpected is to periodically practice your Aviation Mishap Response Plan. Coordinate in advance and get as many responders as possible to participate when you conduct a practice drill.

Update Record

Date of Review

12/28/14

12/29/14

1/07/15

Signature

//s//John K. Oakleaf, Mexican Wolf Field Projects Coordinator

//s// Steve McEvoy, Regional Aviation Manager

//s// Sheryl L. Barrett, Mexican Wolf Recovery Coordinator

Protecting People

- a. Many times in the urgency to assist accident victims, the **rescuers may place themselves in jeopardy** and become victims themselves. **Enforce risk assessment and mitigation procedures.**
- b. Ensure **ALL** crew and passengers involved in an aircraft accident are cleared by medical authority prior to returning to duty.
- c. Aircraft wreckage attracts people like a magnet. Keep non-essential personnel well clear and preferably upwind.
- d. **Hazards at an aircraft accident site** can include:
 1. **Biological Hazards** — Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV), and many others. See OSHA's 29 CFR 1910.1030 for control measures.
 2. **Toxic Substances** — Fuel, oil, hydraulic fluid, and exotic aircraft materials such as beryllium, lithium, chromium, and mercury. You must also consider the cargo the aircraft was carrying (see the DOT Emergency Response Guide at <http://phmsa.dot.gov/hazmat/library/erg>)
 3. **Pressure Vessels** — Tires (often above 90 psi), hydraulic accumulators, oleo struts, oxygen cylinders, and fire extinguishers. They may look OK, but may have been damaged in the crash.
 4. **Mechanical Hazards** — Metal under tension (rotor blades bent under fuselage), heavy objects, composite materials, and innumerable sharp edges.
 5. **Fire Hazards** — Unburned fuel, hot metal (or other components), aircraft batteries, pyrotechnics, and the ignition of grass as a result of the accident. Be cautious of smoldering items which may re-ignite.
 6. **Environmental Hazards** — Weather, terrain, and animals (snakes, spiders, scorpions, etc.) Depending on the location and time of year, the environment may be among the most serious hazards at the scene.
- e. **Utilize available protective devices and clothing.** Use extreme caution when working around the wreckage. Protective measures include:
 1. Minimize the number of personnel allowed to enter the accident site.
 2. Ensure exposed personnel use appropriate personal protective equipment (PPE) such as boots, long pants, long-sleeved shirts, leather gloves (use surgical gloves as inserts if blood or bodily fluids are present), and appropriate respirators if toxic vapors or composite material pose respiratory hazards.
- f. Do whatever is necessary to extricate victims and to extinguish fires, but keep in mind the need to protect and preserve evidence. If any evidence must be disturbed in order to carry out rescues or fire suppression activities, **document and/or photograph their location.**

REMEMBER, it's already a bad day; don't make it worse by letting someone else get hurt!

Protecting Property

NTSB Sec. 831.12 Access to and release of wreckage, records, mail, and cargo.

- a. *Only the Board's accident investigation personnel and persons authorized by the investigator-in-charge to participate in any particular investigation, examination or testing shall be permitted access to wreckage, records, mail, or cargo in the Board's custody.*
- b. *Wreckage, records, mail, and cargo in the Board's custody shall be released [to the DOI or USFS IIC] by an authorized representative of the Board when it is determined that the Board has no further need of such wreckage, mail, cargo, or records. When such material is released, Form 6120.15, "Release of Wreckage," will be completed, acknowledging receipt.*

Treat the accident site like a crime scene. Wreckage, cargo, and debris should not be disturbed or moved except to the extent necessary:

- a. To remove victims.
- b. To protect the wreckage from further damage.
- c. To protect the public.

In addition to the authority explicit in NTSB 831.12, restricting access protects the public from the hazards of the accident site (Tab A).

Initially the accident site should be protected by either your own people (e.g. if the accident occurred at a fire) or by agency and local law enforcement officers. The investigation team may request extended security until the investigation is complete.

Preserving Evidence

NTSB Sec. 830.10 Preservation of aircraft wreckage, mail, cargo, and records.

- a. *The operator of an aircraft involved in an accident or incident for which notification must be given is responsible for preserving to the extent possible any aircraft wreckage, cargo, and mail aboard the aircraft, and all records, including all recording mediums of flight, maintenance, and voice recorders, pertaining to the operation and maintenance of the aircraft and to the airmen until the Board takes custody thereof or a release is granted pursuant to Sec. 831.12(b) of this chapter.*
- b. *Prior to the time the Board or its authorized representative takes custody of aircraft wreckage, mail, or cargo, such wreckage, mail, or cargo may not be disturbed or moved except to the extent necessary:*
 1. *To remove persons injured or trapped;*
 2. *To protect the wreckage from further damage; or*
 3. *To protect the public from injury.*
- c. *Where it is necessary to move aircraft wreckage, mail or cargo, sketches, descriptive notes, and photographs shall be made, if possible, of the original positions and condition of the wreckage and any significant impact marks.*
- d. *The operator of an aircraft involved in an accident or incident shall retain all records, reports, internal documents, and memoranda dealing with the event, until authorized by the Board to the contrary.*

In addition to those items required by law (above) you should also:

Control access to the site by cordoning off the area and contacting the agency aviation safety investigator to determine who needs access. Request agency or local law enforcement to immediately secure the site for the accident investigation team. Establishing a pass system to identify authorized personnel is an excellent technique for serious accidents. Everyone who enters should be briefed on the known or suspected hazards and cautioned to avoid disturbing the evidence (flipping switches and souvenir hunting).

Photograph everything. Some evidence may be easily destroyed prior to the arrival of the accident investigators. Photograph aircraft, ground scars, and other perishable evidence. Collect copies of all photos and videos taken by witnesses, participants, and rescuers. **DO NOT DISTURB WRECKAGE.**

Identify witnesses. Request witnesses to write out their statements as soon as possible (before witnesses can compare notes). Be sure to **GET WITNESSES' NAMES, ADDRESSES, PHONE NUMBERS, AND EMAIL ADDRESSES.** Supervisors must ensure that personnel with information pertinent to the investigation are made available to the investigators in a timely manner. If possible, coordinate with the accident investigator(s) **PRIOR** to de-mobilizing personnel with information pertinent to the accident.

Secure equipment and records. Crew items, such as helmets, survival equipment (if used), notes, charts, etc. as well as dispatch logs and records, should be controlled and provided to the investigation team upon arrival.

Notify and Investigate

If you see something...SAY SOMETHING!! Do not try to “classify” events as accidents or incidents, that’s the job of the National Transportation Safety Board (NTSB). If you have an event with an aircraft that results in damage or injury, **REPORT IT** to OAS or USFS.

Initial Notification. DOI’s Office of Aviation Services (OAS) or the USDA-Forest Service (USFS) can be contacted by calling 1-888-464-7427 (**1-888-4MISHAP**). When you call, provide the information on the Aircraft Accident Checklist.

!! DO NOT DELAY the initial notification by trying to complete all of the blanks on the form. Call in the accident as soon as possible and call back as more information becomes available.

The OAS/USFS Investigator will review your procedures taken and advise you of any additional actions you should be taking, or reports you need to make. The OAS/USFS Investigator will notify the NTSB as appropriate. Field personnel should **not** make initial notification to the FAA or the NTSB. If contacted by the FAA or the NTSB you should refer them to the OAS/ USFS Aviation Safety Office and answer those questions that you can.

!! If you have enough people you should conduct the notification process at the same time as you are conducting other aspects of the immediate response.

Investigation:

- a. Aircraft **accidents** (fatality, serious injury, or substantial damage) will be investigated by NTSB personnel (Public Law 110-181). OAS/USFS personnel will generally be a “party” to the NTSB investigation and will conduct their investigation in accordance with NTSB and their agency’s regulations.
- b. Aircraft **Incidents-with-Potential** (IWP) will be investigated by Air Safety Investigators from OAS/USFS or a USFS Qualified Technical Investigator.
- c. Aircraft **incidents** will require the local Aviation Manager or Aviation Safety Manager to investigate the event and report the facts and circumstances to OAS/USFS.
- d. All aviation related events that impact aviation safety (for either DOI/USFS), should be reported using the **SAFECOM** (<https://www.safecom.gov>) reporting system.

Recovery Operations

NTSB Sec. 831.12 Access to and release of wreckage, records, mail, and cargo.

- a. *Only the Board's accident investigation personnel and persons authorized by the Investigator-In-Charge to participate in any particular investigation, examination or testing shall be permitted access to wreckage, records, mail, or cargo in the Board's custody.*
- b. *Wreckage, records, mail, and cargo in the Board's custody shall be released by an authorized representative of the Board when it is determined that the Board has no further need of such wreckage, mail, cargo, or records. When such material is released, Form 6120.15, "Release of Wreckage," will be completed, acknowledging receipt.*

If an accident is investigated by OAS/USFS investigators, they are responsible for notification of the NTSB and compliance with section 831.12 prior to releasing the wreckage.

Actual recovery (and the associated costs) is usually the responsibility of the aircraft owner. Before committing the Government to unnecessary costs, check with the appropriate Contracting Officer.

Use extreme caution when removing or recovering aircraft wreckage (Tab A). Salvage personnel are aware of hazards at accident sites and take appropriate precautions. Your people may not!

Release of wreckage from the NTSB will go to the OAS or USFS investigation team. They will release it to the contractor through the contracting officer.

*Anyone who has ever been involved in the immediate response to an aircraft accident will agree that the first few minutes and hours of a mishap event are chaotic. **Developing and practicing your Aviation Mishap Response Plan today is your best defense against the chaos of tomorrow.** Time is an extremely critical factor and immediate positive action is necessary; any delay may affect someone's survival.*

Conduct of Aircraft Accident Investigations. All DOI and USFS aircraft accidents are investigated under the authority of the National Transportation Safety Board (NTSB) as defined in:

- a. 49 Code of Federal Regulations (CFR) Parts 830 and 831
- b. Public Law (PL) 110-181 and Federal Management Regulation (FMR) 102-33.185.

!! This means that regardless of severity, all aircraft accidents are the domain of the NTSB. If the NTSB elects to not visit the site and the field investigation is conducted by DOI or USDA-FS personnel, it is still an NTSB investigation and investigative efforts must comply with their rules and standards.

Tips and Techniques

- a. **Who's in charge** — Although accident investigations are the responsibility of the NTSB and DOI/USFS, you need to determine in advance who will be responsible for the initial actions at the accident site
- b. **Notification of Next-of-Kin** — See Agency Administrator's Guide to Critical Incident Management (PMS 926) (<http://www.nwcg.gov/pms/pubs/pubs.htm>) for guidance. As a minimum, all supervisors should have a plan on how to contact their employee's next-of-kin.
- c. **Start a journal** — Write down everything regarding events, actions, points of contact (who, what, when, where, and why).
- d. **Control of Records** — Under the provisions of NTSB Part 831.12 (Tab B) the records pertaining to the aircraft and the flight become a part of the investigation and "belong" to the NTSB until released. Gather and control the appropriate records until they can be turned over to the NTSB or DOI/USFS investigator. Required records include (but are not limited to) aircraft operating and maintenance documents, crew records (flight and medical), flight plans, weather briefings, weight and balance forms, and load calculations.
- e. **Conduct after-action review (AAR)** — After the dust has settled and the professional investigators have taken charge, it is time to review what happened, what worked, and what needs to be improved. Conduct the AAR while issues and events are fresh in everyone's mind. Share your lessons learned with your Regional/Bureau/National Aviation and Safety Managers. Update your Aviation Mishap Response Plan with the lessons learned.

NOTE: NTSB policy prohibits Parties to an investigation (see Part 831.11 and .13) from discussing information about that accident without the specific approval of the NTSB Investigator-in-Charge (IIC). For questions on the proper release of information about an accident investigation contact the OAS/USFS investigators.

Definitions (See 49 CFR (NTSB) 830/831)

- a. **Aircraft Accident** — an occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.
- b. **Substantial Damage** — damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered “substantial damage” for the purpose of this part.

* **Incident-with-Potential (IWP)** - an incident that narrowly misses being an accident and in which the circumstances indicate significant potential for substantial damage or serious injury. The USFS Branch Chief, Aviation Safety Management Systems or the OAS Chief of Aviation Safety and Program Evaluations, will determine the final classification. (The concept “IWP” is unique to DOI/USFS.)

- c. **Aircraft Incident** — an occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.
- d. **Investigator-In-Charge** — the designated Investigator-In-Charge (IIC) organizes, conducts, controls, and manages the field phase of the investigation. The IIC has the responsibility and authority to supervise and coordinate all resources and activities of all personnel, both Board and non-Board, involved in the on-site investigation. The IIC continues to have considerable organizational and management responsibilities throughout later phases of the investigation, up to and including Board consideration and adoption of a report or brief of probable cause(s). Note: the NTSB determines probable cause(s); DOI/USFS determine contributing factors.
- e. **Serious Injury** — any injury which:
 - 1. Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received;
 - 2. Results in a fracture of any bone (except simple fractures of fingers, toes, or nose);
 - 3. Causes severe hemorrhages, nerve, muscle, or tendon damage;
 - 4. Involves any internal organ; or
 - 5. Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

!! 49 CFR Part 830.5 requires the NTSB be immediately notified whenever damage (including ground damage) occurs to main or tail rotor blades that requires major repair or replacement of the blades, whenever there is a runway incursion that requires immediate corrective action, and whenever an aircraft is overdue and believed to be involved in an accident. Report any of these events immediately to DOI/USFS Aviation Managers by calling 1-888-464-7427 (888-4MISHAP).

!! Managers will need to record employee injuries in their Department/Agency’s Safety Reporting System, DOI: Safety Management Information System (SMIS)/ USFS: Safety Health Information Portal System (SHIPS).

Media Relations

NTSB Sec. 831.13 Flow and dissemination of accident or incident information.

- a. *Release of information during the field investigation, particularly at the accident scene, shall be limited to factual developments, and **shall be made only through the Board Member present at the accident scene, the representative of the Board's Office of Public Affairs, or the Investigator-In-Charge.***
- b. *All information concerning the accident or incident obtained by any person or organization participating in the investigation shall be passed to the IIC through appropriate channels before being provided to any individual outside the investigation. Parties to the investigation may relay to their respective organizations information necessary for purposes of prevention or remedial action. However, no information concerning the accident or incident may be released to any person not a party representative to the investigation (including non-party representative employees of the party organization) before initial release by the Safety Board without prior consultation and approval of the IIC.*

When the field investigation is conducted by OAS/USFS investigators, they will comply with all applicable DOI/USDA and NTSB regulations by referring all media requests to the NTSB IIC, NTSB Field office or the DOI/USFS IIC.

Tips and techniques when working with the media:

- a. You can acknowledge an accident has occurred, but do not speculate on what caused it or release any names. Advise the media that the investigation of this accident is under the jurisdiction of the NTSB and any questions must be directed to them.
- b. Don't aggravate the media and don't get aggravated by the media. They're just doing their job. Even aircraft accidents don't stay in the headlines forever, unless the reporter thinks you're hiding something.
- c. Most reporters have prior experience at accident sites. Remind them of the hazards, to avoid disturbing the wreckage, and ask them to be respectful of the victims.

Media Relations

OVERDUE AIRCRAFT

An aircraft is considered “overdue” when it fails to arrive within 30 minutes past the estimated time of arrival (ETA) and cannot be located.

Time	Action	Contact and Phone	Time Log
Immediately at time aircraft is due	Attempt to contact aircraft by radio or phone. If equipped, review Automated Flight Following data. Contact destination agency airbase or airport. Gather info required for Aircraft Accident Report.		
15 minutes past due	Contact originating or enroute agency dispatch. Contact originating or enroute agency airbase. Contact originating or enroute airports		
30 minutes past due	Contact vendor home base. Contact the FAA / Lockheed-Martin Flight Service Station and request an Alert Notice (ALNOT)	1 800 992-7433 (800 WX BRIEF) – Select “1” to speak to a briefer. Give the briefer the info and your contact info. The briefer will notify the “Hub” supervisor who will notify the FAA. Expect a return call for more info.	

MISSING AIRCRAFT

The aircraft is “missing” when the fuel duration, as reported on the request for flight following, or as reported on the FAA flight plan, has been exceeded and the aircraft location is unknown. It can also be considered missing when it has been reported to the FAA as being “overdue” and the FAA has completed an administrative search for the aircraft without success.

Anytime the fuel duration is exceeded or if an aircraft is missing/and an accident is suspected	Submit data from the Aircraft Accident Checklist to: FAA / Lockheed-Martin Flight Service Station and request an Alert Notice (ALNOT) or contact the FAA Regional Operations Center Notify OAS /USFS Aviation Safety Office Notify Local Aviation Manager	1 800 992-7433 (800 WX BRIEF) List of centers are on the reverse side 1 888 464-7427 (888-4MISHAP)**	
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!! Provide the information on the Aircraft Accident Checklist. Do not delay notification if you do not have all the blocks filled. Provide as much information as you can and follow-up when additional info is available.

