

2019 BRF Aerial Risk Assessment

Assessment and Mitigation of: System:
 Bitterroot N.F. Aerial Hazards Air Patrol/Aerial Recon/General Flight/Normal Projects (F/W and R/W)

Sub-system	Hazards	Likelihood	Severity	Outcome	Mitigation	Likelihood	Severity	Outcome	Mitigation Achieved ?
Flights on the Border	Aircraft on a common border on different frequencies...airspace conflicts	occasional	critical	serious	Utilize "Boundary Zone Airspace Coordination Plan" (NR MOB guide). Avoid 'buffer zones' unless access is coordinated. Avoid boundary areas until mitigations are in place	n/a-avoid	critical	low	"Yes" if SOP followed
Minimum Flight Profiles	Sustained "Low and slow" operations...near 500' AGL for F/W, in Height/Velocity curve for R/W*	occasional	catastrophic	high	Planned "minimum flight profile" missions must be coordinated and approved in advance. Spontaneous need to enter such profiles: perform rapid RA and communicate to FAO through dispatch.	improb	catastrophic	medium	"Yes" if SOP followed
Severe Weather	Turbulence/Lightning/ Hail	occasional	critical	serious	Avoid thunderstorms to the degree practical (maintain at least 5NM clearance unless justification/need is 'high' and communicate such to dispatch). Produce and follow "severe weather plan" for aircraft protection	n/a-avoid	critical	low	"Yes" if SOP followed
GA traffic/private airstrips	Airspace conflicts with GA	occasional	critical	serious	Review likely GA activity areas with pilots in briefing (Corvallis practice area, West Fork Lodge airstrip). Sterile cockpit near airstrips or high GA areas	occasional	negligible	low	"Yes" if SOP followed
MTR	Airspace conflicts with Military Aircraft	occasional	critical	serious	Coordinate with dispatch for Airspace Deconflict/notification prior to entry to MTR's	n/a-avoid	critical	low	"Yes" if SOP followed
Airport Ops	Skydiver Ops conflicts*	occasional	critical	serious	Coordinate with Airport Manager for known activities notifications. Brief and Practice: No turning props/rotors during skydiver drop operations. Shut down if conflict. Involve FAO	remote	critical	medium	"Yes" if SOP followed
General Assessment Value		low/medium*	Prepared By:		Date: Dean Bitterman Date: 6/2/2016				
(additional site-specific hazards)					(additional mitigations)				
Final Assessment Value:			Additions by:		Date:				

Bitterroot N.F. Aviation Quick Reference Guide



Summary info:

Aviation procedures, contacts, frequencies, and locations on the Bitterroot National Forest

"Safe Attitude—Safe flying"

Date: 7/10/2019

https://ftp.nifc.gov/public/incident_specific_data/n_rockies/
 (navigate to : IncidentAviationManagers/1-ForestBriefingPackages)



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Hamilton street map and motel list (area code 406- for all)

1. *****Bitterroot River Inn** **375-2525**
 2. ****Super 8** **363-2940**
 3. ****Townhouse Inn** **363-6600**
 4. ****Motel 6** **363-2142**
 5. ***Deffy's Motel** **363-1244**
 - ~~6. ***Bitterroot Motel** **363-1142**~~
 7. ***City Center Motel** **363-1651**
- Angler's Lodge cabins (4 miles S.) 363-0980**



General Motel List

- Darby** - Mountain Spirit Inn - 821-3405
 - Budget Inn - 821-2096
 - Traveller's Rest Cabins - 821-3282

Sula - Sula Country Store Cabins, KOA 821-3364

W.Fork - (these locations may no longer be available due to sales/potential sales)

- **West Fork Lodge (airstrip)** 821-1853
- **Trapper Creek Lodge** - 821-4970

Exhibit F-8. Green Amber Red Form

Operation:		Scheduled Date:
Objective(s):		
Supervision	Label the number as	
Supervisor has perfect knowledge about the mission, personnel, capabilities and limitations, and is able to apply the appropriate control to minimize risk.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	Supervisor has little knowledge about the mission, personnel, capabilities and limitations, and lacks skill, knowledge or ability to apply the appropriate control to minimize risk.
Planning		
There is a well-designed plan that is reviewed and revised as needed to meet the demands for safety and efficiency and to account for adaptation. Time is well managed.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	There is no plan or the plan doesn't address many current adaptations made in response of demands for efficiency. Time constraints have a strong effect on ability to plan.
Contingency Resources		
Reliable alternative equipment and personnel are available, easily accessed and informed about the mission requirements.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	The outcome depends on the equipment and personnel assigned completing the mission perfectly. Failure is not an option.
Communication		
Interpersonal communications are clear and there is a high level of trust in the organization. Adequate personnel and technology are available to relay information accurately to those who make the decisions.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	There is low trust in the organization or the personnel/communication equipment is unreliable based on the expected needs for the mission.
Team Selection		
Multiple personnel with skill, knowledge and ability are available to fulfill the requirements of the mission. Selection and preparation are done well in advance so there is time to address personal and job related demands.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	Only one person is available and the success of the mission depends on that person juggling many responsibilities to squeeze this mission into the work schedule. Additional time will be donated to keep up with the workload.
Team Fitness		
Personnel are trained, proficient, healthy, and rested prior to starting the mission. Personal issues are addressed and little external stress is being exerted.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	Personnel lack one or more critical component in their training. They have many additional duties or social pressures distracting them from their proficiency.
Environment		
Weather and visibility are conducive to the best possible chance for success in the mission. Operational tempo is appropriate for the mission.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	Winds are unpredictable, temperature is extreme, low ceilings and visibilities, precipitation, sun angle creates strong shadows, etc. Mission tempo is too low or high.
Mission Complexity		
A single agency is involved with personnel from the same unit who regularly work together. Mission is straight forward and covered by standard operating procedures.	< 😊 1 2 3 4 5 6 7 8 9 10 😊 >	Multiple agencies are involved in a novel or confusing mission. Personnel are new to each other and come from different operational cultures. Many leaders are emerging and working toward different objectives.
		Mission Total Risk Score:
Risk Score 1-35	Risk Score (36-60)	Risk Score (61-80)
GREEN ZONE	AMBER ZONE	RED ZONE
Benefit Statement:		
Operation Approved by:		Date:

Appendix 2-4: Generic GAR for rapid risk assessment (see also R1 helitack FRAT for exc-use helitack)

The instructions and form shown below represent a generic GAR that can be used for rapid aviation planning and communication of risk. This can also be utilized to communicate unacceptable risk as part of an aviation assignment turnaround. Though it references helicopter operations, the basic form and principles can be applied to any aviation operation. The expectation is to utilize and retain this or another GAR or FRAT for every aviation flight... prior to or just prior to flight commencement. There is no need to fill in blanks that do not apply to the operation. Make the form/process a useful part of the flight planning process. The flight manager is responsible for completion of the GAR and retaining it in the in the specific program's records. For Air Patrol, for example, the AOBs could fill out the pertinent parts of the GAR with the pilot and retain in the air patrol folder/briefcase. Any elevated risks identified should trigger additional conversations within the flight team, with issues that are not resolved or reduced in risk level elevated to the Forest Aviation officer and/or Forest Fire Management for assessment.

Operational Risk Assessment-Green-Amber-Red(GAR) Form..Purpose

The mission risk mirrors the colors of a traffic light. If the total risk value falls in the3 GREEN ZONE (1-35), risk is rated as low. A moderate level of risk is indicated when the4 total risk value falls in the AMBER ZONE (36-60), and should the total value fall in the RED ZONE (61-80), you should ensure that all effective control measures have been implemented prior to starting the operation. The Amber and Red risk levels must also be evaluated at a higher level in the organization than the helicopter/helibase manager, so that the organizational risk acceptance levels are aligned with the expected benefit of the operation.

The GAR Model provides a general assessment of operations and allows management to set the standard for risk. Any concern for elevated risk levels in one or more of the categories may require an in depth assessment using a more specific assessment.

Assigning numerical values and colors to hazards using the GAR Model is not the most important part of this risk assessment. The importance lies in the team discussions, which lead to an understanding of the threats, how they will be controlled, and what standards management expects personnel to maintain. This allows decision making, and threat and error management, to be properly aligned with the organization.

B.Applicability.

The form is a time critical Safety Risk Management tool that applies to missions/ flights.

C.Routing and Filing.

Daily or mission specific risk assessments should be performed. Refer to specific agency policy for documentation, routing and filing requirements.

D.Posting.

No requirement for posting.

E.Related Forms.

Risk Assessment Worksheets.

Category	Level of Risk	Level of Risk
Supervision	_____	Communication _____.
Planning	_____	Contingency Resources _____.
Team Selection	_____	Environment _____.
Team Fitness	_____	Complexity _____.

Bitterroot Aviation Information Briefing (Submit signed copy to FAO).

All new aviation resources on the Bitterroot National Forest are required to receive a briefing prior to commencing operations. The duration of the briefing may vary, dependent upon numerous factors, such as:

- 1) Pilot/Manager familiarity with the terrain and policies of the Bitterroot N.F.
- 2) Time critical nature of the mission.

Generally, aerial resources that are assigned to be based on the Bitterroot National Forest (Helicopters, SEAT's, and air tactical platforms assigned as local resources) will receive a thorough ground briefing prior to commencing operations. Aerial resources that are not assigned to be based on the Bitterroot National Forest (i.e.: tankers, lead planes, non-local air tactical platforms or non-local helicopters or SEATs on time critical missions) will generally receive a briefing in flight from Dispatch. The in-flight briefing must entail the critical information required by the mission (i.e.: hazards, other aircraft, communications, mission parameters, etc.).