SEARCH AND RESCUE. Search and Rescue (SAR) operations should be coordinated through the FAA to the Air Force Rescue Coordination Center (AFRCC) console – (800-851-3051 / 850-283-5955) and with local law enforcement agencies. It is recommended that both the FAA and AFRCC be contacted to ensure optimum coordination. For additional information on SAR visit <http://www.1af.acc.af.mil/library/factsheets/factsheet.asp?id=7497>.

Overdue and Missing Aircraft

FAA Regional 24-Hour Accident and Incident Response Centers

Alaskan Region	(907) 271-5936
Central Region	(816) 329-3000
Eastern Region	(718) 553-3100
Great Lakes Region	(847) 294-8400
New England Region	(781) 238-7011
Northwest Mountain Region	(425) 227-1389
Southern Region	(404) 305-5180
Southwest Region	(817) 222-5006
Western-Pacific Region	(310) 725-3300



Aircraft Accident Checklist

**OAS/USFS 1-888-464-7427 (888-4MISHAP) Has
911/Search and Rescue (SAR) been notified?**

(Do not delay initial report by trying to fill in all the blanks)

1. Point of Contact Information (the person who will provide information and direct actions)		
a. Operational Control: (agency/region/unit) USFWS/R2/Mexican Wolf		
b. Name: John Oakleaf		d. Duty Position: Incident Commander
c. Phone Numbers		e. Address: 2105 Osuna NE, Albuquerque, NM 87113
Work: 505-761-4782	Cell: 928-245-1910	
Fax:	Home: 505-977-1501	f. E-mail: john_oakleaf@fws.gov
2. Accident Information		
a. Aircraft Registration/Tail Number	Type of Aircraft	Color
b. Date and Time of Accident		
c. Location of Aircraft (Grid, Lat/Log, Reference to Known Point)		
d. Hazardous Materials Involved? (Explosives, Radioactive Materials, etc.)		
e. Accident Site Secured?	Photos Taken?	
f. NTSB & DOI/USFS ONLY:		
Flight Data Recorder Secured? (if applicable)		
Witnesses identified and statements requested?		ELT Deactivated?
g. Total Number of Personnel Involved		
h. Number of Fatalities	Number of Injuries	
3. Accident Description (type of mission, what happened, weather, extent of damage, etc.)		
4. Admin Information		
a. Aircraft Owner	b. Operator	
c. Pilot in Command		
d. Point of Last Departure	e. Destination	
f. Route of Flight	g. Fuel on Board	
h. Nearest Commercial Airport	i. Suitable Helicopter Landing Site	
j. Other		

Aircraft Accident Checklist

Emergency Contact Checklist

Notify OAS/USFS Aviation Safety Office using...1-888-464-7427 (1 888 4MISHAP) Notify your Bureau / Agency personnel (name) Steven McEvoy (cell phone) 505-550-7393

Only contact the FAA or NTSB if you cannot contact your Bureau/Regional or OAS/USFS Aviation Safety Office
 FAA Flight Service Station 1-800-992-7433 (1 800 WX BRIEF)

Update phone numbers, frequencies, and POCs quarterly and for each unique mission

<p>1. Primary Response Although the general response is to dial Emergency Responders - dial 911, and use discrete numbers as a back-up. In our area this does not work because it gets routed to faraway places (based on multiple 911 experiences). So Contact the right number for the right area. (See information on Next Page)</p>
a. Fire Department: Contact the appropriate contact based on the list below
b. Police: County police are the appropriate contact and will coordinate other contacts, as needed and appropriate.
c. Ambulance: Contact the appropriate contact based on the list below
d. Air Ambulance: Contact the appropriate contact based on the list below
e. Hospital: Contact the appropriate contact based on the list below
2. Secondary Response (Support Personnel)
a. Flight Following — FAA Flight Service Station (1 800 992-7433)
b. – Dispatcher: Contact the appropriate contact based on the list below
c. OAS / USFS Aviation Safety Office (1-888-464-7427)
d. Photographer: N/A
e. HAZMAT Response Team-N/A.
f. Coroner: Variable based on county. Ask County Police for assistance
g. Clergy: Variable based on county. Ask County Police for assistance if necessary.
h. Explosive Ordnance Disposal (Military or Police): N/A
i. Engineer / Recovery Specialists: N/A
3. USFWS Agency Management
a. Aviation Safety Manager: Brian Mullin: 571-215-5075
b. Regional Aviation Manager: Steve McEvoy: 505-550-7393
c. Public Affairs Officer: Jeff Humphrey 602-242-010
d. Military Base Operations: N/A
e. Federal Emergency Management Agency (FEMA): N/A
f. Airport Operations: Springerville Airport: 928-333-5746
g. Aircraft Owner/Operator: Panhandle Helicopter 208-772-3562; Aero Tech Helicopters 575-763-4300 (office) or 505-515-1189 (cell)
h. Contracting Officer: Janice Haener 208-433-5043
i. Security: Ariel Vasquez 505-639-3489
j. OAS Regional Office or USFS Regional Office: 208-344-9314
k. Regional Communication / Coordination Center: Southwest Coordination Center 505-842-3473
l. State Emergency Operations Center: N/A
m. Human Resources: David Mendias: 505-248-6440
n. Critical Incident Stress Management: David Mendias and Sherry Barrett 505-761-4748 will set up

If there is a situation where you need to have Emergency Personnel Dispatched to an area:

- Record the location of the plane, helicopter, or ground crew that needs assistance
- Plot the coordinates on the TOPO map, have a specific verbal description of the incident area, have UTM's and Lat, Longs ready for Emergency Personnel. Have a good idea if Emergency Personnel can get to the area via ground transport or if they need to use air transport.
- Contact the appropriate county police office, inform the county sheriff's of the appropriate information.
- Contact the appropriate Dispatch Offices, let them know the situation with the above information and inform them that you're going to contact the appropriate county personnel also (if possible, if you have a sat phone or cell service).

Arizona (non-tribal lands)

- If the incident is in Apache County
 - Apache County Sheriff's Office – 928-337-4321
- If the incident is in Greenlee County
 - Greenlee County Sheriff's Office – 928-865-4149
- If the incident is in Navajo County
 - Navajo County Sheriff's Office – 928-532-6060
- Arizona Game and Fish Dispatch via phone - 623-236-7201
- AZ Show Low Dispatch Center ASN Flight Coordination – (928) 532-2706

Fort Apache Indian Reservation

- If the incident is in Apache County
 - Apache County Sheriff's Office – 928-337-4321
 - If the incident is in Navajo County
 - Navajo County Sheriff's Office – 928-532-6060
 - White Mountain Dispatch via phone – 928-338-1023
- *If you don't have the capability to contact the White Mountain Dispatch, contact the AZGF Dispatch, and give them the information, letting them know that the incident is on FAIR.
- Arizona Game and Fish Dispatch via phone - 623-236-7201
 - AZ Show Low Dispatch Center ASN Flight Coordination – (928) 532-2706

San Carlos Apache Reservation

- Graham County Sheriff's Office – 928-428-3141
- San Carlos Dispatch – 928-475-2236
- Arizona Game and Fish Dispatch via phone - 623-236-7201
- AZ Show Low Dispatch Center ASN Flight Coordination – (928) 532-2706

New Mexico

- If the incident is in Catron County
 - Catron County Sheriff's Office – 575-533-6222
- If the incident is in Grant County
 - Grant County Sheriff's Office – 575-574-0100
- If the incident is in Cibola County
 - Cibola County Sheriff's Office – 505-876-2040
 - Cibola Police Department- 505- 287-9431
- If the incident is in Sierra County
 - Sierra County Sheriff's Office – 575-894-9150
- Arizona Game and Fish Dispatch via phone - 623-236-7201

Flight Location Dispatches and Military bases for AZ and NM:

- NM Silver City Dispatch Center GNF Flight Coordination – (575) 538-5371
- Military Operation Area dispatch for AZ-(505) 846-7431
- Military Operation Area dispatch for NM- (520) 295-6371

TRANSPORTING INJURED PERSONNEL BY HELICOPTER
USING “HEAR” (Hospital Emergency Administrative Radio) SYSTEM

When transporting injured personnel by helicopter under Agency Contract, the local Dispatch Center will telephone the appropriate hospital and request they monitor their “HEAR” system radio. The aircraft pilot or manager will tune in the “HEAR” Frequency (normally 155.340 as primary) on the aircraft multi channel radio and establish direct communication with the hospital staff. Helicopter will verify frequency through the Dispatch Center. Local Police will be requested to secure landing area when needed. This procedure is to be used only for emergencies that warrant immediate hospital service.

Hospital	Phone	Radio Frequency	GPS (N, W)
Summit Medical, Show low, AZ	928-537-4375	461.325	34 12.16, 110 01.03
White Mt. Regional Medical., Springerville, AZ	928-333-4368	They land at Springerville airport, veh. Trans to hospital	34 07.72, 109 18.69
Gila Regional Medical, Silver City, NM	575-538-4000		32 48.00, 108 16.00
Cibola hospital, Grants, NM	505-287-5260	463.075	35 09.65, 107 49.66
Socorro General Hospital, Socorro, NM	575-835-8370	463.100 (trans code- 468.100, PL code 136.5)	34 02.00, 106 53.20

For all other emergencies
EMERGENCY RESPONSE TELEPHONE LIST

	COMMERCIAL PHONE	24 HOUR PHONE
LOCAL LAW ENFORCEMENT: Police		
Heber/Overgaard	928-535-4611	928-535-4611
Pinetop/Lakeside	928-368-8800	928-368-8800
Round Valley	928-337-4000	928-337-4000
Show Low	928-537-4365	928-537-4365
	928-289-2431	928-289-2431
COUNTY LAW ENFORCEMENT:		
Sheriff		
Apache CSO	928-337-4321	928-337-4321
Coconino CSO	928-774-4523/1414	928-774-4523/1414
Gila CSO	800-338-7888	800-338-7888
Navajo CSO	928-425-4449	928-425-4449
	928-524-4050	928-524-4050
STATE LAW ENFORCEMENT: DPS		
DPS Holbrook	928-524-6177	928-524-6177
DPS Flagstaff	928-773-3600	928-773-3600
DPS Phoenix	928-223-2000	928-223-2000
DPS Show Low	928-537-5545	928-537-5545
DPS Springerville	928-333-2035	928-333-2035
DPS Tucson	520-746-4500	520-746-4500
HOSPITAL:		
Flagstaff Medical Center	928-779-3366	928-779-3366
Gila Health Resources, Morenci	928-865-9184	928-865-9184
Summit Regional Medical Center	928-537-4375	928-537-4375
Payson Regional Medical Center	928-474-3222	928-474-3222
White Mountain Regional Medical Center	928-333-4368	928-333-4368
Whiteriver Hospital	928-338-4911	928-338-4911
Winslow - Little Colorado Medical Center	928-289-4691	928-289-4691
BURN CENTER:		
Arizona Burn Center	602-344-5726	602-344-5726
POISON CENTER:		
Good Samaritan Hospital	602-253-3334	602-253-3334
GROUND AMBULANCE SERVICE:		
Apache County Ambulance	928-337-4321	928-337-4321
Clifton Ambulance – Gila Health Resource	928-865-9184 ext.0	928-865-9184
Coconino Ambulance		
Greenlee County Ambulance	928-865-4149	928-865-4149
Holbrook Ambulance - Police	928-524-3991	928-524-3991
Navajo Ambulance	928-524-4050	928-524-4050
Payson Ambulance – Life Star	928-474-2116	928-474-2116
Winslow Ambulance-Winslow Police	928-289-2431	928-289-2431

	COMMERCIAL PHONE	24 HOUR PHONE
LOCAL UTILITY COMPANIES:		
GAS:		
Amerigas-Show Low	928-537-4944	928-537-4944
Graves (Mike's Cell)	928-234-4056	928-234-4056
Ferrellgas-Show Low	928-537-2214	928-537-2214
Springerville	928-333-4932	928-333-4932
Sierra Propane- Show	928-537-0159	928-537-0159
Low/Snowflake	928-333-5550	928-333-5550
Springerville		
ELECTRIC:		
APS- 24 Hr. Emergency	800-253-9405	800-253-9405
Payson/Forest Lakes	928-474-2204	928-474-2204
Holbrook	928-524-6279	928-524-6279
Snowflake	928-536-4602	928-536-4602
Navopache Electric-Lakeside	928-368-5118	928-368-5118
Overgaard	928-535-4307	928-535-4307
Springerville	928-333-4631	928-333-4631
EMS HELICOPTER:		
Native Air-Show Low, Payson, Globe, Mesa	800-806-7106	800-806-7106
Air Evac Life Team-Springerville	800-247-6337	800-247-6337
Air Rescue-DPS-Phoenix	800-321-9522	800-321-9522
Air Evac -Phoenix-Havasus-AZ	800-806-7106	800-806-7106
FIXED WING AMBULANCE SERVICE:		
Native Air- Mesa Scottsdale	800-806-7106	800-806-7106
Medical Express-Show Low	800-537-8062	800-537-8062
Medical Air Transport-Springerville	800-537-8062	888-639-7700
Air Evac-Havasus-AZ	800-321-9522	800-321-9522
FIRE DEPARTMENTS		
Alpine	928-337-4321	
Clay Springs/Pinedale FD	928-524-4050	
Eagar FD	928-337-4321	
Forest Lakes FD	800-338-7888	
Greer FD	928-337-4321	
Heber-Overgaard FD	928-524-4050	928-537-4365 Show
Linden FD	928-524-4050	Low Police
McNary/Hon Dah FD	928-338-1052	
Pinetop/Lakeside FD	928-368-8800	
Show Low FD	928-537-4365	
Snowflake FD	928-536-7500	
White Mountain Lake FD	928-524-4050	
Whiteriver FD	928-338-4311	

HELICOPTER AMBULANCE REQUEST INFORMATION

A. Injury Information

1. Total personnel involved in mishap _____
2. Time of mishap _____
3. Type or extent of injuries (vitals, other medical personnel on scene):

B. Mishap Site Information

1. Unit/Agency _____
2. Contact name and telephone number _____
3. Radio frequency to contact unit/agency: VHF – AM _____ VHF-FM _____
4. Location of mishap: a. Township _____ Range _____ Section _____ 1/4 Section _____
b. Latitude _____ Longitude _____
c. Nautical miles at _____ Degrees from _____ VOR _____
d. Prominent landmark: Distance _____
5. Site Contact: _____

Radio frequencies at mishap site: Primary: VHF-AM _____ VHF-FM _____
Secondary: VHF-AM _____ VHF-FM _____

6. Other known aircraft in the area (call signs) _____

Air-to-Air Frequency Primary: VHF-AM _____ VHF-FM _____
Secondary: VHF-AM _____ VHF-FM _____

7. Special information, flight hazards, MOAs, MTRs, etc.

8. Landing site(s) and conditions (location, description, hazards, control measures, etc.) _____

9. Proximity of landing site to mishap site

10. Nearest available AV Gas/Jet A fuel _____

11. Conditions at the mishap site: Wind direction _____ Wind velocity _____
Ceiling and visibility _____ Obstructions to visibility _____
Obstructions to visibility _____ Temperature _____
Degrees (F or C) _____ Elevation _____ Sunrise _____ Sunset _____
Description of Terrain _____

Administrative Review

All personnel involved in aviation operations should be familiar with the Aviation Mishap Response Guide and Checklist.

The Guide should be reviewed and updated annually or when contact numbers or personnel changes occur.

The Guide should be reviewed and practiced with a mishap drill by all aviation personnel on an annual basis.

Name

Date

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Sponsored for NWCG publication by the NWCG Equipment and Technology Branch, National Interagency Aviation Committee. Questions regarding content of this publication may be directed to the National Interagency Aviation Committee members listed at <http://www.nwcg.gov/branches/et/niac/index.htm>. Revisions and corrections to this document should be directed to OAS Aviation Safety & Evaluations Division at (208) 433-5070.

This publication is posted at www.nwcg.gov.

The National Wildfire Coordination Group (NWCG) has approved this information for the guidance of its member agencies and is not responsible for the interpretation or use of this information by anyone except the member agencies.

Copies of this document may be ordered from the Great Basin Cache, National Interagency Fire Center, Boise, ID. Please refer to the annual NFES Catalog Part 2: Publications for ordering procedures and cost posted at www.nwcg.gov.