The following is the general briefing outline. Additional items may be added as needed. The pilot signifies receipt of the briefing by signing the bottom of this form. The Bitterroot Aviation Briefing Package is a useful tool to accompany this briefing. Those items listed below with an asterisk* are included in the package.

Bitterroot Aviation Briefing Outline:

- Local conditions, Forest layout, ERC's, current fires/incidents, other air resources, hazards. (reference dispatch morning line up and resource summary and fire weather forecast, Forest map*, ERC card, flight hazard map*)
- Communications, flight following, and dispatch procedures. (reference aviation plan, zone IA frequencies map*, communications quick reference map*, frequency list*).
- Local aviation risk management policies*. 1) Tactical ops after sunset; 2) Aerial mapping/low level flight; 3) Rapid refueling of helicopters; 4) Medevac by helicopter. RA for others on back of booklet.)
- Forest/aviation organization and phone numbers. (R-1 and Bitterroot phone directories*).
- Airport Information*: fuel flowage fees at Hamilton airport (Vendor responsibility), airport facilities, Security, C/R plan.
- Severe Weather plan (preplanning & advance decisions for operational control).
- Airstrip/helibase/helispot locations. (reference hazard map*, helibase information drawings*, helibase/lookouts lat/long list*).
- Local services information. (reference street map/motel list*, AvGas/Jet-A*).
- Resource specific information. (reference Helicopter and SEAT plans).
- Transition plans (transfer of briefing info. to replacement/new managers+crew)
- Noxious Weeds Spread Mitigation (net inspections, site use, vehicle wash).
- Retardant/Fire chemical avoidance areas (reference Forest TES map).
- Aquatic Nuisance Species Mitigation Procedures*. Date bucket washed: _____

Briefing delivered by: _____ Date: _____
(print name) (Initials)

Received by: _____ (_____) Title: (Pilot, N# _____)
 _____ (_____) Title: _____
 _____ (_____) Title: _____
 _____ (_____) Title: _____

Airport Info, AvGas and Jet- A Fuel Sources

Ravalli County Airport;

MGR: Page Gough:406-375-9149 cell: 406-381-0419

AWOS-3P: 119.825; 406-375-9149

Aviation Fuel:

Ravalli County Airport: AvGas and Jet-A, fuel truck+self-serve

Choice Aviation: 406-363-6471

24-hr (normal hours may end at 7:00 PM—call for late service)

Stevensville Airport:

MGR: Paul O'Bagy 406-369-5502

AWOS: 120.925

Fuel: AvGas only, self serve

Helicopter Use Sheet

Helicopter use sheet for Helicopter (type and N#)
(Send one copy to district on which incident occurred. Maintain original in booklet)

- 1. Incident Name/number: _____ 2. Geographic Location: _____ 3. Lat/Long _____
- 4. District: _____ 5. Job Code: _____ 6. Date/Dates: _____
- 7. Flight Hours: _____ 8. Aircraft costs: _____ 9. Module costs: _____
- 10. Helispot location: _____ 11. Dipsite location: _____ 12. Gallons Dip/Drafted: _____
- 13. Retardant/Foam use?: _____ 14. Helispot/Dipsite improvements?: _____ 15. Wilderness intrusion?: _____
- 16. Other impacts (ie: fuel near water): 17. Impact mitigations used: _____ 18. Notes: _____

Excerpts of the Forest Aviation Safety Management Plan (FASMP)

Risk Management on the Bitterroot National Forest:

A key component of all aviation operations on the Forest is Risk Management. It is expected that Risk Management procedures will be pursued prior to commencing any aviation activity (see IHOG/PMS 510 chapter 3 for example). Evaluations of the “essential” nature of the flight, passengers that are truly necessary to the specific mission, and the appropriate level of authorization required for the flight are a part of the Risk Management process that is conducted collaboratively by the pilot, aviation user, the forest dispatch, and the forest aviation organization. All aviation activities have a “standard flight profile” identified in the specific operating plan for that mission for which risks have been managed. It is assumed that a substantial portion of the flight falls within this profile. For example, aerial detection flights occur in a standard flight profile of 1000’ to 1500’ AGL, with only minimal time spent in the 500’ to 1000’ AGL range over specific incident sites. It is important that such minor deviations from the standard flight profile be communicated to dispatch along with the conducting of a rapid risk assessment on scene prior to undertaking that portion of the mission. Missions that have a substantial portion of the flight requiring operation outside the planned flight profile are not to be undertaken and must be ordered and planned under an existing or new aviation plan which incorporates the accurate flight profile into the risk assessment. Some aviation activities require special measures and notifications beyond normal operating procedures in order to mitigate the associated risks of the specific mission. Activities that have been identified to meet these criteria on the Bitterroot National Forest include:

- 1) Aerial Tactical Operations After Sunset (see below for SOP)
- 2) Aerial GPS mapping/sustained low level helicopter recon (see below for SOP)
- 3) Rapid Refueling of Helicopters (see below for SOP,
- 4) Medevac by helicopter (see below for SOP).
- 5) *Flights on the border (see BRF Aviation Plan appendix 2-1 for SOP)
- 6) *Minimum Flight Profiles (Risk Management above for SOP)
- 7) *Operations near Severe Weather/Severe weather plan (SOP is to brief to this at in-brief—topic in Aviation Briefing Package checklist. Managers should pre-plan the response options. Determine operational control prior to any “flyaway’s)
- 8) *Potential airspace conflicts with General Aviation traffic (SOP is to review hazard map for areas of concern and communicate that info in briefings.
- 9) *Aerial operations in/near MTR’s (SOP is to deconflict through dispatch)
- 10) *Aerial operations near skydiver operations (SOP is to coordinate with skydiver coordinator and airport manager, and to brief and practice: No turning of props or rotors during skydiver drop operations—shut down/delay agency aviation operations if conflict.

Items 1-4 are addressed below. Items 5-10 are addressed in the forest general aerial flight hazard RARisk Management procedures and justifications specific to these missions must be completed prior to conducting the mission.

Aviation Doctrine on the BRF:

Risk management and Aviation Doctrine are very closely associated. A key component of implementing Aviation Doctrine on the BRF is verification of and concurrence with the risk management process. This is achieved through notification to Forest Aviation Management (**specified here as the Forest Aviation Officer, acting, or designee**) through Bitterroot Dispatch, or to the appropriate Incident Management Team Air Operations personnel. For time critical operations, the Risk Management process can be completed while in flight, with notification to Aviation Management via radio on the appropriate FM freq. For non time-critical operations, the Risk Management should be documented in a written format and attached to the flight request or otherwise delivered to Aviation Management. The intent of this **doctrinal** process is to assure that the proper notifications/authorizations are made commensurate with the level of risk being undertaken while still allowing the pilot and flight manager the flexibility to perform their own risk-assessments and to exercise good judgment in the performance of incident support missions. It should be stressed that Risk Management is a part of every flight on the forest. The missions listed have been identified as missions which are of a recurring nature each year that require an additional level of evaluation. See below for the specific Risk Management considerations for the listed missions.

1) AERIAL TACTICAL OPERATIONS after sunset:

Single engine aircraft operations are authorized to be conducted only from 30-minutes before official sunrise to 30-minutes after official sunset. However, aircraft operations on the Bitterroot National Forest of a tactical nature should, in general, only be conducted until official sunset. The period of time from official sunset until 30-minutes later should only be used for non-tactical flight back to an airbase. This means that all Initial Attack operations, cargo delivery, bucket work, retardant delivery, etc. should generally terminate at official sunset. Exceptions to this should be rare, and are left to the flight manager and pilot to decide—through use of a risk management process—when it is necessary and justified to continue tactical work after sunset. This justification shall be communicated to Aviation management prior to implementing the flight beyond sunset in accordance with the above stated risk management direction. The intent of this protocol is to conduct high task load/high concentration operations during low-light conditions only when deemed absolutely necessary, and when the additional hazards of such conditions can be mitigated.

2) Aerial GPS Mapping/Sustained Low-level Helicopter Recon

GPS mapping and sustained low-level helicopter reconns often involve precision aircraft maneuvering at low speeds at low-level. Efforts should be taken to limit the frequency and duration of operations of this type. In addition, passengers are limited to only those necessary to perform the specific mission of mapping or low-level recon. Passengers that may need recon information that could be obtained from a higher level/lower risk flight profile should not be aboard the aircraft during the mapping /low-level portion of flight. Generally, mapping or sustained low-level helicopter reconns can be planned in advance, with a written flight request.

3) Rapid “Hot” Refueling of Helicopters

Rapid Refueling of Helicopters requires a request from the Government, contract authorization, a vendor operating plan, and a specific notification to Aviation Management. Generally, closed-circuit refueling will be approved if the intent is to increase the safety of the operation (ie: lighter aircraft gross weight). Open port “hot” refueling of type 2 and type 3 helicopters will generally only be approved for life-safety missions.

Helicopter Use Sheet

Helicopter use sheet for Helicopter (type and N#)
(Send one copy to district on which incident occurred. Maintain original in booklet)

- 1. Incident Name/number: _____ 2. Geographic Location: _____ 3. Lat/Long _____
- 4. District: _____ 5. Job Code: _____ 6. Date/Dates: _____
- 7. Flight Hours: _____ 8. Aircraft costs: _____ 9. Module costs: _____
- 10. Helispot location: _____ 11. Dipsite location: _____ 12. Gallons Dip/Drafted: _____
- 13. Retardant/Foam use?: _____ 14. Helispot/Dipsite improvements?: _____ 15. Wilderness intrusion?: _____
- 16. Other impacts (ie: fuel near water): 17. Impact mitigations used: _____ 18. Notes: _____

4) Medevac by Helicopter

Helicopter medevac is a situation where mission focus and emotional response have a high potential to supercede the risk management process. All helicopter medevacs on the Bitterroot National Forest shall include notification to Aviation Management, with verification of completion of a risk management process appropriate to the situation.