Administrative Review

Appendix G. Additional Contact Numbers:

Grant County Sheriff- (575) 574-0100
Mike Godwin – Cell (928) 242-3716
Gila National Forest Dispatch – (575) 388-8312
Cibola National Forest Dispatch – (505) 346-3910
Apache-Sitgreaves National Forest Dispatch – (928) 537-5305
SWCC (National Forest Service Flight Coordination) - (505) 842-3880
MW IFT Office – (928) 339-4329
Springerville Airport – (928) 333-5746

Incident Commanders:

Jeff Dolphin (AIC NM) - Office (928) 339-4329, Cell (928) 965-8044
Mike Godwin (IC AZ) – Office (928) 339-4329, Cell (928) 242-3716
Deon Hinton (IC-FAIR) – Office (928) 338-4385
John Oakleaf (IC NM, AIC AZ): Office (928) 339-4329, Cell (928) 245-1910
Vicente Ordonez (AIC NM, AZ): Office (928) 339-4329, Cell (928) 245-9612
Joseph Perez (AIC FAIR) – Office (928) 338-4385
Julia Smith (AIC AZ): Office (928) 339-4329, Cell (928) 551-4168
Janess Vartanian (AIC NM): Office (928) 339-4329, Cell (928) 255-8366

Mobile Processing Crew Leads:

Dr. Ole Alcumbrac – Cell (928) 205-8333
Ed Davis—Cell (919) 548-5196
Dr. Susan Dicks – Cell (505) 206-8049
Allison Greenleaf – Cell (928) 215-1098
Deon Hinton - Office (928) 338-4385
Melissa Kreutzian – Cell (505) 280-0313
Julia Smith – Cell (928) 551-4168
Janess Vartanian - Cell (928) 255-8366
Dewey Wesley – Cell (928) 200-0565
Brent Wolf – Cell (928) 358-2671

Helicopter Mugger/Observer:

Dr. Ole Alcumbrac – Cell (928) 205-8333
Ed Davis—Cell (919) 548-5196
Jeff Dolphin - Cell (928) 965-8044
Allison Greenleaf – Cell (928) 215-1098
Justin Martens - Cell (928) 215-1130
Sterling Simpson – Cell (928) 245-0485
Julia Smith – Cell (928) 551-4168
Janess Vartanian – Cell (928) 255-8366
Brent Wolf – Cell (928) 358-2671

Spotter plane:

Ed Davis—Cell (919) 548-5196
Allison Greenleaf – Cell (928) 215-1098
Justin Martens - Cell (928) 215-1130
John Oakleaf – Cell (928) 245-1910
Julia Smith – Cell (928) 551-4168
Janess Vartanian – Cell (928) 255-8366
Brent Wolf – Cell (928) 358-2671

Airplane Pilot:

Pete Applegate – Cell (928) 853-1258, (254) 201-7998
Bill David – Cell (602) 571-8145
Preston Hunting – Cell (520) 820 0963
Steve Sunde – Cell (602) 377-8362

Helicopter Manager:

John Oakleaf – Cell (928) 245-1910

Papillion:

Mike Brinkworth - Pilot – Cell (928) 606 1384
Borden Miller – operations - Cell (928) 606-6144

Aerotech:

Cameron Stallings – Pilot- Cell (505) 515-1189
Ted Stallings – operations - Cell (303) 619-9347

Panhandle Helicopter:

John Martin – Pilot – Cell (307) 388-0072
Jon Hubof – Owner – Office (208) 772-3562
Lisa Marten – Fuel Truck – Cell (307) 388 0624

Emergency Veterinarian Services:

Dr. Ole Alcumbrac – Cell (928) 205-8333

Appendix H Helicopter Plan Prepared in Accordance with the Mexican Wolf Project's SOP 15.0 (Note to Reviewers: This section is required pursuant to SOP 15.0 for the Project, but pertinent information is listed above for OAS and USFWS purposes. Thus, this section is not required to be reviewed by OAS or USFWS Aviation Managers.)

Mexican Wolf Blue Range Reintroduction Project
Helicopter Capture and Aerial Survey 2015 Action Plan
Arizona: Captures and Aerial Surveys
New Mexico: Captures and Aerial Surveys

Helicopter Capture Operation 1/18/2015-2/07/2015:

Objective: The Arizona Game and Fish Department is contracting with Papillion Helicopters to count and capture (dart or net-gun) uncollared wolves associated with known collared wolves in Arizona. During this operation USFWS personnel will be available for point to point helicopter flights only (see attached cooperator letter, but not permitted to fly during capture operations. This operation will be scheduled between 1/18/15 and 1/25/15. Following this operation, the USFWS will be contracting with Panhandle Helicopter for two operations: (1) from 1/29/15 to 1/31/15 the IFT will be participating in STEP and ACETA training (See STEP and ACETA training plan, including live capture of elk on 1/31/15), and (2) the USFWS will utilize Panhandle Helicopter to count and capture (dart) uncollared wolves associated with known collared wolves in Arizona and New Mexico. The count and capture operations for wolves in Arizona and New Mexico is the focus of the remainder of this document. Count and capture operations are a four step operation: (1) use the airplane to locate collared wolves, (2) assess the potential for darting from the helicopter in the area, (3) have the helicopter count the number of wolves associated with the collared wolf, and (4) capture targeted animals (uncollared wolves or wolves with old collars) in areas where the terrain allows. We will attempt to visually see the collared and uncollared animals associated with any of the 61 functioning collared wolves in the area.

Personnel:

Incident Commanders:

Jeff Dolphin (109) AZGFD Assistant Incident Commander in New Mexico

Mike Godwin (107) AGFD- Incident Commander in Arizona, Assistant Incident Commander in New Mexico

Deon Hinton (194 Boy) WMAT- Incident Commander on FAIR

John Oakleaf (193) USFWS - Incident Commander in New Mexico, Assistant Incident Commander in Arizona.

Vicente Ordonez (195 Adam) USFS – Assistant Incident Commander Arizona and New Mexico (As needed).

Joseph Perez (194 Charlie) – Assistant Incident Commander on FAIR.

Julia Smith (197) – AGFD –Assistant Incident Commander in Arizona.

Janess Vartanian (194) – USFWS – Assistant Incident Commander in New Mexico

Flight Personnel:

Dr. Ole Alcumbrac, D.V.M. (193 George) - Helicopter Gunner in NM

Pete Applegate (706) - AGFD - Spotter Plane Pilot

Mike Brinkworth – (AZ Helicopter Pilot) – Helicopter Pilot (Papillion Helicopters)

Bill David (701) - AGFD - Spotter Plane Pilot

Ed Davis (199) – AGFD - Helicopter Mugger/Spotter Plane Observer
Jeff Dolphin (109) - AGFD – Helicopter Gunner in AZ, Spotter Plane Observer in NM
Allison Greenleaf (190) – USFWS – Spotter Plane Observer/Helicopter Mugger in NM
Preston Hunting (702) – Spotter Plane Pilot
Justin Martens (198) – USFWS – Helicopter Mugger Trainee, Helicopter Gunner Trainee in NM. Spotter Plane Observer.
John Oakleaf (193) - USFWS - Spotter Plane Observer
Sterling Simpson (196) - WS - Helicopter Mugger, Helicopter Gunner Trainee.
Julia Smith (197) – AGFD –Helicopter Mugger/Spotter Plane Observer
Steve Sundae (704) - AGFD - Spotter Plane Pilot
Janess Vartanian (194) - USFWS - Spotter Plane Observer/Helicopter Mugger in NM
Brent Wolf (192) - AGFD - Helicopter Mugger/Spotter Plane Observer

Wolf Processing Crew Leaders:

Dr. Ole Alcumbrac (193 George) - Veterinarian Services
Ed Davis (199) – AGFD - Crew Leader in Arizona
Dr. Susan Dicks (193 Edward) - USFWS– Crew Leader
Allison Greenleaf (190) – USFWS- Crew Leader in New Mexico.
Deon Hinton (194 Boy) - WMAT – Crew Leader on FAIR
Melissa Kreutzian (193 Frank) – USFWS – Crew Leader in New Mexico
Justin Martens (198) – USFWS – USFWS – Crew Leader in New Mexico
Julia Smith (197) – AGFD – Crew Leader in Arizona
Janess Vartanian (194) – USFWS – Crew Leader in New Mexico.
Dewey Wesley (194 Adam) – USFWS – Crew Leader in New Mexico
Brent Wolf (192) - AGFD – Crew Leader in Arizona

Lead Processors:

Ed Davis (199) – AGFD - Lead Processor in Arizona
Dr. Susan Dicks (193 Edward) - USFWS– Lead Processor
Allison Greenleaf (190) – USFWS- Lead Processor in New Mexico
Deon Hinton (194 Boy) – WMAT - Lead Processor on FAIR
Melissa Kreutzian (193 Frank) – USFWS – Lead Processor
Justin Martens (198) – USFWS – USFWS –Lead Processor
Julia Smith (197) – AGFD - Lead Processor in Arizona
Janess Vartanian (194) - USFWS – Lead Processor
Dewey Wesley (194 Adam) – USFWS – Lead Processor
Brent Wolf (192) - AGFD – Lead Processor in Arizona

Processing Crews:

Manuelita Canty (194 Frank) - WMAT
Ed Davis (199) - AGFD
Allison Greenleaf (190) – USFWS
Theo Guy (194 Henry) – WMAT
Deon Hinton (194 Boy) - WMAT
Justin Martens (198) - USFWS
Vicente Ordonez (195 Adam) -- USFS
Joseph Perez (194 Charlie) – WMAT
Lionel Perry (194 Ida) – WMAT
Sterling Simpson (196) – WS
Julia Smith (197) – AGFD
Cathy Taylor - (195 Boy) – USFWS
Dewey Wesley (194 Adam) – USFWS
Linda WhiteTrifaro - USFS

Brent Wolf (192) - AGFD

Radio Traffic Control:

Mike Godwin (107) - AGFD - Radio Operator

Julia Smith (197) – AGFD – Radio Operator

USFWS Interns:

Carrie Kyle (195 Charlie)

Gael Sanchez (195 Edward)

Dan Tomasetti (195 David)

Overnight Locations for Planning Purposes:

1/17/2015 – 1/24/2015: Alpine, AZ

1/29/2015 – 1/30/2015: Springerville, AZ

1/31/2015: Alpine, AZ

2/1/2015 – 2/6/2015: Reserve, NM (housing provided).

Timeline:

1/8/2015

- Ground crews will place only road killed big game carcasses or carnivore logs from the captive breeding program in appropriate locations for potential uncollared packs that may exist, however if there is an opportunity to establish a food cache prior to this date it can be done.
- Each carcass or cache will have a location.
- The IFT ground crew will monitor for utilization one week prior to the capture efforts and during the capture to determine if the carcasses are being utilized and potential for darting uncollared wolves in the area

1/17/2015

- Airplane will travel from Phoenix to Springerville.
- A telemetry flight will be done this day to locate all radio collared wolves in Arizona.
- At 1730 Initial Briefing in Alpine, AZ at the Field Office. All Operations will operate out of the Alpine Helibase.

1/18/2015 AZ

- Operations will be conducted in Arizona.
- Helicopter crew (Pilot, Darter, Mugger) and Incident Commander's (IC) will meet at Springerville Airport at 0700 The fuel truck driver and pilot should be at the Springerville Airport at 0700.
- General ground crew should arrive at 0800.
- One mobile crew will meet at WMAT Game and Fish at 0730 to travel to Corn Creek and arrive there by 0800.
- A second mobile crew will remain at the Springerville airport based on weather conditions.
- Airplane crew members will meet the spotter plane at 0700 at the Springerville airport.

The spotter plane will notify the IC of the most available wolves (based on terrain) for potential counting and capture before 0830. The IFT personnel within the helicopter will monitor capture activities (per MW SOP 15) including duration of

chase (8 minutes maximum per chase and 2 active chases with a recovery period between) and recovery periods (5 minutes). The spotter plane will notify the IC and Phoenix dispatch upon switching of packs to monitor or at least once every 30 minutes. See helicopter landing areas below. The veterinarian will designate a lead for each mobile crew (MC). Once any wolf is captured, either darted or net-gunned, the wolf will be subdued, muzzled, hobbled, and either transported to the closest mobile processing crew via the helicopter, picked up by the mobile crew if in area, or processed in the field. The ground crew will process (per SOP 21) any wolf that is captured and transport it back to the area where it was captured. Any wolf that is captured outside of the Blue Range Wolf Recovery Area (e.g. San Carlos), will be released within the recovery area inside of their normal home range. The helicopter crew will not attempt to capture wolves inside of the wilderness, primitive areas, or private lands of individuals not contacted or not allowing access to their lands. The helicopter may visually observe and count the wolves in these areas, or push wolves a short distance to other areas, where capture is permitted. Target groups for counting and potential capture include: Hoodoo uncollared, any uncollareds with M1249, Hawks Nest AF1280 and one uncollared, Tsay-O-Ah uncollareds, Elk Horn uncollareds, and any single wolves. Helicopter will land and shut down for the day after capture operations at the helipad in Alpine.

1730 Debriefing at Alpine field office with permanent IFT staff and Pilots to go over any safety issues of the day, and to organize for the following day's priorities.

1/19/2015 – 1/20/2015 AZ

- Operations will be conducted in Arizona and continue as stated in 1/19/15.
- The helicopter and mobile ground crews may be based out of the Alpine helicopter landing pad (weather dependent).
- Helicopter crew (Pilot, Darter, and Mugger) and Incident Commander's (IC) will meet at the Alpine field office at 0700.
- The fuel truck driver and pilot should be at the Alpine field office at 0730.
- Mobile ground crew should arrive at 0700 and travel to PS ranch via truck, snow mobile, or helicopter to PS ranch area pending snow conditions.
- One ground crew will remain at the Alpine field office.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- Target groups for counting and potential capture include: Maverick, Rim, Bluestem, and wolves on FAIR and non-tribal Arizona
-

1700 Debriefing-Alpine Field office. Determine translocation priorities for the rest of the week with permanent IFT staff and Pilots.

1/21/2015 AZ

- Operations will originate out of Alpine, AZ.
- The efforts will be made to "clean up" anything not accomplished in AZ from the previous two days Operations will be conducted in Arizona and continue as stated in 1/21/15.
- The helicopter and mobile ground crews may be based out of the Alpine helicopter landing pad (weather dependent).
- Helicopter crew (Pilot, Darter, Mugger) and Incident Commander's (IC) will meet at the Alpine field office at 0700.
- The fuel truck driver and pilot should be at the Alpine field office at 0730.

- General ground crew should arrive at 0800. Airplane crew members will meet the spotter plane at 0630 at the Springerville Airport.
- Target groups for counting and potential capture include: Maverick, Rim, Bluestem, and wolves on FAIR and non-tribal Arizona.
- A mobile Processing crew will be either flown to or staged near PS cabin in AZ.
- One processing crew will remain at the Alpine office. If operations are completed in AZ, then the helicopter will survey wolf packs near the AZ/NM border.

1730 Debriefing at the Alpine Field Office. Determine priorities for the next day with permanent IFT staff and Pilot

1/21/2015 NM

- Ground crews will place only road killed big game carcasses or carnivore logs from the captive breeding program in appropriate locations for potential uncollared packs that may exist, however if there is an opportunity to establish a food cache prior to this date it can be done.
- Each carcass or cache will have a location.
- The IFT ground crew will monitor for utilization one week prior to the capture efforts and during the capture to determine if the carcasses are being utilized and potential for darting uncollared wolves in the area.

1/22/2015 AZ

- Field operations will continue out of Alpine Helibase.
- IC and dispatcher arrive in Alpine by 0700.
- Helicopter crew (Pilot and observers) should be ready to depart Alpine Helipad by 0800.
- The IC and dispatcher will be at the Alpine office, by 8:00 am to maintain optimal communications between the fuel truck, and the helicopter crew and the spotter plane in the air.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- The Helicopter will return to Alpine, AZ at the end of the day.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at the Alpine Field Office. Determine priorities for the next day with permanent IFT staff and Pilot

1/23/2015 AZ

- Operations will continue with captures and counts in Arizona.
- Helicopter crew (Pilot, Darter, Mugger) and Incident Commander's (IC) will meet at the Alpine field office at 0700.
- The fuel truck driver should be at the Alpine field office at 0730.
- General ground crew should arrive at 0830.
- One ground crew will be located in Alpine.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- Target groups for counting and potential capture will be determined based on prior helicopter activities

1730 Debriefing at the Springerville Airport for permanent IFT staff and pilots. If there have been days that were cancelled due to weather, the ICs will discuss what operations and priorities for the next several days.

1/24/2015 and 1/25/2015 AZ

- These two days are set aside for fill-in days for days where weather conditions do not allow for helicopter operations.
- The location and priorities for operations will depend on what has been accomplished to date.

1/27/2015 NM

Ground crews will check food caches for sign of wolves where potential uncollared packs that may exist, restock food caches.

1/29/2015—Classroom Training:

See Step and ACETA Training Plan

1/30/2015—Training

STEP training aerial operations will begin. ACETA training aerial operations may begin if step training occurs. Airplane will travel from Phoenix to Springerville in the afternoon.