Dispatch—

Point of contact for aviation briefings

All aircraft and crews assigned to work from an airbase on the Bitterroot National Forest will receive a briefing on local hazards and procedures. The point of contact for aviation resource briefings on the Forest is the Hamilton Airport/Helibase. An alternate location may be designated as needed by Bitterroot Dispatch in coordination with the Aviation Officer.

Ordering Flights:

All agency flights on the Bitterroot National Forest will be ordered through and dispatched from the Bitterroot Dispatch Center (BRC). For all flights (F/W and R/W) other than emergency use, submit an Aircraft Request Form (BRF ASMP A-1-1) to the Dispatch office. Time critical emergency use request (such as fire initial attack requests) for aircraft will be processed and documented at BRC to allow for rapid response of the resource. For administrative flights, forms R1-FS-5700-10 and 5700-11 must be completed by the traveler and presented to Dispatch prior to the flight to ensure that administrative aircraft use is efficient, cost effective and accountable (see BRF ASMP Appendix A-1-2 and A-1-3).

Flight Plans and Flight Following:

Pilots on FAA flight plans on the Bitterroot National Forest will relay the estimated time of departure (ETD) and estimated time of arrival (ETA), as well as other flight planning information to Bitterroot Dispatch prior to departure. Non-FAA flight plans made through Dispatch must list the aircraft identification tail number and color, pilot name(s), passenger name(s), mission, route, destination, ETD and ETA. All flights over the Forest on a Forest Service flight plan will maintain radio contact on a pre-designated frequency for notifications of take-offs and landings, as well as mission changes. Any deviation from the flight plan must also be reported, and thus a new flight plan created. Relay of position and heading information every 15 minutes will be performed by automatic flight following (AFF) unless another flight following format is designated by Dispatch. In the event that an aircraft on a Forest Service flight plan is determined to be overdue (30 minutes after ETA at destination, or if two successive periodic checks are not made) the dispatcher will follow procedures in the Aircraft Mishap Response Guide.

Communications:

All Forest Service flights must have established positive communications with the Bitterroot Dispatch Center (BRC) (callsign: Hamilton Dispatch) or a station approved by the dispatch office before flight over the Forest. If contact is ever lost and communications cannot be re-established, the flight must be terminated to the nearest location where reliable ground communication can be established. Standard flight following procedures require 15-minute radio or AFF check-ins for all mission flights. Certain point-to-point flights may be conducted with pilot submission of an FAA flight plan. The Flight Manager should check with BRC to determine communication needs prior to the scheduled flight.

Sterile Cockpit

Sterile cockpit procedures will be maintained within a 5-mile radius of an airport and when taking off or landing. No radio or cockpit communications will be performed during this period that is not directly related to safe flight of the aircraft. There may be occasions that necessitate communications within this zone (e.g.: a fire within 5 miles of an airport). In these cases, sterile cockpit should be initiated or maintained as it is practical to do so—but at a minimum should be adhered to within the airport traffic pattern.

Transponders

All fire suppression aircraft working on the Bitterroot National Forest shall operate with their transponder on and tuned to 1255.

PPE:

The personal protective equipment standards are set by policy in the Red Book, IHOG/PMS510, and R1 Aviation Management Plan. The intent is to have a minimum standard that is supplemented by additional PPE as warranted by individual risk assessments. In general, F/W flights require non-synthetic clothing (or nomex)—to include long pants and shoes that fully cover the feet. R/W flights require non-synthetic undergarments, nomex clothing, leather boots, nomex or leather gloves, and flight helmet. Supplemental PPE may include: fire shelter, hand-held radio or satellite phone, long sleeve shirt (F/W), Personal Floation Devices, or other equipment as determined case-by-case by the risk assessment.

Airport procedures and C/R:

All airports on the Bitterroot are uncontrolled. Fuel flowage fees are assessed at Hamilton. C/R response to an airport is via 911 to the closest Rural/City Fire Department (no on-airport C/R).

Helicopter use sheet for Helicopter (type and N#)
(Send one copy to district on which incident occurred. Maintain original in booklet)

- 1. Incident Name/number: _____ 2. Geographic Location: _____ 3. Lat/Long _____
- 4. District: _____ 5. Job Code: _____ 6. Date/Dates: _____
- 7. Flight Hours: _____ 8. Aircraft costs: _____ 9. Module costs: _____
- 10. Helispot location: _____ 11. Dipsite location: _____ 12. Gallons Dip/Drafted: _____
- 13. Retardant/Foam use?: _____ 14. Helispot/Dipsite improvements?: _____ 15. Wilderness intrusion?: _____
- 16. Other impacts (ie: fuel near water): 17. Impact mitigations used: _____ 18. Notes: _____

2019 BITTERROOT FIRE PHONE LIST

SUPERVISOR'S OFFICE		363-7100	Fax: 363-7106	SULA RANGER DISTRICT		821-3201	Fax: 821-2340
		DESK	CELL	Duty Officer: 821-2322		DESK	Bunk House: 821-4877
Matt Anderson	Forest Supervisor	363-7121		Engine Foreman	821-2308		214-4348
Mark Wilson	Forest FMO	375-2610	360-1154	Hand Crew Foreman	821-2332		544-5192
Greg Jacobson	Forest AFMO	363-7163	240-4974	Asst. Engine Foreman	821-2301		530-520-7429
Matt Young	Forest AFMO Fuels	363-7149	493-4391	Asst. Crew Foreman	821-2317		
Anna Bateson	Fire Prevention	363-7150	360-5638	Fuels Tech	821-3884		
Deanna Crawford	Incident Business	363-7135	274-2995	Sulfa Peak Lookout			
DISPATCH		363-7133	Fax: 363-7131	Tepee Point Lookout			360-1052
After hours 363-7133 forwarded to on-call dispatcher							
Kelly McKee	Center Manager	363-7129	360-4587	WEST FORK RANGER DISTRICT		821-3269	Fax: 821-1211
Joy Williamson	Asst. Center Manager	363-7125	396-1220	Fire: 821-3271 or 821-1230	Bunk House: 821-1234/15/16/17		
Shannon Vaughan	IA Dispatcher	363-7123	544-5770	Seth Carbonari	821-1212		253-5945
Edward Culbert	IA Dispatcher	363-7115	517-216-4724	District Ranger	821-1243		360-0481
Vacant	IA Dispatcher	363-7113		Doug DeMoss	821-1247		396-0407
AVIATION			Fax: 375-9480	Bret Lewis	821-1226		381-8149
Dean Bitterman	Forest Aviation Officer	363-7162	370-7024	David Fox	821-1227		928-970-2531
John McKee	Helicopter Prog. Migr.	361-3251	370-7028	Zach Lee	821-1246		719-850-0142
Cory Rennaker	Asst. Helitack Migr.	361-3252	360-0805	William Hall	821-1214		369-3065
Jerrid Silva	Asst. Helitack Migr.	361-3253	381-5963	Russ Buzzell	821-1229		381-8469
Thomas Wurm	Helitack Squad Leader	361-3255	307-231-0064	Jacob Rough	821-1228		541-279-1650
Nathaniel Decker	Helitack Squad Leader	361-3254	660-1071	Dustin Strayer	349-2260		
	Ready Room	361-3250		Lone Pine Helibase			531-2433
STEVENSVILLE RANGER DISTRICT		777-5461	Fax: 777-7423	Hells Half Lookout			531-2432
Fire: 777-2288				Barecone Lookout			210-0799
Tami Sabol	District Ranger	777-7410	546-8704	Spot Mtn Lookout			531-2431
Jay Wood	FMO (Detail)*	777-7436	370-6681	Lookout Mtn Lookout			381-2831
Benji Hegg	AFMO*	777-7431	239-1475	Salmon Mtn. Lookout			
Jonathan Devino	AFMO Fuels	777-7430	544-5867	TRAPPER CREEK JOB CORPS.		821-3286	Fax: 821-3290
Matthew Delaney	Engine Foreman	777-7451	274-7789	Justin Abbey	821-2159		531-1381
Scott Suko	Engine Foreman*	777-7450	885-4229	Kevin Neidhardt	821-2111		381-1577
Rebecca Fry	Asst. Engine Foreman	777-7452	369-1079	Jade Muir	821-2173		381-3768
Bret Figueroa	Asst. Engine Foreman*	777-7452		Brian Shay	821-2102		274-1747
Alex Hartless	NZ Fuels/Prevention	777-7440	531-5547	Dorea Martin	821-2124		381-6342
	Willow Mtn. Lookout		360-2529	Jarrid Chandler			544-8286
	St. Mary's Lookout		546-1025	Clint Mendenhall			
DARBY RANGER DISTRICT		821-3913	Fax: 821-4264	LAW ENFORCEMENT			
Fire: 821-3960	Cache: 821-4281	Bunk House: 821-3923		Josh Bidderman	363-7161		361-5084
Duty Officer: 821-4293		Duty Officer Cell: 210-4942		Stephanie Zacha	821-4251		249-0082
Eric Winthers	District Ranger	821-4244	830-7527	CONF. CALLS		Passcode	
Derek Davenport	FMO	821-4258	360-0806	BRF Conf. Call	888-544-9904		3886569#
Richard Griffin	AFMO	821-4255	925-1951	LEE METCALF NATIONAL WILDLIFE REFUGE		Host: 2647172	
Jacquie Parks	Fuels Specialist	821-4268	361-0483	Tom Reed	777-5552 ex 205		777-5552
Russ Williams	Engine Foreman	821-4274	396-2807			Refuge Manager	360-2648
Tate Cavill	Engine Foreman	821-4280					
Bajin Smith	Asst. Engine Foreman		382-0235				
Jonah Vaughan	Asst. Engine Foreman	821-4271	531-4702				
Cache Gibbons	IHC Superintendent*	821-4253	529-5554				
Danny Atkinson	Asst. IHC Sup. *	821-4276	208-317-4089				
	Pass. Mtn. Lookout	363-7137	376-0811				

Revised 6/12/19

Ravalli County Airport Manager: Page Gough 381-0419

Records/Reporting/Safecom

Aircraft managers and contract inspectors will be required to submit copies of flight summaries (cost and use summaries) to the FAO for flights that occur on the Bitterroot National Forest. Managers of aircraft contracted by the Bitterroot National Forest shall submit electronic flight invoices and daily diaries to the aircraft COR at least bi-weekly. The COR will then complete and submit the bi-weekly payment bundle. Information on Forest-contracted aircraft will be included in aircraft summaries at the end of the season. Information on the use of all aircraft on the Forest will be tabulated and summarized by the FAO for future planning purposes. *Any aviation SAFECOM involving an incident or accident on the Forest shall be reported to the FAO as soon as possible for review and submission to the Regional Aviation Safety Manager. The report to the Region must occur within 48 hours. Safecom reporting direct to the Region via internet should include a courtesy copy to the FAO at time of submission.*

Security of Aircraft, Security Threat,

In general, the security threat assessment for aircraft operations on the Bitterroot N.F. is low. The Rocky Mountain Laboratory is a BSL-4 facility located on the SW edge of Hamilton—avoid low-level overflights. Normal security arrangements upon mobilization of an aircraft to the Bitterroot National Forest are to request occasional “drive-by’s” from local law enforcement as part of their normal patrols, and to inform the local airport manager (if the airbase is at an airport). Specific conditions are evaluated on a case-by-case basis to determine if additional security precautions are required (See BRF AMP chapter 4: Site Security Plan). Incident Management Team air bases on the forest may be required to have dedicated night security. Appendix 2-3 of the BRF Aviation Management Plan: Aircraft Security Plan contains general guidelines for aircraft managers to use in developing specific air base security plans upon activation of the air base.

Bitterroot N.F. Aviation Committee

The Forest Aviation Committee is comprised of Forest and District Aviation Management personnel who are primary contacts for aviation matters on the districts/forest. SO: Dean Bitterman, John McKee, Cory Rennaker, Jerrid Silva D1: Jon Devino; D2/D3: Tanya Neidhardt; D4: Bret Lewis (see page 44 for contact information)

Region 1—Aviation Phone List: Aerial Fire Depot

Regional Office

26 Fort Missoula Road; Missoula, MT 59804; Phone: 406-329-3511 Fax: 406-329-3511

Hazard Pay for Aviation:

Project work: There are very few instances of ‘limited control flight’ for helicopter projects on the forest, and they would need to be captured in the project aviation safety plan (PASP) and approved before conducting such missions involving those flight profiles. An example of a helicopter project with a planned ‘limited control flight’ component would be aerial ignition or other missions where there has been an approval signed in the PASP for exposure to undue hazards. Other projects may qualify for hazard pay under the ‘work under hovering helicopter’ provision.

Fire missions: Primarily there are three pre-authorized helicopter fire missions and two pre-authorized fixed-wing fire missions that always involve limited control flight. These are—(helicopter): rappel, short-haul, and aerial ignition; (fixed-wing): low-level paracargo, low-level lead plane. For all other flights there are no pre-authorizations—determinations are made on a case-by-case basis. Initial attack (helicopter) assumes that flight into unimproved landing areas (that do not meet the IHOG standard of a helispot) where ‘unusual or adverse conditions exist’ might occur. It is not an automatic determination, and would be decided individually. If an IHOG standard helispot is utilized on the initial attack, there should be no entry into ‘limited control flight where control of the aircraft is severely limited’ and so hazard pay may not be justified in that case. In general, there is no assumption that ‘limited control flight’ occurs on any flight other than some initial attack missions. Any such flight that involves ‘limited control flight’ must be approved, either in the PASP for projects or as part of the request at the time of order for fire missions. The individual rapid-risk assessment will determine if flight in that profile is necessary and justified (the benefit must exceed the risk), and that determination must be communicated.

Name	Title	Email	Office Phone	Cell Phone
Harris, John	Regional Aviation Safety Manager	john.m.harris@usda.gov	406-329-4749	406-370-3342
Ketel, Philip	Regional Aviation Officer	pcketel@usda.gov	406-329-4903	406-552-8918
Morris, Greg	Dep. Director Fire, Aviation & Air	gmorris@fs.fed.us	406-329-3296	406-830-6304
Rau, Ralph	Director Fire, Aviation & Air	rerau@fs.fed.us	406-329-3402	208-315-3851

Aerial Fire Depot (AFD)

5765 W. Broadway; Missoula, MT 59808; Phone: 406-329-4900; Fax: 406-329-4943

Name	Title	Email	Office Phone	Cell Phone
Bak, Shane	Pilot	sbak@fs.fed.us	406-329-4919	406-240-9090
Dobberstein, Beau	Helicopter Ops Specialist	bdobberstein@fs.fed.us	406-329-4984	306-370-3374
Fanrich, Abe	Pilot / Supervisory Standards	afanrich@fs.fed.us	406-329-4815	406-880-1802
Farro, John	Aircraft Maint. Inspector	jfarro@fs.fed.us	406-829-7345	406-370-3347
Hillenbrand, Nate	Pilot	nhillenbrand@fs.fed.us	406-329-7383	406-370-4219
Koeneman, Kenneth	Aircraft Maint Insp. Avionics	kkoeneman@fs.fed.us	406-329-7344	406-381-5925
McDonald, Dolan	Pilot	pdmcDonald@fs.fed.us	406-329-4917	406-360-2962
Meekin, Kevin	Pilot/ Supervisory Ops	kmeekin@fs.fed.us	406-329-4777	406-370-3351
Sannella, Joe	Pilot/ Smoke Jumper	jsannella@fs.fed.us	406-329-4778	406-370-3345
Schlapfer, Hon	Fixed Wing Ops Specialist	hschlapfer@usda.gov	406-329-4914	970-903-4302
Smith, Dustin	Pilot	dustinsmith@fs.fed.us	406-329-4982	406-370-4259
Stickler, David	Pilot	dstickler@fs.fed.us	406-329-4916	406-370-3348

HAMILTON, MT
Rise and Set for the Sun for 2019

Astronomic
U. S. Nava
Washington

Zone: 6h West of Greenwich

Day	May		June		July		Aug.		Sept.		Oct.	
	Rise h m	Set h m	Rise h m	Set h m	Rise h m	Set h m	Rise h m	Set h m	Rise h m	Set h m	Rise h m	Set h m
1	0623	2045	0549	2121	0549	2132	0618	2107	0657	2015	0735	1917
2	0622	2046	0548	2122	0549	2132	0619	2105	0658	2013	0736	1915
3	0620	2048	0547	2122	0550	2131	0620	2104	0659	2012	0737	1913
4	0619	2049	0547	2123	0551	2131	0622	2103	0701	2010	0739	1911
5	0617	2050	0546	2124	0551	2131	0623	2101	0702	2008	0740	1909
6	0616	2052	0546	2125	0552	2130	0624	2100	0703	2006	0741	1907
7	0614	2053	0546	2126	0553	2130	0625	2058	0704	2004	0743	1905
8	0613	2054	0545	2126	0553	2129	0627	2057	0706	2002	0744	1903
9	0611	2055	0545	2127	0554	2129	0628	2055	0707	2000	0745	1901
10	0610	2057	0545	2128	0555	2128	0629	2054	0708	1958	0747	1900
11	0609	2058	0545	2128	0556	2128	0630	2052	0709	1956	0748	1858
12	0607	2059	0544	2129	0557	2127	0632	2051	0711	1954	0749	1856
13	0606	2100	0544	2129	0558	2126	0633	2049	0712	1952	0751	1854
14	0605	2102	0544	2130	0559	2126	0634	2047	0713	1950	0752	1852
15	0604	2103	0544	2130	0600	2125	0635	2046	0714	1948	0754	1850
16	0603	2104	0544	2131	0600	2124	0637	2044	0716	1946	0755	1849
17	0601	2105	0544	2131	0601	2123	0638	2042	0717	1944	0756	1847
18	0600	2106	0544	2131	0602	2122	0639	2041	0718	1942	0758	1845
19	0559	2107	0544	2132	0603	2122	0640	2039	0719	1940	0759	1843
20	0558	2109	0545	2132	0605	2121	0642	2037	0721	1938	0800	1842
21	0557	2110	0545	2132	0606	2120	0643	2036	0722	1936	0802	1840
22	0556	2111	0545	2132	0607	2119	0644	2034	0723	1934	0803	1838
23	0555	2112	0545	2132	0608	2118	0645	2032	0725	1932	0805	1836
24	0554	2113	0546	2132	0609	2117	0647	2030	0726	1930	0806	1835
25	0554	2114	0546	2132	0610	2115	0648	2028	0727	1928	0807	1833
26	0553	2115	0546	2132	0611	2114	0649	2027	0728	1926	0809	1831
27	0552	2116	0547	2132	0612	2113	0650	2025	0730	1924	0810	1830
28	0551	2117	0547	2132	0613	2112	0652	2023	0731	1923	0812	1828
29	0550	2118	0548	2132	0615	2111	0653	2021	0732	1921	0813	1827
30	0550	2119	0548	2132	0616	2109	0654	2019	0734	1919	0815	1825
31	0549	2120			0617	2108	0656	2017			0816	1824

Hazard Pay—continued

For fixed-wing missions there are no planned 'limited control' flights on the forest other than the smokejumper/leadplane missions listed above. Inadvertent 'limited control flight' due to extreme conditions would generally involve either termination of the mission or some form of rapid authorization to continue into an unplanned/unordered higher-risk flight profile (example, unplanned flight into turbulent air or low-visibility smoke conditions below minimums).