At 1630 – Debriefing on STEP exercises at Sipe Wildlife Area.

1/31/2015--Training

ACETA aerial operations will occur for trainees. Capture Elk in Unit 1. A telemetry flight will be done this day to locate all radio collared wolves in New Mexico, following initial fly over and help with Elk captures in morning.

At 1730 Debriefing on training and Initial Briefing in Alpine, AZ at the Field Office. Initial Operations will operate out of the Alpine Helibase.

2/1/2015 NM

- Operations will originate out of Alpine, AZ.
- The IC and dispatcher will be at the Alpine office at 0700.
- An individual will flight follow from the Alpine Field Office.
- The Fuel Truck will be staged from the Alpine Office.
- Helicopter crew (Pilot and observers) and Incident Commander (IC) will meet at the Alpine Office at 0700, and be ready for counts by 8am.
- The fuel truck driver and the truck crew intern should arrive by 8am at Alpine Heliport.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport. (Spotter plane crew members should monitor for single animals throughout all flights)
- Priority counts/captures of wolf packs will be Fox Mtn, San Mateo, Mangas, and Willow Springs.
- Two processing crews will be stationed at the Jewett Landing Area, and the Tularosa landing area.
- Fuel Truck will leave Alpine after the initial fuel up and proceed to Jewett Landing Area for second fuel up.

- Fuel Truck will leave Jewett and proceed to Tularosa for third and subsequent fuel ups.
- The Helicopter and fuel truck will return to the Reserve Helipad to overnight.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at the Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot

2/2/2015 NM

Field operations will continue to capture and count wolves in New Mexico as above initiating from the Reserve Helipad.

- IC and dispatcher arrive in Reserve by 0700.
- The fuel truck driver should be at the Reserve Helipad at 0730.
- Helicopter crew (Pilot and observers) should be ready to depart Reserve Helipad by 0800.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.
- Target groups for capture and counting include Dark Canyon, Prieto, Luna, Willow Springs, single 1338.
- IF ROADS ARE PASSIBLE,
 - One ground crew will be located at Negrito Helibase.
 - One ground crew will be located at Collins Park.
 - Fuel Truck will proceed towards Negrito Helibase with options for fueling depending on operations and road conditions, including: Frisco Plaza, Sheep Basin, Rainy Mesa, and Negrito landing spots.
- IF ROADS ARE NOT PASSIBLE, OR QUESTIONABLE
 - One ground crew will proceed to Frisco Plaza or Sheep Basin.
 - One ground crew will remain at Reserve Helipad
- The Helicopter will return to Reserve Helipad at the end of the day.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/3/2015 NM

Operations will continue with captures and counts in New Mexico exactly as described in the 2/1/2015 Operations, except:

- Target groups for capture and counting include Dark Canyon, Iron Creek, Canyon Creek, and the Lava pack.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/4/2015

Field operations will continue to capture and count wolves in New Mexico as above initiating from the Reserve Helipad.

- IC and dispatcher arrive in Reserve by 0700.
- The fuel truck driver should be at the Reserve Helipad at 0730.
- Helicopter crew (Pilot and observers) should be ready to depart Reserve Helipad by 0800.
- Airplane crew members will meet the spotter plane at 0645 at the Springerville Airport.

- Target groups for capture and counting include Iron Creek, Lava, and Coronado, 1286, and 1284.
- Fuel truck will proceed to Glenwood, NM helipad following initial fuel up.
- One capture crew will proceed to Glenwood, NM with Fuel Truck. One crew will remain in Reserve, NM with the IC.
- The Helicopter will return to Reserve Helipad at the end of the day.
- The spotter plane will return to the Springerville airport.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/5/2015

Operations will continue with captures and counts in New Mexico exactly as described in the 1/31/2015 Operations, except:

- Operations will originate out of Reserve, NM
- Third fuel up may be in Omega, NM or Tularosa, NM depending on location associate with 1282.
- One ground crew will be located at Jewitt Landing Area and the second at Omega, NM or Tularosa, NM.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

2/6/2015 to 2/7/2015 NM.

These two days are set aside for fill-in days for days where weather conditions do not allow for helicopter operations. The location and priorities for operations will depend on what has been accomplished to date. Base of Operations will be Reserve, NM.

1730 Debriefing at Reserve Ranger District. Determine priorities for the next day with permanent IFT staff and Pilot.

General Operations: At the end of each day permanent IFT staff and pilots involved in the operations will meet at the Alpine field office to discuss operations and needs.

IC's will remain on site unless they delegate authority to an assistant prior to their departure. IC's should be prepared to have any additional crew members that are not necessary to the operation spend time looking for uncollared sign in areas identified as priority through sighting reports.

IC's will designate areas for food caches in an attempt to capture wolves not associated with collared packs.

IC's and pilots should review maps prior to each morning's operations which will include maps and descriptions of wolf occupied areas and non-capture areas prior to operations.

The helicopter pilot should review hazard maps, if available, prior to operations.

Wolves captured outside the recovery area boundary will be relocated within their traditional home range.

A fully charged satellite phone will be in possession of the IC each day that the IC is remotely located away from the Alpine Office.

Flight Management: De-confliction of airspace over the Gila and Apache-Sitgreaves National Forests is managed by the Silver City (Gila) Dispatch Center and the Show Low (A-S) Dispatch Centers. A fixed wing aircraft flies above the helicopter at during capture or count operations, and keeps track of its locations and status. The aircraft is in contact with the local Radio Traffic Control Officer or AGFD Phoenix Dispatch Center, and informs them when the helicopter is in the air, its general locations and status, and when it has landed. The Radio Traffic Control Officer will conduct flight following from the Alpine Office and maintain contact with the fixed wing aircraft, and the helicopter when possible. AGFD Phoenix Dispatch Center will be utilized if radio communication is not possible through the Radio Traffic Control Officer. Other dispatch offices in the area are informed of the general operations, but have no responsibilities.

Wolf Capture Priorities

Pack Name	Collared Wolves	Last Loc (In Future)	Target Wolves	State	Priority Count/Capture
Bluestem	1042, 1341, 1330, 1331, 1333, 1339, 1340, 1382		Any Uncollared 1333; 1042 (GPS collar)	AZ	Med/Med
Elk Horn	1294		Any Uncollared	AZ	High/High
Hawks Nest	1038, 1280, 1383		1280 (GPS Collar); Any Uncollared	AZ	High/High
Hoodoo	1290		Any Uncollared	AZ/FAIR	High/High
Rim	1305, 1336		Any uncollared; 1305 and 1336	AZ/SCAR	High/High
Maverick	1183, 1291, 1335, 1342		1183; Any Uncollared	AZ/FAIR	High/High
Tsay o Ah	1343, 1283		Any Uncollared	FAIR	High/High
Diamond	1249, 1388, 1389		Any Uncollared	AZ/FAIR	High/High
F1332	1332		Any Uncollared	AZ	Low/High
Canyon Creek	1246, 1252	33 28.32/108 14.12	1246 (GPS); 1252; Any Uncollared	NM	High/High
Coronado	1051, 1126, 1350	33 12.11/108 18.72 33 13.7/108 17.57	1051; Any Uncollared	NM	High/High
Dark Canyon	992, 923, 1293	33 25.55/108 36.64	Any Uncollared	NM	High/High
Fox Mountain	1158, 1212, 1384	33 54.46/108 45.81	1384; Any Uncollared; 1212 (GPS)	NM	Med-High/High
Iron Creek	1240, 1278	33 27.84/108 34.02	1278 (GPS); Any uncollared	NM	High/High
Lava	1295, 1285	33 17.41/108 18.63	1285 (GPS); Any uncollared	NM	Low/Low
Luna	1155, 1115, 1337	1115+1155; 33 44.78/108 23.95 1337 unknown	Any uncollared; 1155 (GPS)	NM	High/High
Mangas	1296	33 55.35/108 38.55	Any uncollared; If adult female GPS	NM	High/High
Prieto	1251, 1386, 1387, 1392	33 38.16/108 35.62	1251(GPS); Any uncollared	NM	Low/High
San Mateo	903, 1345	34 01.15/108 23.86	Any uncollared; 1345 (GPS)	NM	Low/High
Willow Springs	1185, 1279, 1338, 1385; 1390;	33 54.5/108 18.63	1185 (GPS); Any uncollared	NM	Med/High
Single	1286	Unknown	Any uncollared	NM	High/High
Single	1338	33 26.5/108 43.13	Any uncollared	NM	High/High
Single	1282	Unknown	Any uncollared	NM	High/High
Single	1391	Unknown	Any uncollared	NM	High/High
Single	1284	33 27.46/108 18.64	Any Uncollared	NM	High/High

1 Bolded packs may be in Wilderness or Primitive Areas. Spotter plane personnel will advise the IC when wolves are located in these areas. We are not permitted to capture wolves in those areas. If an emergency arises, IFT and FS will work through the Minimum Requirements Development Guide (MRDG) to request permission to use non-conforming uses in Wilderness.

Staging Locations:

The primary base of operations will be (1) the Alpine Work Station Heliport in Arizona, and (2) the Heliport at USFS in Reserve, NM. In New Mexico, we will attempt to have both ground crews and fuel trucks be more mobile than in previous instances. A wide range of alternative locations, are listed below (1-22). Ground crews and the project veterinarian, when not in the helicopter, will be located at these sites for processing wolves that are transported via helicopter. In addition, the fuel truck could proceed to each of these sites.

Each of these sites had previously been investigated and meet the standards for landing zones for Type-3 helicopters. All sites will be used and/or modified at pilot discretion. For ease of communication, all personnel/pilots will have these sites programed into their GPS under the name of the area (e.g., Jewitt, Alpine, Luna, Frisco, Sheep Basin, etc)

Primary Base of Operations:

- (1) Alpine Work Station Heliport: 33 50.394, 109 07.430: This will be the base of operations for the work in Arizona and will be the Helicopter Landing Zone for Papillion helicopters. This will be the initial meeting location of the ground and helicopter crew on 1/17/15 and any subsequent AZ flight days. It will also be utilized for initial landing of Panhandle helicopter on 1/31/15.
- (2) Reserve Forest Service Heliport: 33 42.822, 108 46.710. This site is the base of operations for the work in New Mexico and will be the Helicopter Landing Zone for Panhandle Helicopter. Operations for all packs and singles in NM will likely be conducted out of this Heliport. Notify Reserve District prior to use to open up the site.
- (3) Springerville Airport: 34 07.86 109 18.463. This site can be utilized to overnight the helicopter on 1/29/15 and 1/30/15 (can also utilize Sipe Wildlife Area). Ground crews may also process wolves out of the Springerville Airport during Arizona operations.
- (4) Sipe Wildlife Area: 34 01.913 109 13.787. This landing site will be utilized during training on 1/30/15 and 1/31/15.

Alternative Sites

Arizona:

- (5) Hwy 60 and 117 at the corral: 34 13.784, 109 31.589
- (6) Hwy 260 and 117 at the sheep pen: 34 3.23, 109 33.548:
- (7) Strayhorse Work Center: 33 32.303, 109 18.662
- (8) Corn Creek: 33 40.256, 109 52.087

New Mexico:

- (9) Apache Creek: 33 49.942, 108 37.588
- (10) Bursum Road 33 43.644, 108 18.619 (not likely to be used)
- (11) Collins Park 33 38.347, 108 27.997
- (12) Frisco Plaza 33 36.444, 108 45.191
- (13) Glenwood 33 18.497 108 53.40
- (14) Tularosa: 33 55.552, 108 26.872
- (15) Jewett Landing Area: 33 00.335, 108 40.352
- (16) Long Canyon 33 47.432, 108 21.555(not likely to be used)
- (17) Negrito Airstrip 33 31.344, 108 32.445
- (18) Luna Helispot: 33 49.368, 108 56.492
- (19) Omega Helispot 34 18.957, 108 18.555
- (20) Rainy Mesa 33 32.972, 108 37.548
- (21) San Mateo 34 02.639, 107 36.291 (not likely to be used)
- (22) Sheep Basin 33 35.039, 108 44.098

Aircraft

Airplane: AZGFD airplane Cessna 185
Eagle three
Tail Number: N61298

AZGFD airplane Cessna 185
Eagle two
Tail Number: N1816R

AZGFD airplane Cessna 185
Eagle one
Tail Number: N103RA

Helicopter: Arizona Operations:

Papillion: Model –A-star
Color – Red and Gold
Tail Number – N838PA or N836PA

Training and New Mexico Operations:

Panhandle Helicopter, Inc.
Model – Hughes 369D
Color – Red and White
Tail Number – N662PB

Radio Frequencies: Bolded frequency will be the primary communication for the ground crew and between ground crew and aircraft personnel. Aircraft personnel will communicate on Air to Air when specifically conducting operations. Spotter plane personnel or IC's will communicate with Phoenix Dispatch on Region 1 Voter Channel. Communication between the IC's, ground crew and the aerial crews will occur on AZ Game and Fish Wolf Frequencies. Communication between muggers and the helicopter will be on AGFD tactical frequency.

Air to Air - 123.456

AZ Game and Fish Tactical - 151.340

(All frequencies below are narrowband!)

AZ Game and Fish Region 1 Voter Channel:

Transmit Frequency - 159.375

Receive Frequency - 151.460

PL Receive Tone - 88.5

PL Transmit Tone - 167.9

AZ Game and Fish Wolf Frequencies – Alpine and Greens Peak

Alpine Tower

Transmit Frequency - 159.270

Receive Frequency - 151.385

PL Receive Tone – 88.5

PL Transmit Tone – 107.2

Greens Peak Tower

Transmit Frequency - 159.270

Receive Frequency - 151.385

PL Receive Tone – 88.5

PL Transmit Tone – 91.5

Used in AZ and NM

Direct Frequency (For Air to Ground, when above frequencies are not working due to distance from Tower)

Transmit Frequency – 159.270

Receive Frequency – 159.270

PL Receive and Transmit – 91.5

Phone Numbers:

AGFD Dispatch – (623) 236-7201
San Carlos Dispatch - (928) 475-2236
White Mountain Dispatch – (928) 338-1023
Apache County Sherriff – (928) 337-4321
Greenlee County Sherriff – (928) 865-2555
Catron County Sherriff – (575) 533-6222
Cibola County Sheriff - (505) 876-2040
Cibola Police Department - (505) 287-9431
Sierra County Sheriff - (575) 894-9150
Grant County Sheriff - (575) 574-0100
Region 3, USFS, Fire and Aviation – (505) 842-3359
Gila National Forest Dispatch – (575) 388-8312
Cibola National Forest Dispatch – (505) 346-3910
Beaverhead Work Center Gila N.F. – (575) 772 5747
Beaverhead Work Center Gila N.F. – (575) 772 5745
Apache-Sitgraves National Forest Dispatch – (928) 537-5305
SWCC (National Forest Service Flight Coordination) - (505) 842-3880
AZ Show Low Dispatch Center ASNF Flight Coordination – (928) 532-2706
NM Silver City Dispatch Center GNF Flight Coordination – (575) 538-5371
Military Operation Area dispatch for AZ - (505) 846-7431
Military Operation Area dispatch for NM - (520) 295-6371
MW IFT Office – (928) 339-4329
Springerville Airport – (928) 333-5746
Mike Godwin – Cell (928) 242-3716

Incident Commanders:

Jeff Dolphin (AIC NM) - Office (928) 339-4329, Cell (928) 965-8044
Mike Godwin (IC AZ) – Office (928) 339-4329, Cell (928) 242-3716
Deon Hinton (IC-FAIR) – Office (928) 338-4385
John Oakleaf (IC NM, AIC AZ): Office (928) 339-4329, Cell (928) 245-1910
Vicente Ordonez (AIC NM, AZ): Office (928) 339-4329, Cell (928) 245-9612
Joseph Perez (AIC FAIR) – Office (928) 338-4385
Julia Smith (AIC AZ): Office (928) 339-4329, Cell (928) 551-4168
Janess Vartanian (AIC NM): Office (928) 339-4329, Cell (928) 255-8366

Mobile Processing Crew Leads:

Dr. Ole Alcumbrac – Cell (928) 205-8333
Ed Davis—Cell (919) 548-5196
Dr. Susan Dicks – Cell (505) 206-8049
Allison Greenleaf – Cell (928) 215-1098
Deon Hinton - Office (928) 338-4385
Melissa Kreutzian – Cell (505) 280-0313
Julia Smith – Cell (928) 551-4168
Janess Vartanian - Cell (928) 255-8366
Dewey Wesley – Cell (928) 200-0565
Brent Wolf – Cell (928) 358-2671

Helicopter Mugger/Observer:

Dr. Ole Alcumbrac – Cell (928) 205-8333
Ed Davis—Cell (919) 548-5196
Jeff Dolphin - Cell (928) 965-8044
Allison Greenleaf – Cell (928) 215-1098

Justin Martens - Cell (928) 215-1130
Sterling Simpson – Cell (928) 245-0485
Julia Smith – Cell (928) 551-4168
Janess Vartanian – Cell (928) 255-8366
Brent Wolf – Cell (928) 358-2671

Spotter plane:

Ed Davis—Cell (919) 548-5196
Allison Greenleaf – Cell (928) 215-1098
Justin Martens - Cell (928) 215-1130
John Oakleaf – Cell (928) 245-1910
Julia Smith – Cell (928) 551-4168
Janess Vartanian – Cell (928) 255-8366
Brent Wolf – Cell (928) 358-2671

Airplane Pilot:

Pete Applegate – Cell (928) 853-1258, (254) 201-7998
Bill David – Cell (602) 571-8145
Preston Hunting – Cell (520) 820 0963
Steve Sunde – Cell (602) 377-8362

Helicopter Manager:

John Oakleaf – Cell (928) 245-1910

Papillion:

Mike Brinkworth - Pilot – Cell (928) 606 1384
Borden Miller – operations - Cell (928) 606-6144

Aerotech:

Cameron Stallings – Pilot- Cell (505) 515-1189
Ted Stallings – operations - Cell (303) 619-9347

Panhandle Helicopter:

John Martin – Pilot – Cell (307) 388-0072
Jon Hubof – Owner – Office (208) 772-3562
Lisa Marten – Fuel Truck – Cell (307) 388 0624

Emergency Veterinarian Services:

Dr. Ole Alcumbrac – Cell (928) 205-8333

Notifications Completed:

The IFT and cooperating agencies on the project are in the process of making notifications regarding this capture operation.

Land Owners/Permittee

Bolded individuals were either not contacted or did not want capture operations occurring on their private land.

New Mexico:

The following landowners have given permission for the helicopter to land on their private land (those highlighted in red have given prior permissions; however, they were unable to be contacted and thus, we will not be landing on their private lands):

Andy Carrejo (1/27/15) Permission granted to land on private land. Central Quemado Ranger District.

Craig Heimburg (1/1/15) Permission granted to land on private land. Quemado Ranger District, north of Luna.

Jack Diamond (1/12/2015) Left messages, unable to contact; therefore will not be landing on private land.

Jay Huston (1/2015) Permission granted to land on private land, North of BWRWA

Hermosa Partnerships and Turner Ranch Properties, Steve Dobrott manager: (1/14/15) Permission granted to land on private land, on Black Range Ranger District, Hermosa and Animas areas.

Mathew Mann, Martha Rooke manager (1/2015) Left messages, unable to contact; therefore will not be landing on private land.

Tom Patterson, Doug and Cody Clark managers (1/2015) Left messages, unable to contact; therefore will not be landing on private land.

Bill Powell (1/16/15) Permission granted to land on private land. Central Quemado Ranger District.

Nelson Shirley, Sam Ryerson manager (1/2015) Permission granted to land on private land. Quemado and Reserve Ranger Districts.

Ron Rains, manager (1/2015) Left messages, unable to contact; therefore will not be landing on private land.

David Westbrook (1/2015) Left messages, unable to contact; therefore will not be landing on private land.

Concepcion Orona (1/2015) Permission granted to land on private land. Adjacent to northern boundary of Gila National Forest.

Lester Roper (1/2015) Permission granted to land on private land. Adjacent to northern/northeastern Gila National Forest.

Mark and Marry Miller (1/2015) Permission granted to land on private land. Adjacent to eastern boundary of Gila National Forest.

Dave Downs (1/16/15) Spoke with Dave, permission granted to land on private land. Within the Malpais Conservation Area.

Jimmy Candalaria (1/2015) Spoke with Jimmy. Permission granted to land on private land. Adjacent to northern boundary of Malpais Conservation Area.

Keith Halls (1/2015) Spoke with Keith. Permission granted to land on private land. Within the Malpais Conservation Area.

Luke Stieg (1/2015) Spoke with Luke. Permission granted to land on private land. Great Western Ranch.

Attempts were made to contact range permittees on the Quemado, Reserve, Glenwood, Black Range, and Wilderness Ranger District of the Gila National Forest. A few other landowners were contacted as well. The IFT made calls to 68 people, they were able to talk to 38 people

to notify them about the helicopter operation, and left 30 messages about the operation. Records of all calls are kept in the Alpine Wolf Field Office.

National Park Service:

New Mexico:

Hugh Hawthorn (12/29/14)-Gila Cliff Dwellings National Monument Superintendent) – Spoke with Hugh, informed of dates of operation and potential to fly overhead to count wolves.

List of Radio Call Number:

- 107:** Mike Godwin
- 109:** Jeff Dolphin
- 190:** Allison Greenleaf
- 192:** Brent Wolf
- 193:** John Oakleaf
 - 193 Edward:** Susan Dicks
 - 193 Frank:** Melissa Kreutzian
 - 193 George:** Ole Alcumbrac
- 194:** Janess Vartanian
 - 194 Adam:** Dewey Wesley
 - 194 Boy:** Deon Hinton
 - 194 Charlie:** Joseph Perez
 - 194 Frank:** Manuelita Canty
 - 194 Henry:** Theo Guy
 - 194 Ida:** Lionel Perry
- 195:**
 - 195 Adam:** Vicente Ordonez
 - 195 Boy:** Cathy Taylor
 - 195 Charlie:** Carrie Kyle
 - 195 David:** Dan Tomasetti
 - 195 Edward:** Gael Sanchez
 - 195 Frank:** Linda WhiteTrifaro
- 196:** Sterling Simpson
- 197:** Julia Smith
- 198:** Justin Martens
- 199:** Ed Davis
- 701:** Bill David
- 702:** Preston Hunting
- 704:** Steve Sundae
- 706:** Pete Applegate
- Papa Alpha:** Mike Brinkworth
- Papa Bravo:** John Martin
- Alpha Tango:** Cameron Stallings

Appendix I: Pilot and Aircraft Cards and Cooperator Letters.

1. Cameron Stallings and Aero Tech Helicopters

USDA / USDI HELICOPTER PILOT QUALIFICATION CARD

Pilot Name: STALLINGS, CAMERON G.
(Last, First, MI)

Company: AERO TECH, LLC.

Authorized Aircraft: BH-407, MDS30

Expiration Date: 3/31/15

Pilot Name (Last, First, MI)	Mission	Date Expires	Flight Evaluation Completed For Inspector Use Only		
			Initial	DOI	USFS
STALLINGS, CAMERON G.	Low Level (Recon & Surv)				
	Helicopter/Passenger Transport				
	External Load (belly hook)				
	Water/Retardant Delivery	01/15			✓ MDS30, B407
	Longline YTR (50)	01/15			✓ MDS30, B407
	Straight VTR <input type="checkbox"/> Mirror <input type="checkbox"/>				
	Mountainous Terrain Flight				
	Aerial Ignition: PSD				
	Aerial Ignition: Torch				
	Rappel Operations				
Cargo Letdown					
Slow Operations (deep snow)					

CARD STATUS

Interagency DOI Only () USFS Only ()
Initial () Renewal Reissue () Added Skill ()

Inspector Comments: _____

Issued By: BUSSELL USFS R3
(Printed Last Name) (Agency & Home Unit)

J. Busnell
(Inspector's Signature)

Issue Date: 3/26/14

Designated "Pilot Trainer"			
"Trainee Only" Pilot			
Short Haul <input type="checkbox"/> SAR <input type="checkbox"/>			
Float Operations (flask)			
Platform Landings: Offshore			
Vessel Landings			
*Night Vision Goggle Operations			
ACETA Net Gun (all ACETA)	04/15	MM	✓ MDS30, B407
ACETA Evacuation			
ACETA Gathering/Deploy (wing)			
ACETA Daring/Paintball			
STEP	04/15	MM	✓ MDS30, B407
*Hoist			
ATGS			

OAS-366 V 1.6
10/22/2013

HELICOPTER DATA CARD INTERAGENCY FIRE

OFFICE OF AVIATION SERVICES

OPERATOR: AERO-TECH Inc.

ADDRESS: 5333 East 21st ST
CLOVIS NM 88101

PHONE NO. 575-763-4300 FAX _____

P.O.C.: Ted Stallings PHONE: _____

COMPANY EMAIL: _____

AIRCRAFT DATA CARD EXPIRES: 6/30/2015

OAS-68 CONTROL NO: BB14040903A

CONTRACT #	ITEM #	TYPE	Expire	Base
D13PC00096		OCSH L48	4/30/2015	Clovis, NM
D13PC00051	123146L 546.678.11	ACETA	6/30/2015	Clovis, NM
D13PC00086		WH&B	3/31/2015	Clovis, NM

MAKE, MODEL AND SERIES: MD 369FF

REGISTRATION NO.: N 20AT

MFG. SERIAL NO.: 0113FF

HOBSBS READING: 1930.1

TYPE AIRWORTHINESS CERTIFICATE: Normal

OAS CONTACT PH: 208-901-1210 FAX: 208-334-9311

AUTHORIZED USES:

BB PASSENGER & CARGO (9P)	BB FIRE SUPPRESSION - IA (2A)	/// EXTENDED OPERATIONS (5X)
BB # PAX SEATS <u>3</u>	BB FIRE SUPPRESSION - LOCAL (3A)	BB SNOW OPS (4)
/// CARGO GUN (9C)	BB AERIAL IGNITION (8) Torch/PSD	BB OTHER ACETA
BB EXT. LOAD (SLING) (1A)	BB WATER BUCKET (3W)	/// OTHER
/// SHORT HAUL (1H)	/// FUEL TANKER (FUEL TANK) (3R)	BB OTHER Concrete Bucket
/// WATER DELIVERY (4R)	/// EMERGENCY LANDING	BB OTHER Seeder

Inspected By: IS/ Brian Bogdon Print Name: Brian Bogdon Region/Area: WRO Date: 04/09/2014

Approved By: IS/ Brian Bogdon Print Name: Brian Bogdon Region/Area: WRO Date: 06/16/2014

2. John Martin and Panhandle Helicopters

Cards to be copied during training with OAS on 1/29/15

3. Mike Brinkworth and Papillon Helicopters

Pilot Name Last, First, MI	Date Expires	Flight Evaluation Completed Per Inspector Use Only			
		Initial	DOT	USFS	Manufacturer Evaluated
BRINKWORTH, M					
Approved Mission					
Low Level Recon & Surv					
Helio-Passenger Transport					
External Load (Belly Hook)					
Water/Rotardant Delivery	4/16/08	GB	✓	AS350	
Longline VTR (150')	4/16/08	GB	✓	AS350	
Shortline VTR					
Minor					
Mountains Terrain Flight					
Aerial Ignition: PSD					
Aerial Ignition: Torch					
Rappel Operations					
Cargo Lift/Gen					
Snow Operations (Deep Snow)					

Designated "Pilot Trainer"	
Training Only Pilot	
Short Hand LE <input type="checkbox"/> SAR <input type="checkbox"/>	
Fixed Operations (Fixed)	
Platform Landings, Offshore	
Vessel Landings	
Night Vision Goggle Operations	
ACETA Net Gun (all ACETA)	
ACETA Eradicator	
ACETA Salvage/Rescue (Training)	
ACETA Diving/Plant/ast	
STEP	
Host	
MI ATCS	

Issue Date: 12/10/14

Issued By: MICHAEL J. BRINKWORTH

Inspector Comments:

Initial () Renewal () Re-Issue () Added Skill ()

Interagency () DOI Only () USFS Only ()

CARD STATUS

USDA / USDI HELICOPTER PILOT QUALIFICATION CARD

Pilot Name: BRINKWORTH, MICHAEL J.
(Last, First, MI)

Company: PAPILLON AIRWAYS

Authorized Aircraft: BH206, AS350

Expiration Date: 12/31/15

FS-5700-21a, Part 2 (12/2011)
OMB 0596-0015

USDA - Forest Service		1. Contract/Rental Agreement No.	
INTERAGENCY FIRE HELICOPTER DATA RECORD (Reference FSH 5709.16)		AG-024B-B-12-5379	
		2. Item No. CWN	
		3. Designated Base Call When Needed	
		4. Region/Area R3	
SECTION I - Operator & Aircraft Information (Fill in Blanks)			
1. Operator Papillon Airways		2. Address (Street, City, State & ZIP Code) Hwy 64 - P.O. Box Grand Canyon AZ 86023	
3. Phone No. 928-638-9330	4. Make and Model AS350B3	5. FAA Registration No. N838PA	6. Manufacturer's Serial No. 7508
7. Hobbs Reading 1317.5	8. Max Gross Weight (Internal) 5,225	9. Max Gross Weight (Ext.) 6,173	10. No. of Passengers 5
11. Type Fuel Jet A	12. Fuel Flow (Cruise) 48 G.P.H	FOR CURRENT EQUIPPED WEIGHT CHECK WEIGHT & BALANCE DATA IN AIRCRAFT FLIGHT MANUAL	
13. Authorized Uses (Initial appropriate boxes) (Line Through Unapproved Uses)		Expires (Fill in the Blank) December-15 (Month/Year)	
a. <input checked="" type="checkbox"/> Passenger & Cargo	h. <input checked="" type="checkbox"/> Fire Suppression - Interagency	o. <input checked="" type="checkbox"/> Approved for Left Seat Ops	
b. <input checked="" type="checkbox"/> Low Level Reconnaissance	i. <input checked="" type="checkbox"/> Fire Suppression - Local	p. <input checked="" type="checkbox"/> Approved MEL MMEL Rev No 3a (D95)	
c. <input checked="" type="checkbox"/> Cargo Only (Restricted Category)	j. <input checked="" type="checkbox"/> Water/Rotardant Bucket	q. Other	
d. <input checked="" type="checkbox"/> External Load (Sling)	k. <input checked="" type="checkbox"/> Fixed Tank Tank No. (0)	r. Other	
e. <input checked="" type="checkbox"/> Rappelling	l. <input checked="" type="checkbox"/> Longline/Remote Hook	s. Other	
f. <input checked="" type="checkbox"/> Aerial Ignition	m. <input checked="" type="checkbox"/> Rapid Refuel <input type="checkbox"/> CCR <input checked="" type="checkbox"/> Splash t.	t. Other	
g. <input checked="" type="checkbox"/> Manager May Ride (Type 1 ONLY)	n. <input checked="" type="checkbox"/> Air Attack Type(I)	u. Other	
14. Approved By (Signature) Rob Van Horn	15. Title Aircraft Inspector	16. Region 3	17. Date 12/09/14

electronically signed: 12/9/2014 ← Card with electronic signature invalid without date stamp 4.0

FS-5700-21a, Part 2 (12/2011)
OMB 0596-0015

USDA - Forest Service		1. Contract/Rental Agreement No.	
INTERAGENCY FIRE HELICOPTER DATA RECORD (Reference FSH 5709.16)		AG-024B-B-12-5379	
		2. Item No. CWN	
		3. Designated Base Call When Needed	
		4. Region/Area R3	
SECTION I - Operator & Aircraft Information (Fill in Blanks)			
1. Operator Papillon Airways		2. Address (Street, City, State & ZIP Code) Hwy 64 - P.O. Box Grand Canyon AZ 86023	
3. Phone No. 928-638-9330	4. Make and Model AS350B3	5. FAA Registration No. N838PA	6. Manufacturer's Serial No. 7517
7. Hobbs Reading 1126.3	8. Max Gross Weight (Internal) 5,225	9. Max Gross Weight (Ext.) 6,173	10. No. of Passengers 5
11. Type Fuel Jet A	12. Fuel Flow (Cruise) 48 G.P.H	FOR CURRENT EQUIPPED WEIGHT CHECK WEIGHT & BALANCE DATA IN AIRCRAFT FLIGHT MANUAL	
13. Authorized Uses (Initial appropriate boxes) (Line Through Unapproved Uses)		Expires (Fill in the Blank) December-15 (Month/Year)	
a. <input checked="" type="checkbox"/> Passenger & Cargo	h. <input checked="" type="checkbox"/> Fire Suppression - Interagency	o. <input checked="" type="checkbox"/> Approved for Left Seat Ops	
b. <input checked="" type="checkbox"/> Low Level Reconnaissance	i. <input checked="" type="checkbox"/> Fire Suppression - Local	p. <input checked="" type="checkbox"/> Approved MEL MMEL Rev No 5 (D95)	
c. <input checked="" type="checkbox"/> Cargo Only (Restricted Category)	j. <input checked="" type="checkbox"/> Water/Rotardant Bucket	q. Other	
d. <input checked="" type="checkbox"/> External Load (Sling)	k. <input checked="" type="checkbox"/> Fixed Tank Tank No. (0)	r. Other	
e. <input checked="" type="checkbox"/> Rappelling	l. <input checked="" type="checkbox"/> Longline/Remote Hook	s. Other	
f. <input checked="" type="checkbox"/> Aerial Ignition	m. <input checked="" type="checkbox"/> Rapid Refuel <input type="checkbox"/> CCR <input checked="" type="checkbox"/> Splash t.	t. Other	
g. <input checked="" type="checkbox"/> Manager May Ride (Type 1 ONLY)	n. <input checked="" type="checkbox"/> Air Attack Type(I)	u. Other	
14. Approved By (Signature) Rob Van Horn	15. Title Aircraft Inspector	16. Region 3	17. Date 12/09/14

electronically signed: 12/14/2015 ← Card with electronic signature invalid without date stamp 4.0

4. Cooperator Letters with Arizona Game and Fish Department.



United States Department of the Interior
Office of Aviation Service
Western Region Office
300 E. Mallard Dr., Ste 180
Boise, Idaho 83706-3991

In reply refer to:

July 22, 2014

Memorandum

To: Anthony Lascano, National Aviation Manager, FWS
Rusty Warbis, National Aviation Manager, BLM
Jon Rollens, National Aviation Manager, NPS
Joel Kerley, National Aviation Manager, BIA

From: Gary G. Kunz, Director, Western Region, DOI Office of Aviation Services

Subject: Cooperator---Other Government Agency

Digitally signed by GARY KUNZ
DN: cn=US, ou=U.S. Government, ou=Department of the Interior, ou=Office
of the Secretary of the Interior, cn=GARY KUNZ,
0.9.2342.19200300.100.1.1=14001009827399
Date: 2014.07.22 09:14:48 -0600

This memorandum serves as approval for use of other Arizona Department of Game and Fish aircraft by Department of Interior personnel in accordance with 351 DM 4. As requested, passenger, cargo and low-level (below 500 feet AGL) operations are approved. A copy of this memorandum should be placed in each approved aircraft.