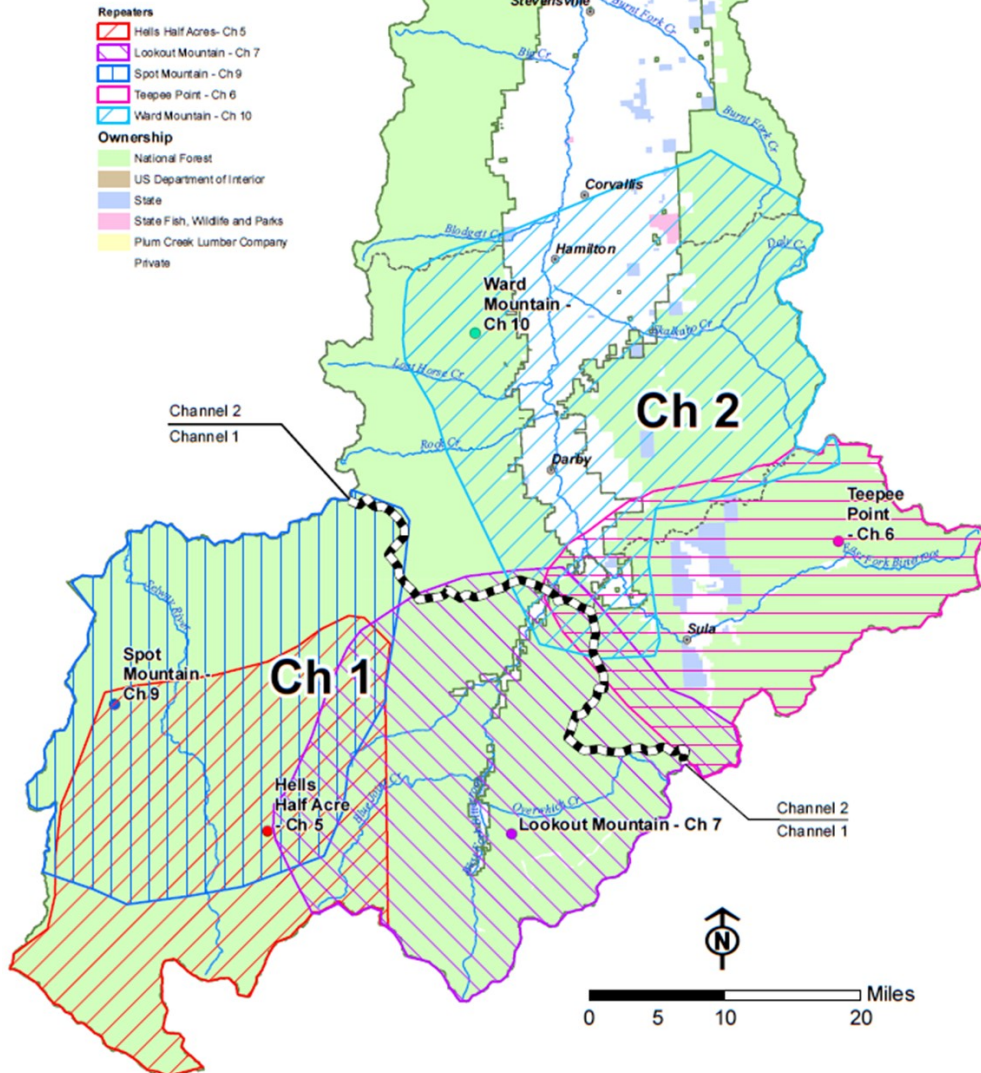
Bitterroot N.F. Radio Coverage/Repeater Map

Stevi, Darby/Sula R.D. on BRF2: Willow and Deer Mnt Base stations w/Ward and Teepee Rpts.

West Fork on BRF1: Bare Cone base station w/ Lookout and Spot Rpts.

Hell's Half Repeater is a stand-alone wilderness repeater to West Fork

Bitterroot National Forest Radio Coverage Areas by Channel and Repeater



2) Time-critical aviation operations:

These are operations that can not be planned in advance. This may include operations such as initial attack and life safety/medivac. Initial attack actions are generally rapid, fire suppression activities designed to prevent large, project type fires which could be of major impact to an area. Life safety operations are generally activities designed to prevent injury to personnel, or to transport injured personnel to medical facilities.

Aviation operations of this type require utilizing the mitigation measures listed in the above table *which are practical and feasible given the conditions, risk management, and the critical nature of the operation*. Contact with the Resource Advisor is required as soon as is practical after the commencement of the operation if any of the mitigations from Table 1 would have been required but could not be implemented.

Time-critical aviation operations must weigh the risk of potentially damaging a resource due to taking action without some of the listed mitigations against the risk of damage occurring to the resource and/or many other resources that may be caused by a delay in taking action.

The Helicopter Use Sheet, located at the back of this booklet, is an example of a report that could be used to relay information regarding suppression actions to a district. The district would be responsible for reporting fires 10 acres or larger, fires that are within 300 feet of waterways, and operations that have other potential resource effects (such as drafting or water bucket dipping) to the resource advisor.

Retardant Avoidance Areas on the Bitterroot National Forest

All waterways on the Bitterroot National Forest are retardant avoidance areas. In addition, certain areas are designated "sensitive" (such as Resource Natural Areas—RNA's, Archaeological sites, or Threatened and Endangered Species (TES) areas). Contact the Incident Commander (IC) prior to applying aerial fire chemicals to determine if there are any such sensitive areas nearby. In the absence of an on-the-ground contact, aerial resources can obtain this information from the district duty officer directly or through Hamilton Dispatch.

Activity:	Approved Mitigation:
Bucket Dipping or Drafting/pumping from streams, lakes, or ponds which may be critical habitats (this includes all bodies of water on the forest).	<u>Contact Resource Advisor</u> . Mitigations may include pumping into helicopter dip tanks and utilizing mesh screens on draft intakes, rinsing foam from buckets and/or disconnecting foam systems before dipping in lakes or waterways.(See PMS 444: ANS Guide)
Bucket Dipping or Drafting/pumping from streams, lakes, or ponds which may contain Aquatic Nuisance Species (ANS).	Wash, inspect, and/or sterilize equipment which may come in contact with and potentially spread ANS from such areas prior to moving to or utilizing another non-ANS site. (See PMS 444: ANS Guide) Chemicals are prohibited on aviation equipment...utilize water, high pressure water, and/or high temperature water only.
Fueling activities	Fuel at least 300 feet from waterways, or utilize fuel containment.
Retardant/Foam applications	Apply Retardants/Foams at least 300 feet away from waterways. (See Aerial Application of Retardants/Foams; BRF Aviation Management Plan). Also, reference Threatened and Endangered Species (TES) avoidance areas. See additional notes on page 39 and in the Implementation Guide for Aerial Application of Fire Retardant. This provision no longer has a waiver for time critical operations (except for life-safety operations).
Ground vehicle transport, Aerial Cargo/ Personnel Transport—potential for weed spread	Utilize weed free areas. Wash vehicles that have driven through weeded areas. Inspect cargo nets/ equipment and remove weed plant parts/seeds. (See ANS and Noxious Weed prevention; BRF Aviation Management Plan).

Bitterroot National Forest Frequencies List

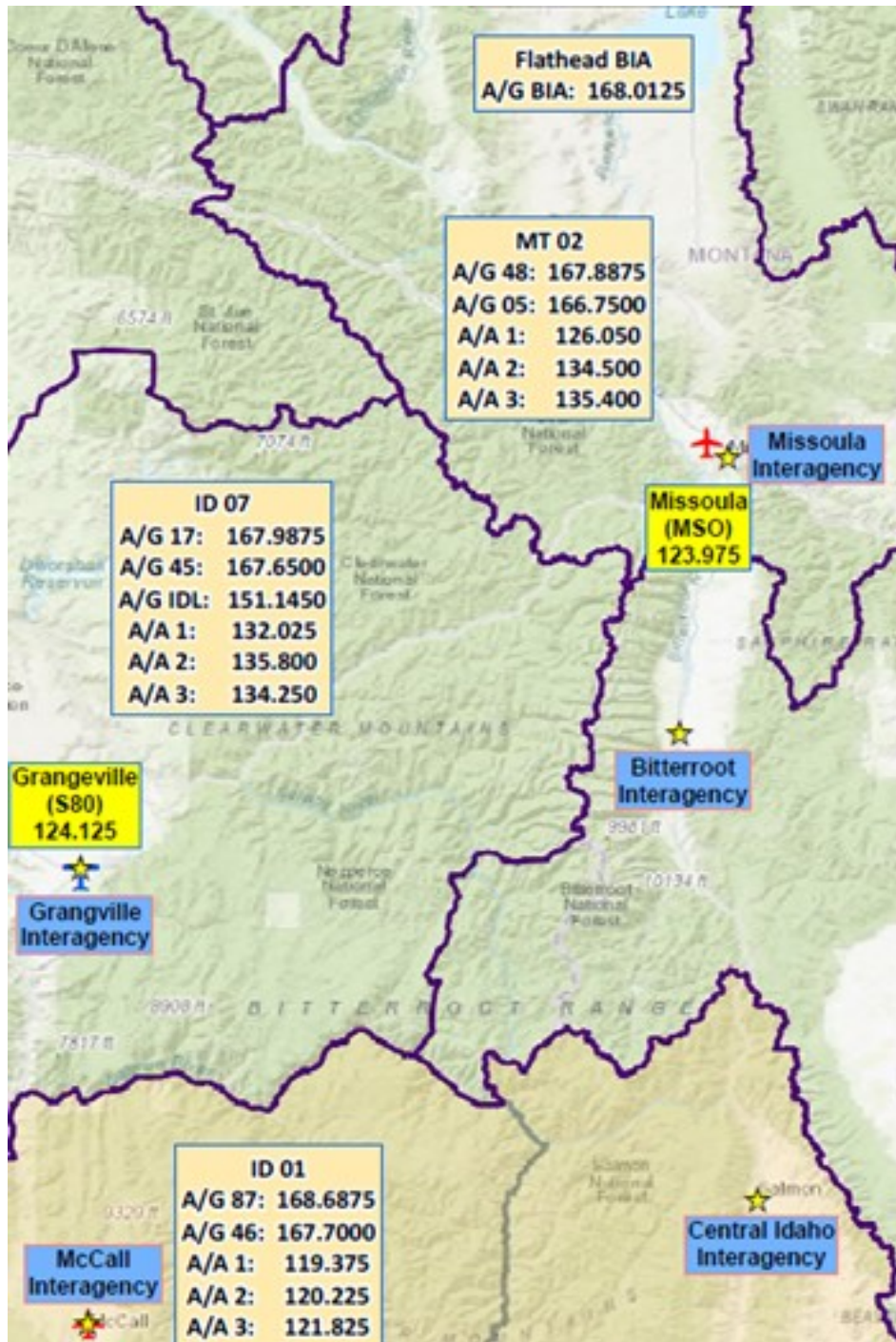
(and other adjacent forest or cooperator frequencies)