Bureau POC
Steven McEvoy
Region 2 Aviation Manager
PO Box 1306
Albuquerque, NM 87103
Phone No: 505-248-6630
Cell No: 505-259-0808
Fax No: 505-248-6915
Steven_mcevoy@fws.gov

Cooperator POC
Mr. William H. David
State of Arizona
Department of Game and Fish
318 West Deer Valley Road
Phoenix, AZ 85023
Phone No: (623) 587-0193
Fax No: (623) 581-2564
Wdavid@azgfd.gov

Aircraft
Cessna 404, N96BP
PA-18-150, N57792
Cessna 185, N1816R
Cessna 185, N61298
Cessna 206, N103RA

Pilots
(PIC) Mr. Gary Labanow
(PIC) Mr. William H. David
(PIC) Mr. Steven A. Sunde
(PIC) Mr. Stephen C. Dubois
(PIC) Mr. Peter K. Applegate

For special use low-level flights, all Department of Interior (DOI) personnel shall wear appropriate personal protective equipment to include:

- (a) Aviation protective helmets
- (b) Fire-resistant clothing (Nomex flight suits)
- (c) Leather boots
- (d) Leather or Nomex gloves

● Page 2

July 22, 2014

All flight time related to a DOI mission is to be documented on an AMD-23E. For non-revenue flights, the notation: "Flight time record only—Not for payment purposes" should be placed in the remarks section. If payment is to be made, a separate agreement must be completed in accordance with 350 DM 1 and Public Law 103-411, and the Independent Safety Board Act Amendments of 1994 as described in FAA Advisory Circular AC 00-1.1.

The approval of the listed airplanes and pilots will expire on April 30, 2015. If further information is required, please contact Gary Kunz, Director, Western Region, at (208) 334-9310.

Cc: Arizona State Department of Game and Fish
Patrick Kearney, Aviation Safety Compliance Specialist AMD



United States Department of the Interior
Office of Aviation Service
Western Region Office
300 E. Mallard Dr., Ste 180
Boise, Idaho 83706-3991

In reply refer to:

December 24, 2014

Memorandum

To: Anthony Lascano, National Aviation Manager, FWS
Joy E. Nicholopoulos, Southwest Region, Regional Director (Acting), FWS

From: Gary G. Kunz, Director, Western Region, DOI Office of Aviation Services

Subject: Cooperator—Other Government Agency



Digital Signature by GUN0002
D:\G\Kunz, G\U.S. Government
U.S. Department of the Interior, Office of
Western Region, Southwest Region, 300 E. Mallard Dr., Ste 180
Boise, ID 83706-3991
Date: 20141224 10:04:00

This memorandum serves as approval for use of Papillon Airways aircraft, contracted by Arizona Department of Game and Fish, by Department of Interior personnel in accordance with 351 DM 4. Prior to use, DOI personnel will check the carding of the aircraft and pilot. Use of aircraft and pilots is only authorized if the cards are current. As requested, passenger, cargo and low-level (below 500 feet AGL) operations are approved. A copy of this memorandum should be placed in each approved aircraft.

Bureau POC
Steven McEvoy
Region 2 Aviation Manager
P.O. Box 1306
Albuquerque, NM 87103
Phone No: 505-248-6630
Cell No: 505-259-0808
Fax No: 505-248-6915
Steven_mcevoy@fws.gov

Cooperator POC
Mr. William H. David
State of Arizona
Department of Game and Fish
318 West Deer Valley Road
Phoenix, AZ 85023
Phone No: (623) 587-0193
Fax No: (623) 581-2564
Wdavid@azgfd.gov

Papillon Aircraft
AS350B3E, N836P A
AS350B3E, N836P A

Papillon Pilots
(PIC) Mr. Mike Brinkworth
(PIC) Mr. William H. David

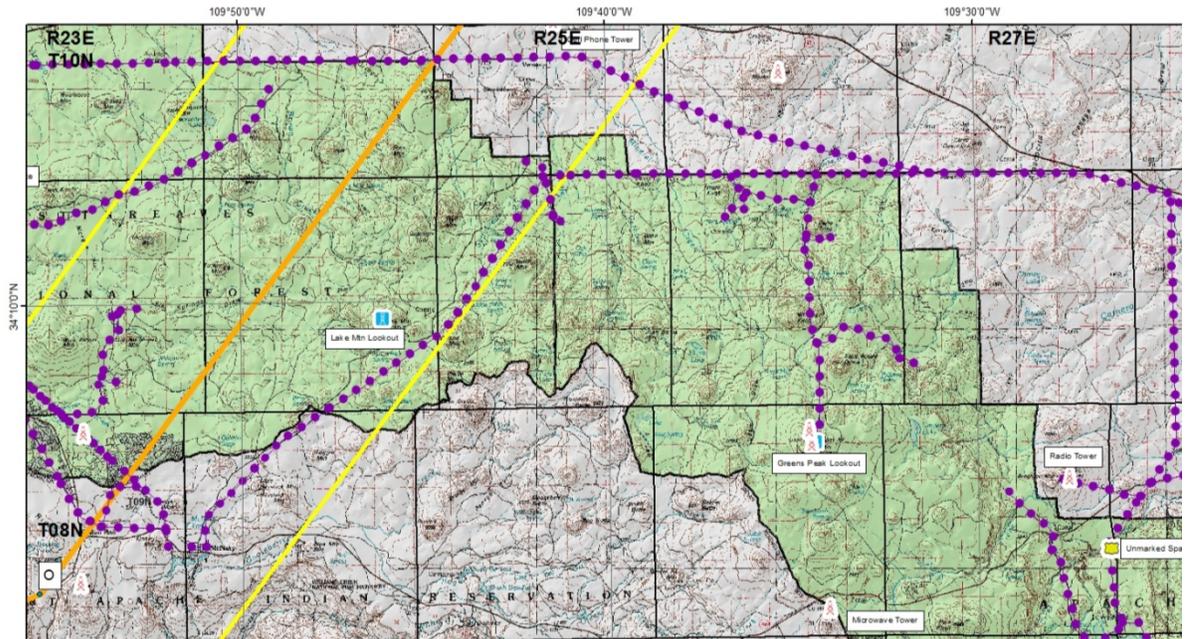
For special use low-level flights, all Department of Interior (DOI) personnel shall wear appropriate personal protective equipment in accordance with the DOI Aviation Life Support Equipment (ALSE) Handbook.

All flight time related to a DOI mission is to be documented on an AMD-23E. For non-revenue flights, the notation: "Flight time record only—Not for payment purposes" should be placed in the remarks section.

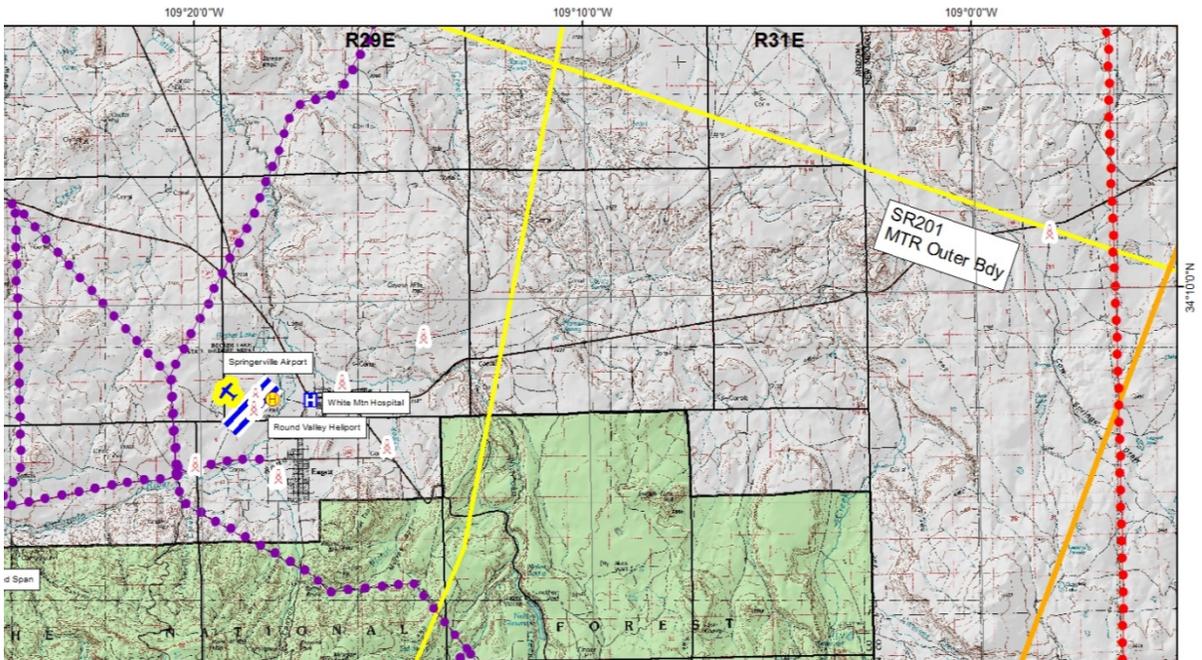
The approval of the listed airplanes and pilots will expire on April 30, 2016. If further information is required, please contact Gary Kunz, Director, Western Region, at (208) 334-9310.

Cc: Arizona State Department of Game and Fish
Patrick Kearney, Aviation Safety Compliance Specialist AMD
Steve McEvoy, FWS, Southwest Region, Occupational Safety Specialist, steven_mcevoy@fws.gov
John Oakleaf, FWS, Field Projects Coordinator, Mexican Wolf Program, john_oakleaf@fws.gov

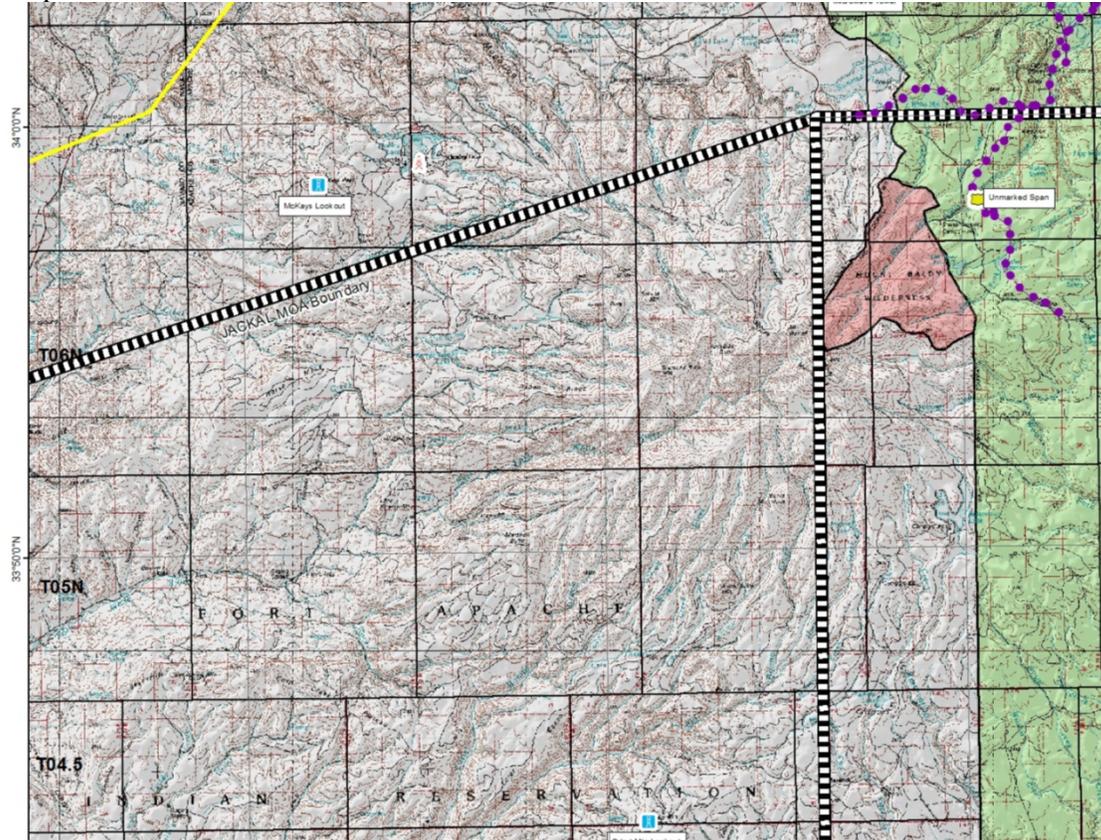
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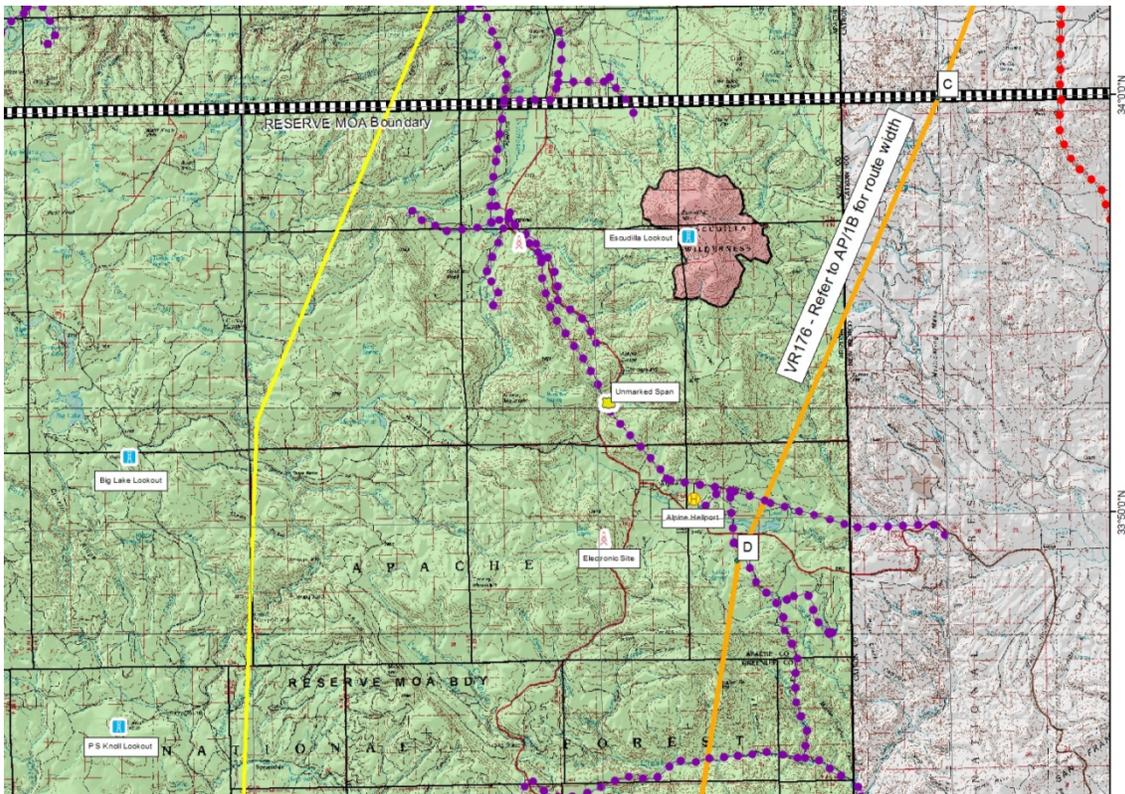
Map B in Arizona:



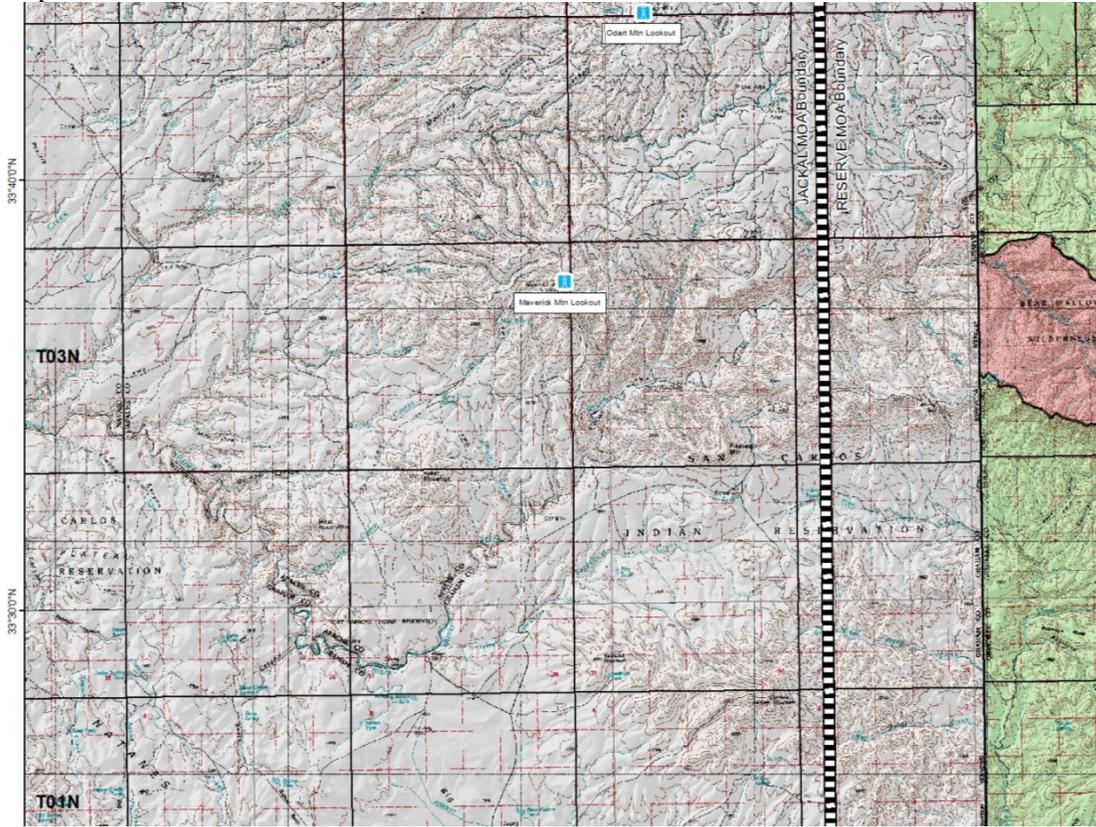
Map C in Arizona:



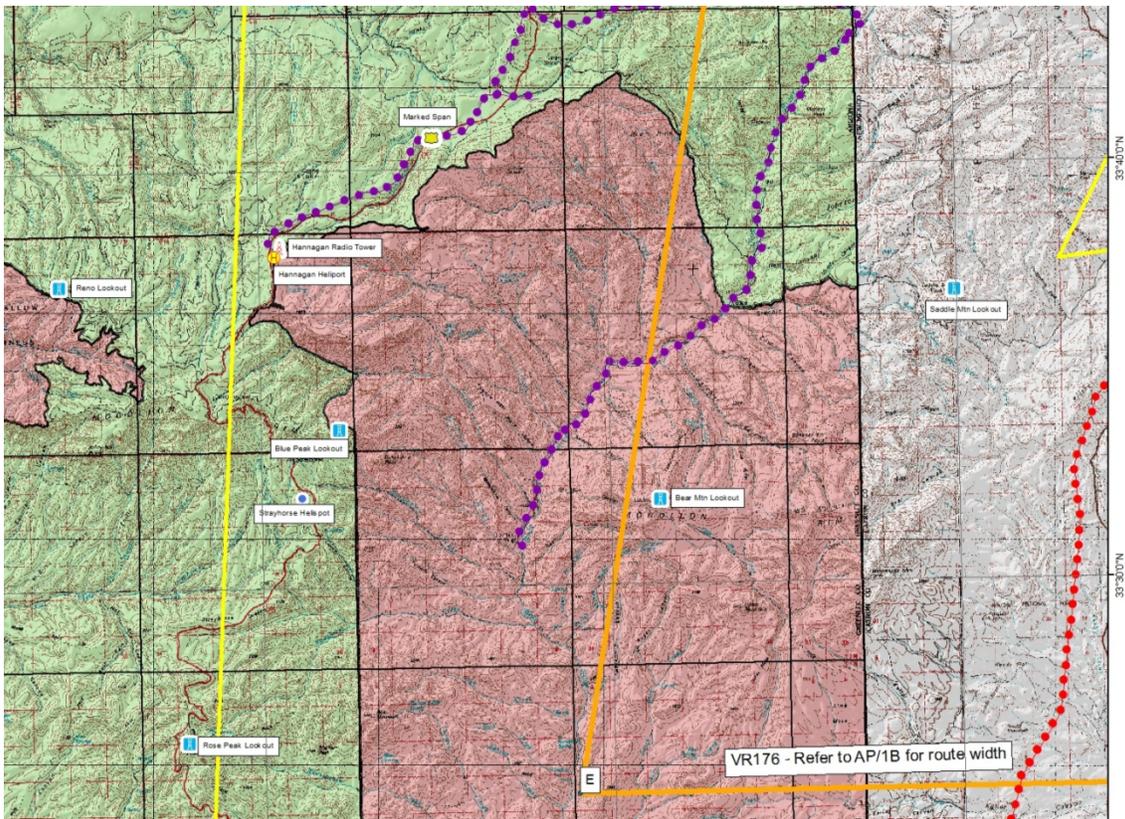
Map D in Arizona



Map E in Arizona:

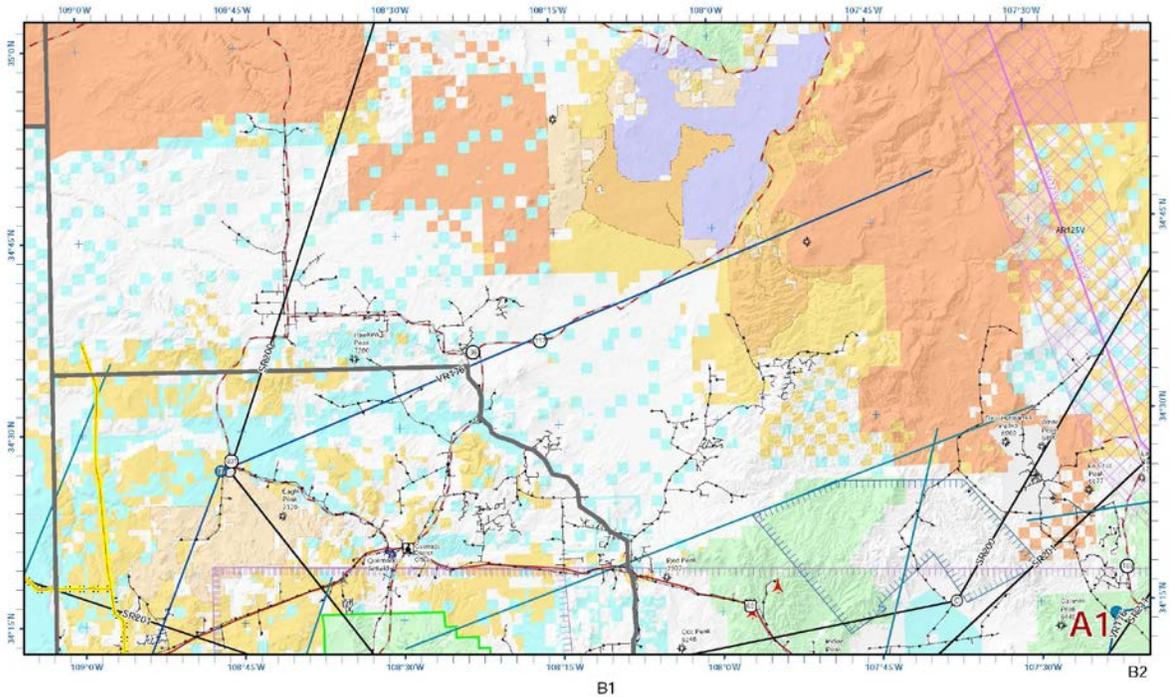
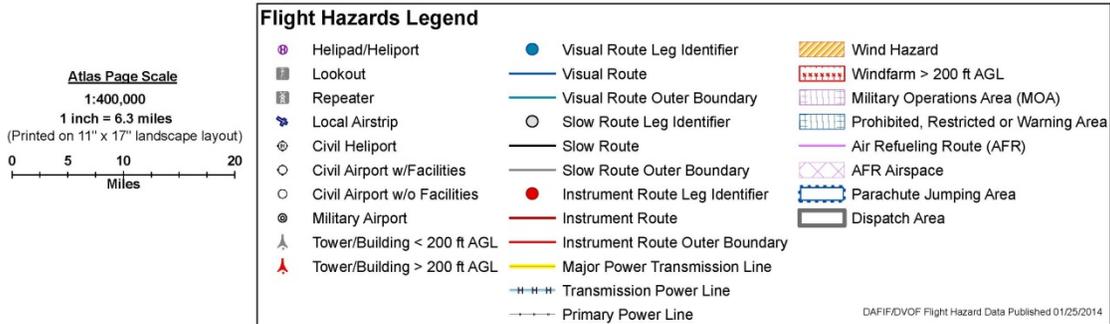
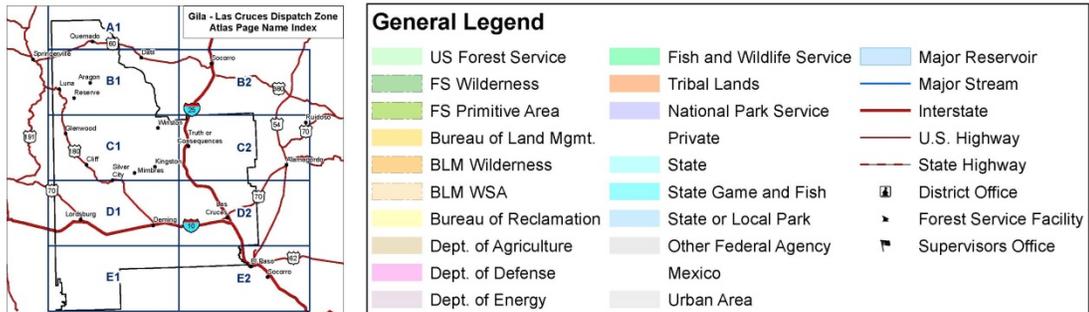


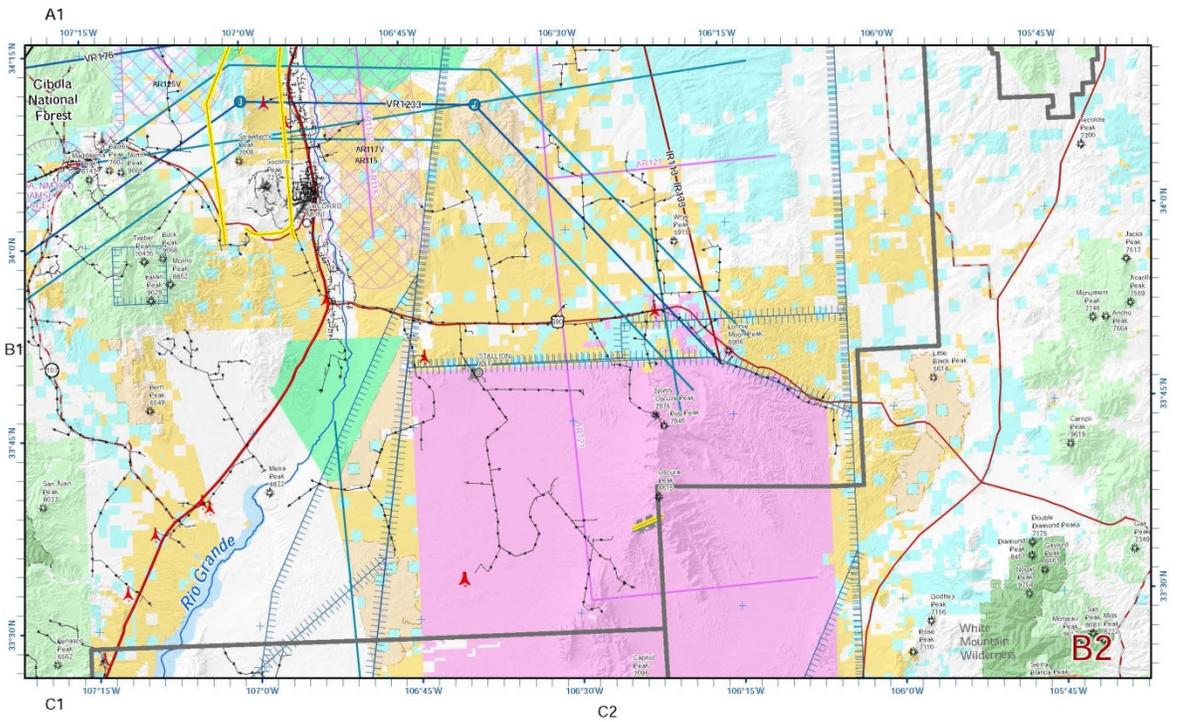
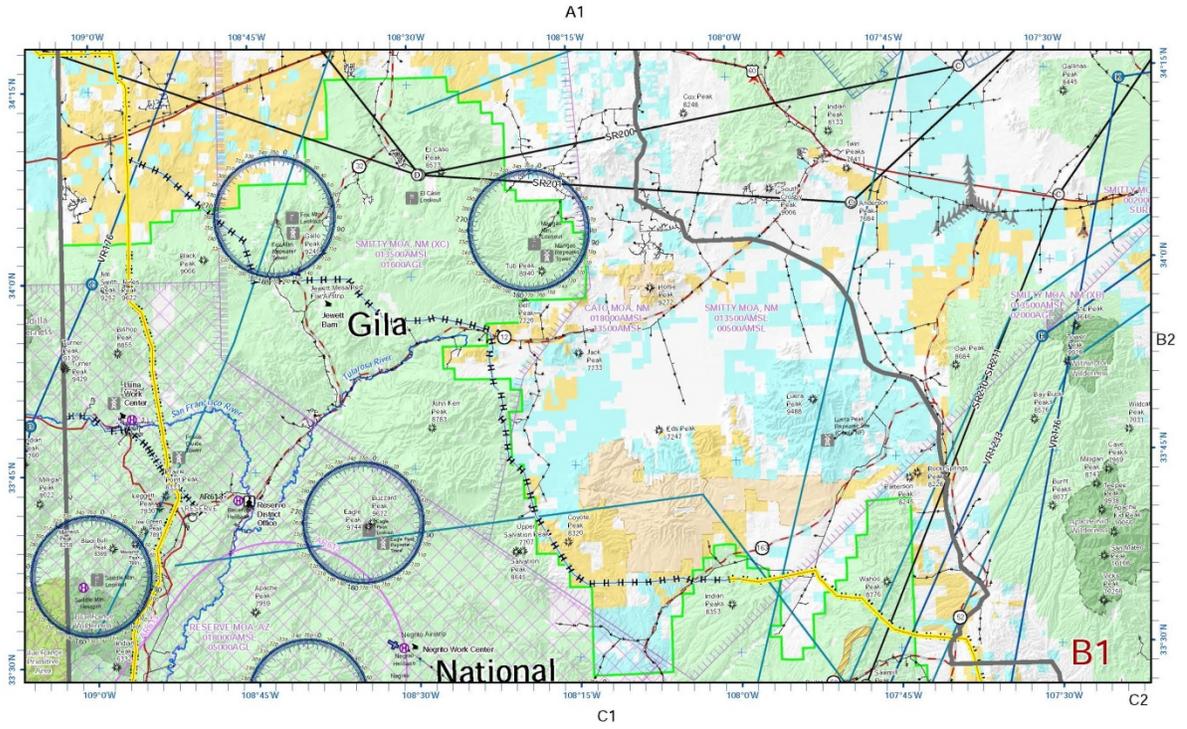
Map F in Arizona