(**Bold** and ***asterisk'd** channel #'s are the critical starting frequencies for visiting aircraft to program for general operations on the forest. Program in more specific frequencies as needed, or as directed by Dispatch. All FM frequencies are narrowband)

I.A. Air-to-Air 'victor' freq: 125.1750

EMS Air-to-Air 'victor' freq: 123.025

Ch #	Channel and Name	Rx Frequency	Tx Frequency	Tx Tone
01*	<u>BRF 1</u>	<u>170.375</u>	<u>170.375</u>	<u>131.8</u>
02*	<u>BRF 2</u>	<u>169.625</u>	<u>169.625</u>	<u>146.2</u>
03	Tac South	166.550	166.550	--
04	Tac North	166.9875	166.9875	--
05	Hell's ½ Acre Rpt.	169.975	164.150	136.5
06*	<u>Tepee Point Rpt.</u>	<u>169.625</u>	<u>163.4625</u>	<u>136.5</u>
07*	<u>Lookout Mnt. Rpt.</u>	<u>170.375</u>	<u>165.225</u>	<u>146.2</u>
08	Common 1	163.7125	163.7125	—
09	Spot Mnt. Rpt.	170.375	165.225	156.7
10	Ward Mnt. Rpt.	169.625	163.4625	167.9
11	R1 TAC	167.1125	167.1125	--
12	Common 2	168.6125	168.6125	--
13	Work channel	169.175	169.175	--
14*	<u>Air/Ground 52-prime</u>	<u>168.3875</u>	<u>168.3875</u>	--
15*	<u>Air /Ground 53-second.</u>	<u>168.4875</u>	<u>168.4875</u>	--
16	Air Guard	168.625	168.625	110.9
	Flight Follow (national)	168.650,RT:110.9	168.650	110.9
	R1 Smokejumper A/G	168.550	168.550	--
	Lolo East Direct	172.375	172.375	146.2
	Lolo AG48	167.8875	167.8875	—
	"Missoula Aircraft" Lolo FF	166.500 RT:127.3	166.500	127.3
	Beaverhead West Direct	172.350	172.350	123.0
	B—D NF A/G 29	166.900	166.900	—
	Salmon/Challis Direct	172.275	172.275	103.5
	S—C NF A/G 23	166.7625	166.7625	—
	Nez Perce—GardinerRpt	173.1375	166.200	141.3
	N—C NF A/G 17	167.9875	167.9875	—
	(Public Safety)			
	Air EMS (Tan)	155.340	155.3400	156.7
	Hospital EMS (White)	155.280	155.2800	156.7
	Sheriff Direct.	156.225,RT:67.0	156.2250	67.0
	Fire 1	154.860,RT:203.5	151.1525	103.5
	Fire 2	154.445,RT:71.9	154.4450	71.9
	(Mutual Aid)			
	Gold (check-in)	153.9050	153.9050	156.7
	Maroon—(command)	154.2800	154.2800	156.7
	Red—(tactical)	154.0700	154.0700	156.7
	Scarlet—(tactical)	154.2950	154.2950	156.7
	Coral—(tactical)	154.2650	154.2650	156.7
	Yellow—(air to ground)	151.2200	151.2200	156.7
	Green (MT DNRC-MSO)	171.4750	171.4750	141.3



Watershed and native species protection mitigations from aviation operations on the Bitterroot National Forest (including Retardant Avoidance Areas).

Aviation and related operations on the forest have the potential to negatively impact resources on the forest. It is therefore imperative that control measures to reduce possible impacts are undertaken proactively with regard to all aviation activities, and that such control measures be commensurate with the level of risk and value of resource to be protected. This document contains procedures and guidelines to mitigate the potential negative impacts identified herein.

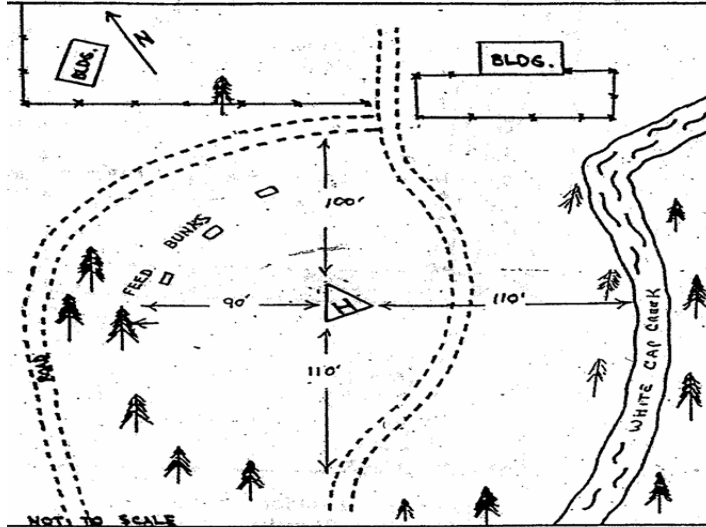
Activities on the forest which could have a negative impact on a resource should involve consultation with a resource advisor with expertise in the area of potential resource damage—i.e—a fisheries biologist for fish habitats or a botanist/weeds coordinator for noxious weed spread issues. Aviation operations can have potential negative impacts in a variety of resource areas. These operations fall into two specific categories which require different procedures to mitigate impacts commensurate with the risk level:

- 1) Non time-critical operations; and
- 2) Time-critical operations.

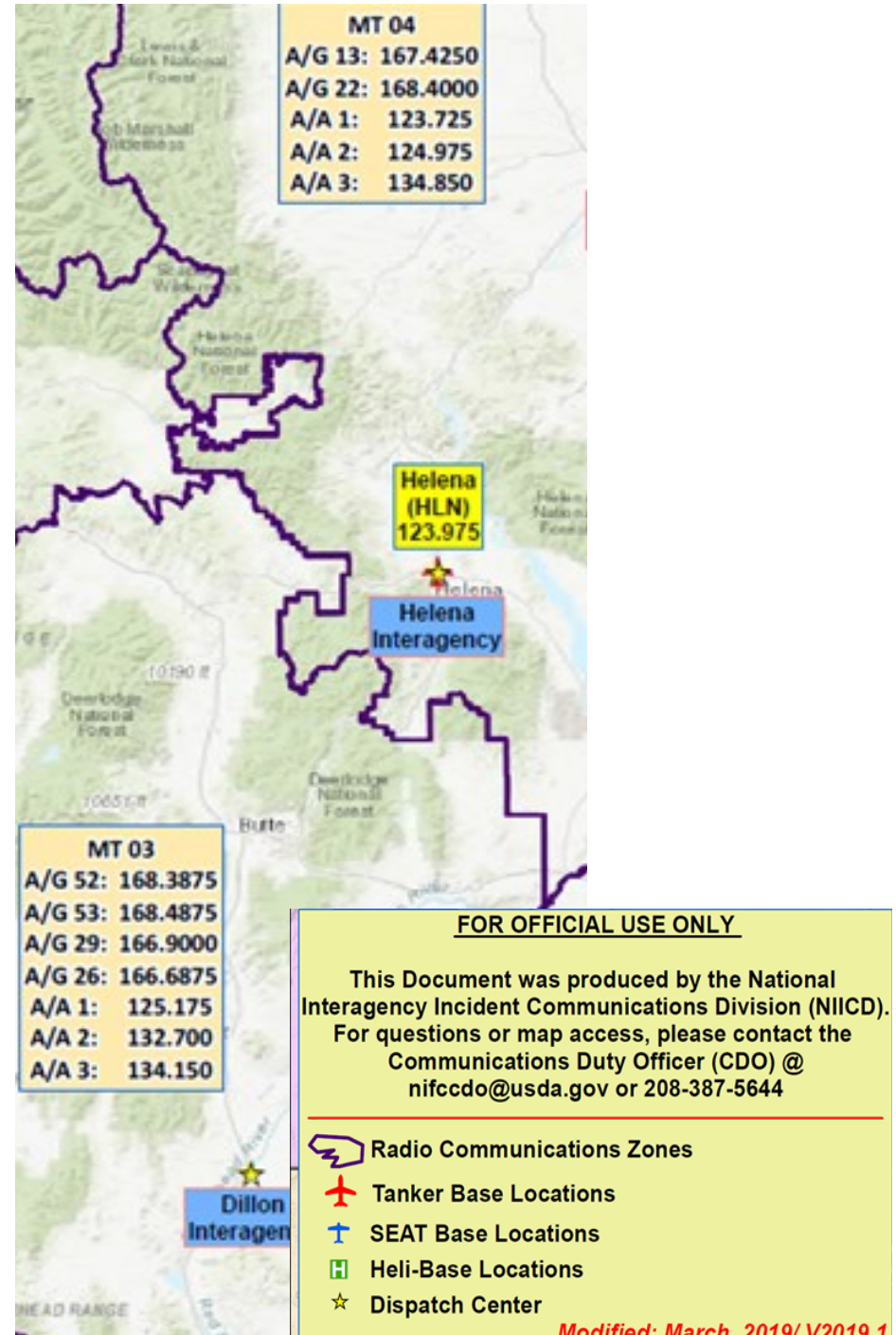
Specific examples and concerns for each type of operation are listed below.