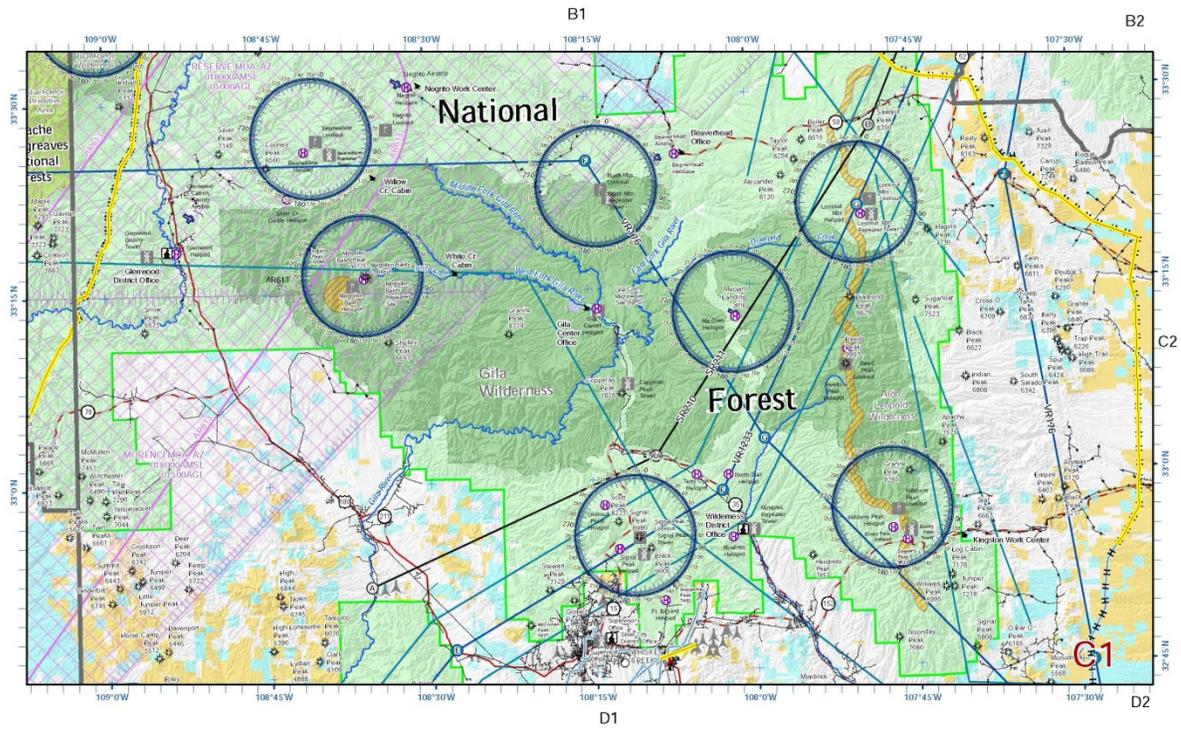


New Mexico Flight Hazard Maps:

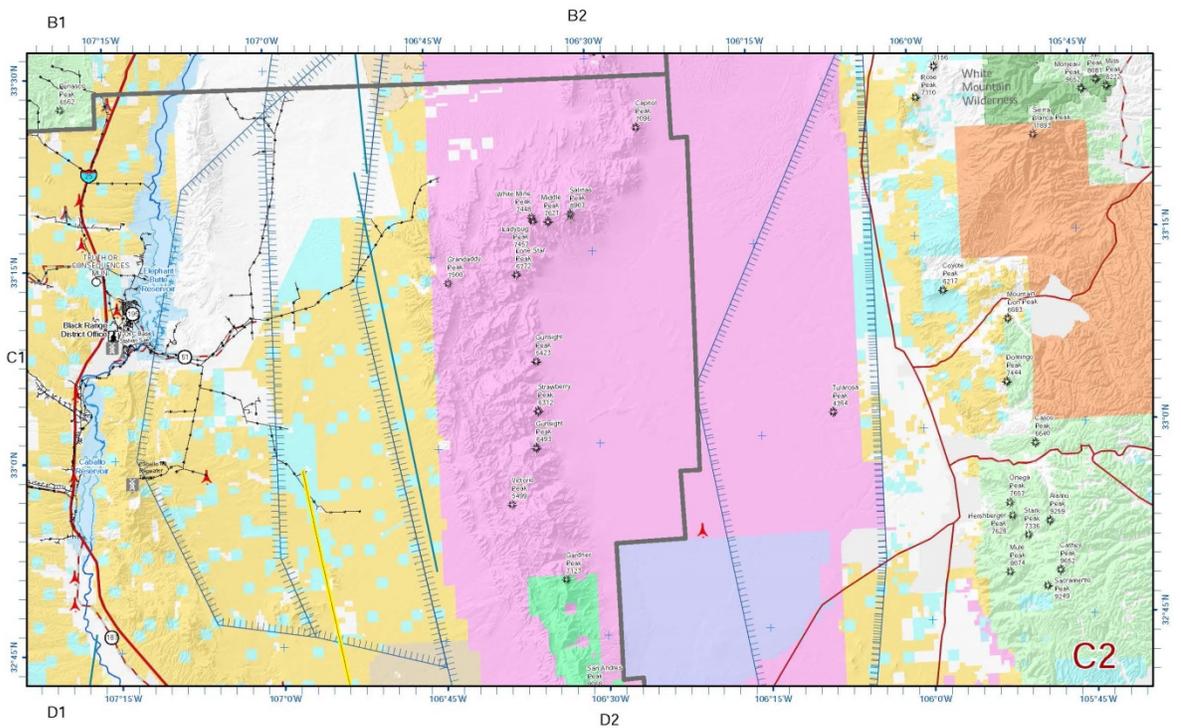
Flight Hazard Map, Gila-Las Cruces BLM Dispatch Zone - 2014



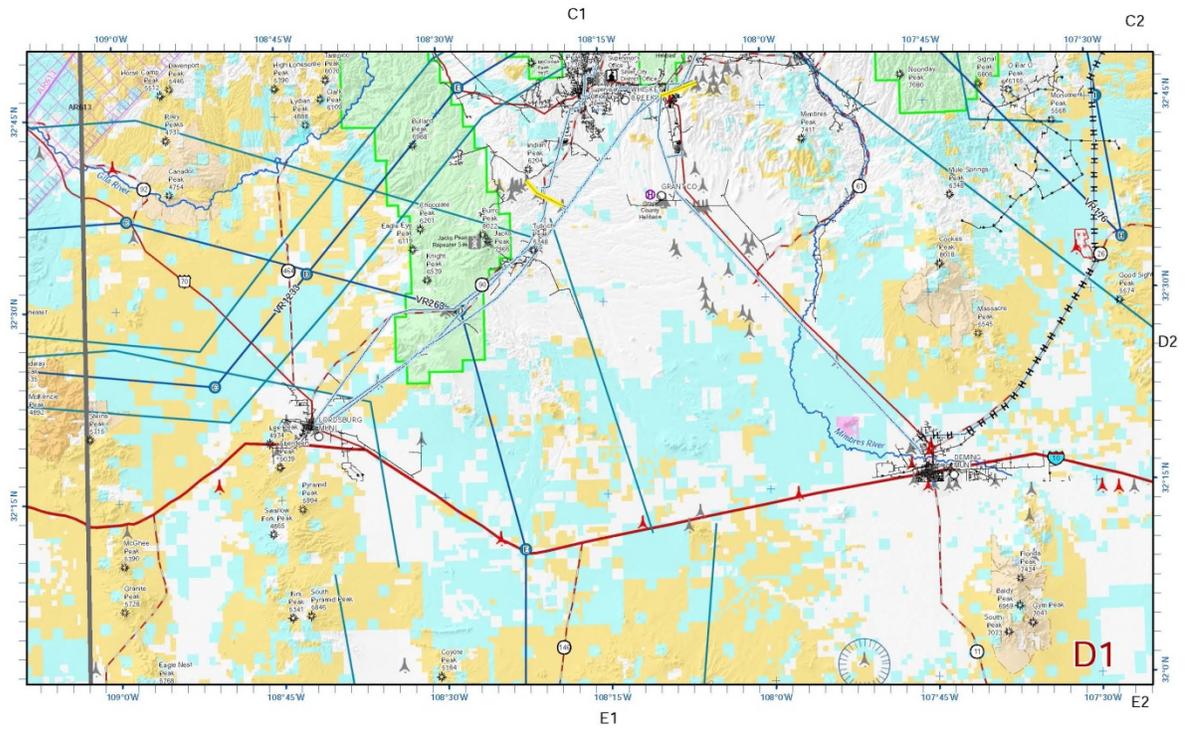




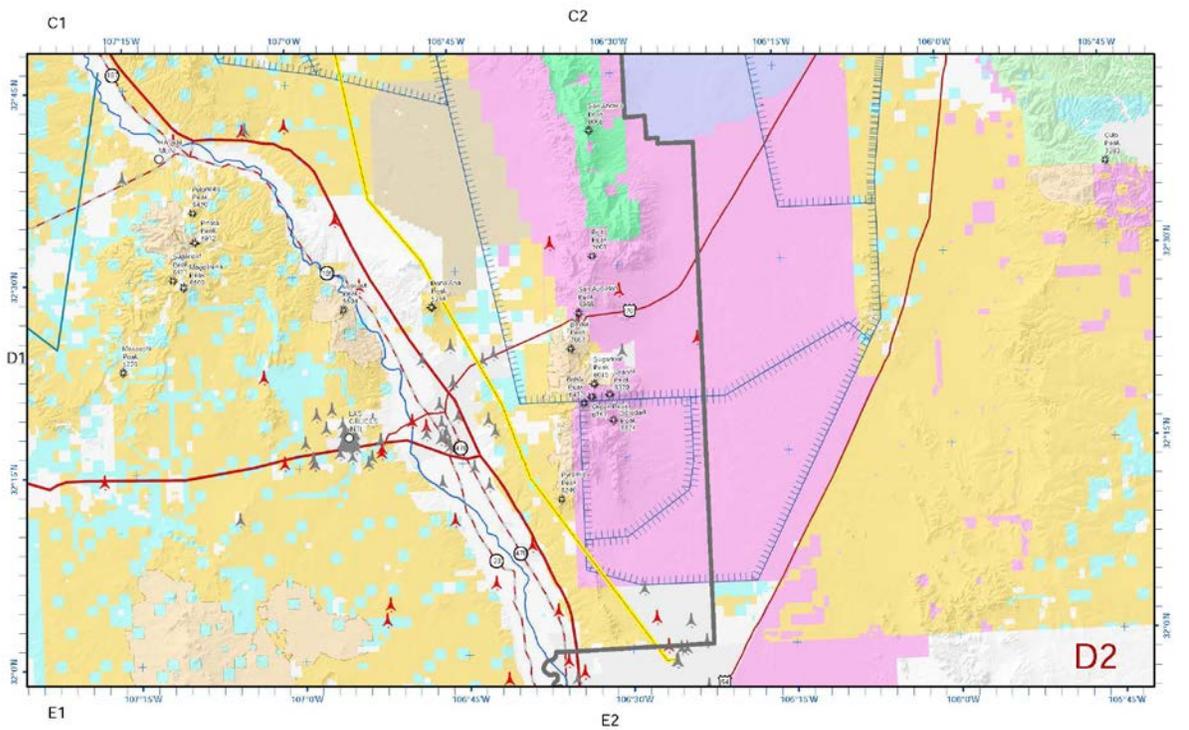
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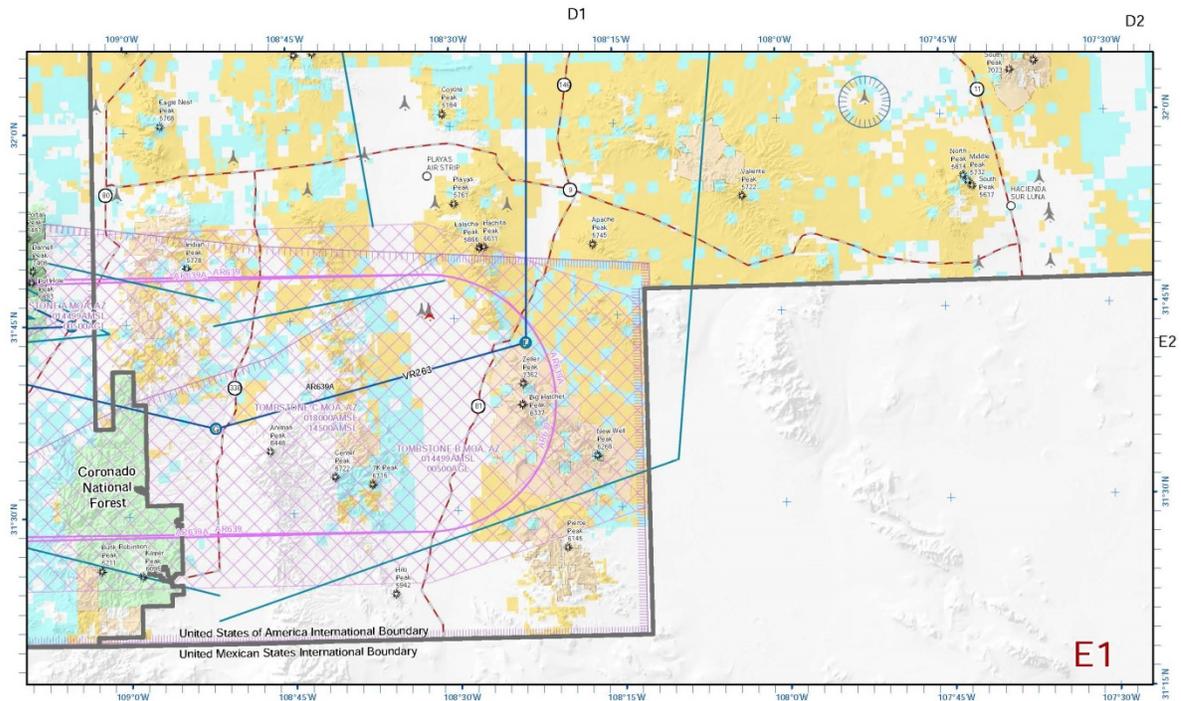
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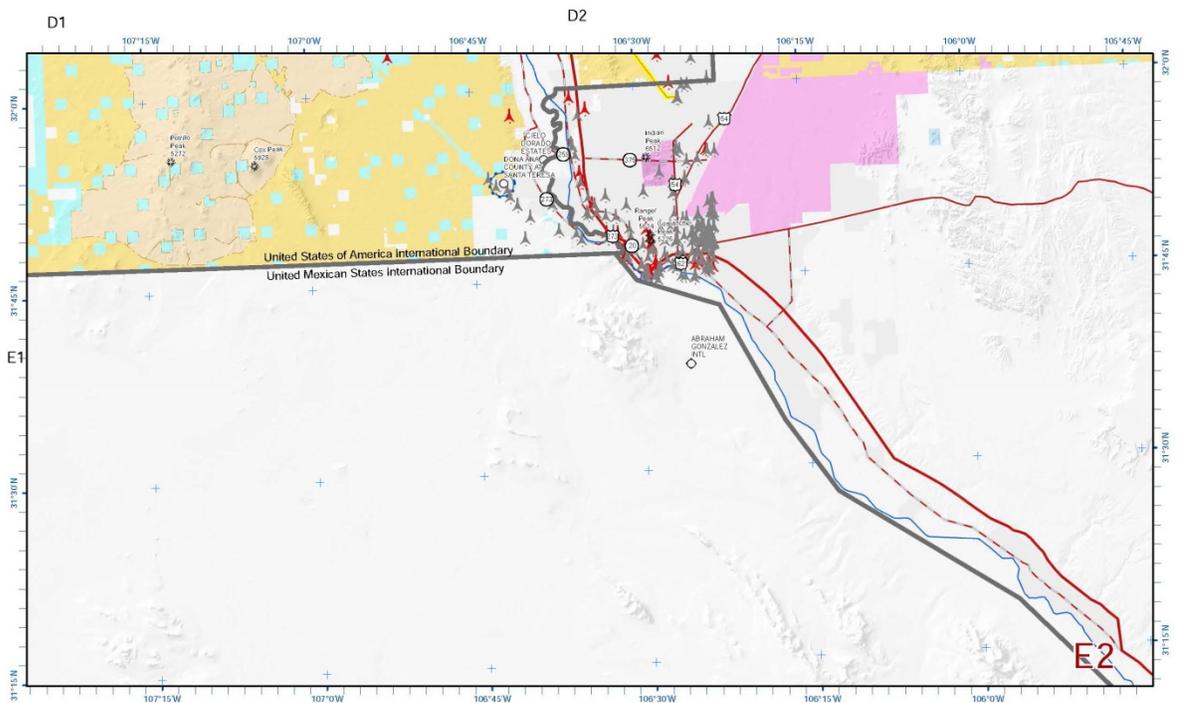
6



7



8



9