- 1) Non time-critical aviation operations: These are operations that can be reasonably planned in advance. This may include projects and planned incident operations such as for large fire support. Aviation operations of this type require measures which mitigate the risk to the resource threatened, or prior consultation with the appropriate resource advisor to determine alternatives or other approved mitigations. Activities and mitigation measures for various aviation operations are included in the following table:

14. Paradise Helispot
West Fork Ranger District
Elevation 3090' MSL
45 51.80'N 114 44.12'W
T29N R14E Sec 9 SWNW



Paradise Guard Station is in a narrow canyon bottom. Temperatures of over 100 degrees are common during the summer. The site also requires a steep rate of climb. A campground and trailhead are nearby, watch for people. No cell coverage. West Fork Fire Phone - 406-821-1230
 Located approximately 84 road miles southwest of Hamilton - Driving time approx. 3 hours from Hamilton.



Modified: March, 2019/ V2019.1

Single Engine Air Tanker Operations

13. Magruder Helispot
West Fork Ranger District
Elevation 4090' MSL
45 42.13'N 114 43.01'W
T27N R14E Sec 3 SESW

SEATs may be located at any airport located within the Northern Rockies. Fixed wing aircraft working from an airport will operate within the guidelines of that airport. This will include fueling, parking, Unicom, etc. The SEAT's primary coverage consists of public and private land under the jurisdiction/protection of the wildland fire agencies.

Organization

All SEAT operations conducted within the Northern Rockies area will be under the direction of the ordering office Fire Manager. A project inspector and/or SEAT Manager (SEMG) will be assigned to all SEAT activities regardless of their current operating base or ordering agency. The SEMG will generally be assigned as the ramp manager unless the incident (s) become too complex or multiple aircraft have been ordered or directed to reload at a specific SEAT base.

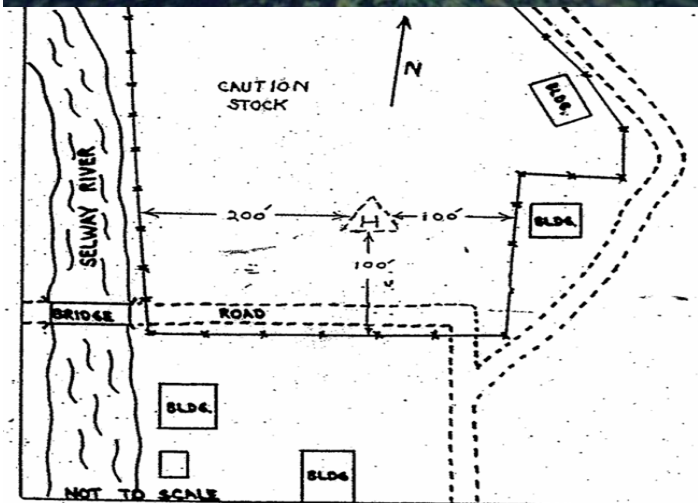
SEAT Specific organizational and technical contacts are as follows:

Bitterroot FAO:	Dean Bitterman	406-370-7024
R1 SEAT/F-W specialist:	Hon Schlapfer	406-329-4914
Missoula Tanker Base:		406-329-4910
Ronan SEAT operation:		406-676-2550
	SEMG: Rob McCrea:	406-214-4171
Plains Dispatch (SEAT):		406-826-3061
Helena Air Tanker Base:	Jeff Jackson	406-449-5005
Grangeville ATB:	Donnie VanKomen	208-983-9577
Coeur d'Alene Tanker Base:		208-762-6926
McCall ATB	FAX: 208-634-0358	208-634-0357

Supplies:	Valley Irrigation (local):	406-363-3599
	Ace Hardware (local)	406-363-3351
	Massa (local)	406-363-1922
	Spokane House of Hose:	800-541-6351

Operational Policies

(See Bitterroot SEAT Plan for specific "first time" load restrictions from Ravalli County Airport and "Hot Loading" plan)

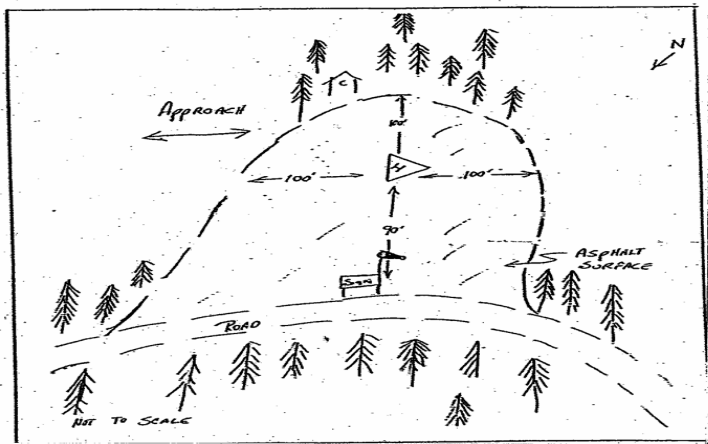


Located at the historic Magruder station. The landing area is an unmarked pasture in a very narrow canyon bottom. The wind usually parallels the canyon. High temperatures cause downdrafts and dead air pockets. No cell phone coverage.

West Fork Fire Phone – 406-821-1230

Located 71 miles southwest of Hamilton – Driving time approximately 2 hours 15 minutes.

12. Nez Perce Pass Helispot
West Fork Ranger District
Elevation 6598' MSL
45 43.01'N 114 30.17'W
T1S R24W Sec 25 SE



The landing area is in a saddle on the Montana/Idaho divide. The surface is asphalt with 180 degree approach from east to west. Watch for vehicle traffic and pedestrians on the roadway. This helispot is also a parking lot with a restroom on the southwest corner. Sporadic/no cell coverage.
 West Fork Fire Phone - 406-821-1230

Located 54 miles southwest of Hamilton - Driving time 80 min.

Safety

The safety and welfare of the public and incident personnel is of the utmost importance for all aviation operations. The Hamilton SEAT base ramp is crossed by an active driveway to a hangar and to the Bitterroot Aviation/Dispatch Center. Road guards are recommended for sustained operations. Ravalli Co. Airport is the busiest uncontrolled airport in Montana, with LFW, Jet, and skydiver operations common. SEMG will ensure a current aerial hazard map is available at the airfield and included in the pilot briefing. SEMG will maintain frequent contact with the airport manager regarding current and upcoming airport operations.

SEAT/Airport/Jettison area Site Plan

JETTISON AREAS

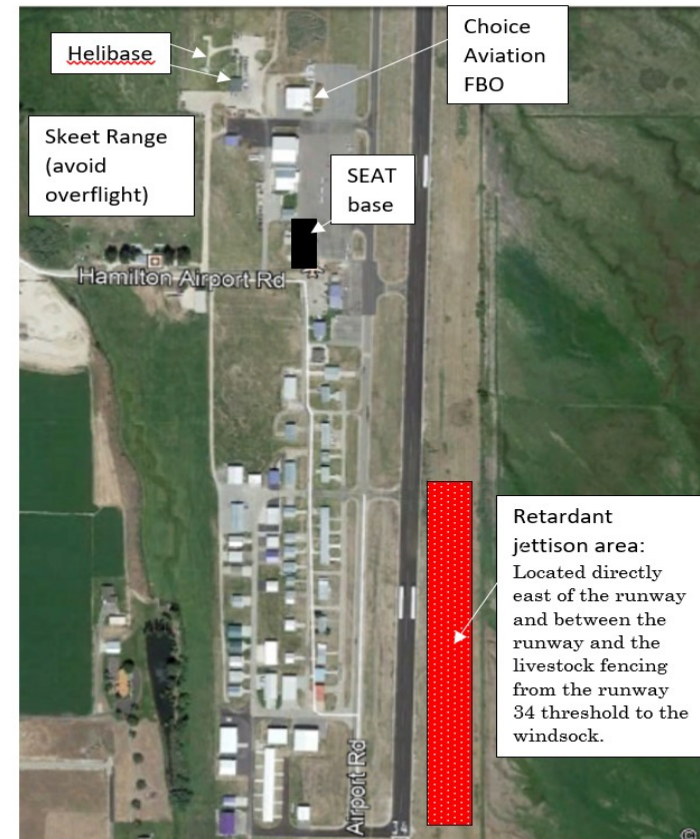
Describe the jettison area established for the base:

Lat: N 46° 14.832'

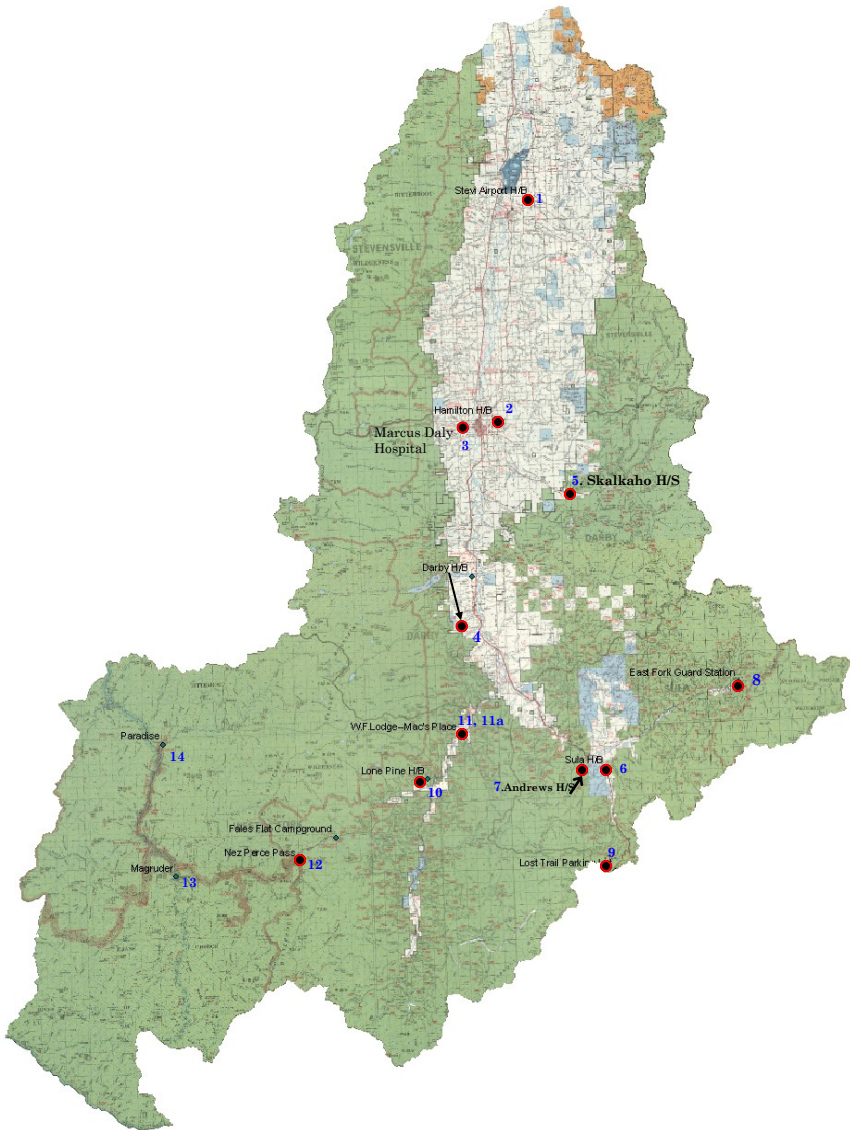
Long: W 114° 07.477'

Descriptive area:

Located directly east of the runway and between the runway and the livestock fencing from the runway 34 threshold to the windsock. Confirm w/ airport manager at activation of Base.



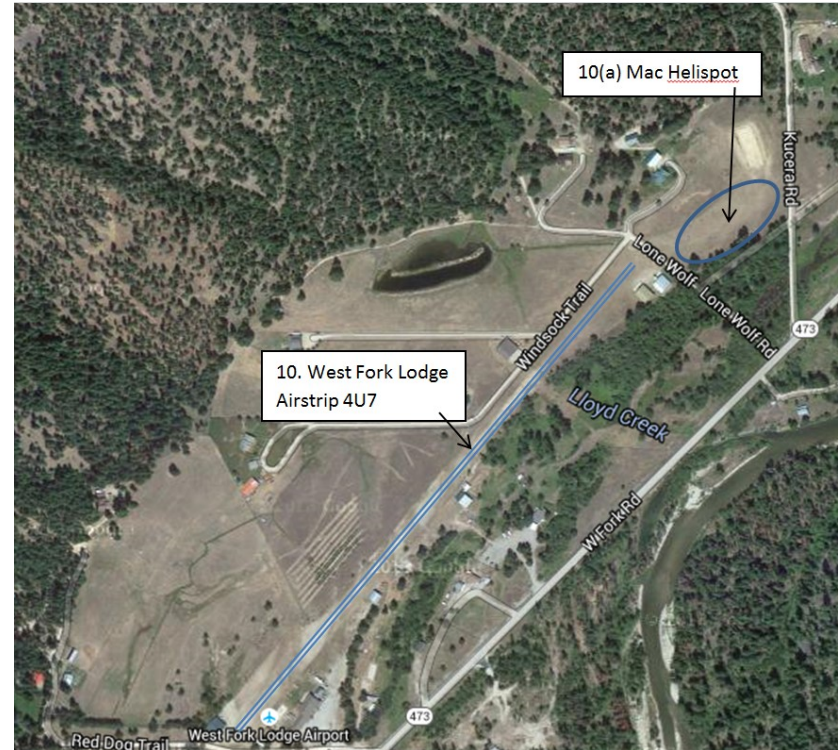
BITTERROOT HELIBASES



March 11, 2008

11: West Fork Lodge Airstrip (4U7); CTA# 122.9
West Fork Ranger District
Elevation 4250' MSL; Length 2600' x 65'
45 51.71'N 114 13.10'W T1N R21W Sec 4 Center

Private Airstrip. Owner: Tex Irwin 406-821-1853

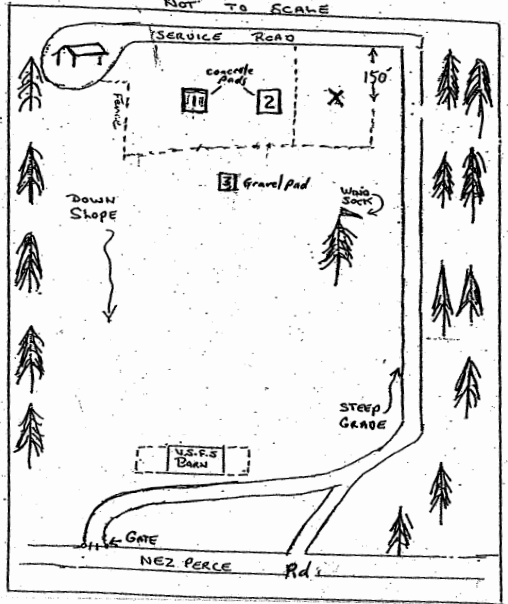


11(a):Mac's Helispot; CTA# 122.9
West Fork Ranger District
Elevation 4240' MSL
45 52.00'N 114 12.70'W T1N R21W Sec 4 NESW

Located off the Northeast end of the West Fork Lodge Airstrip at 118 Lone Wolf Lane. Helispot is an open field on private property and can be used for helicopter re-fueling and helicopter support/ retardant plant operations for 1-3 helicopters of any size. No land use agreement in place. Call before use for emergency activation. No cell phone coverage Owner Mac McDonald - 406-821-3172 West Fork Ranger District—406-821-1230

Located approximately 32 miles S/SW of Hamilton, driving time approximately 40 minutes.

10. Lone Pine Helibase (continued)



Lone Pine Helibase

BITTERROOT HELIBASES/Helisports/Lookouts

LOCATION	LAT	LONG
1. STEVENSVILLE H/B (32S)	46 31.63'	114 03.24'
2. HAMILTON HELIBASE (6S5)	46 15.33'	114 07.75'
3. Marcus Daily Hospital	46 14.923'	114 10.376'
4. DARBY HELIBASE@ Two Feather	45 59.7'	114 11.8'
Skalkaho Helisport	46 09.68'	114 00.48'
Darby Station—horse corral	46 01.595'	114 10.527'
Hog Trough (Longline/Cargo)	46 08.52'	113 52.10'
Railroad helisport (T3)	46 09.989'	113 51.774'
Daly Landing	46 05.312'	113 52.321'
6. SULA HELIBASE	45 49.12'	113 57.45'
7. Andrews Helisport	45 48.24'	114 00.41'
8. East Fork Guard Station H/S	45 55.36'	113 43.46'
9. Lost Trail Helisport	45 41.58'	113 57.11'
Meadow helisport?	45 50.80'	113 49.10'
10. LONE PINE HELIBASE	45 48.54'	114 16.06'
11. West Fork Lodge airstrip (4U7)	45 51.71'	114 13.10'
11(a) Mac Helisport	45 52.00'	114 12.70'
Scripp's Place @cool creek rd	45 39.87'	114 18.50'
Yonder Ranch @Nez Perce Fork rd.	45 47.26'	114 20.05'
12. NEZ PERCE PASS Helisport	45 43.01'	114 30.17'
13. MAGRUDER Helisport	45 42.13'	114 43.01'
14. PARADISE	45 51.80'	114 44.12'

BITTERROOT LOOKOUTS

LOCATION	LAT	LONG
St. MARY'S (D1)	46 30.6	114 14.5
WILLOW MTN. (D1)	46 19.3	113 54.2
DEER MTN. (D2)	46 01.5	114 03.3
SULA PEAK (D3)	45 51.6	113 59.9
TEPEE POINT (D3)	45 56.2	113 44.7
BARE CONE (D4)	45 43.2	114 24.7
HELL'S HALF (D4)	45 38.8	114 37.7
LOOKOUT MTN. (D4)	45 38.2	114 15.6
SPOT MTN. (D4)	45 47.3	114 51.2
SALMON MTN. (D4)	45 37.1	114 50.1
GARDINER Peak (D4)	45 58.2	114 46.0

(numbered helibase locations are shown in detail on next pages)

Updated 7/3/19

ELEV	VOR	RAD	DIST	BASE	Mag. Bear.	DIST(NM)
3610'	MSO	163	24	HAM	358	16
3640'	MSO	169	40	HAM	0	0
3545'	MSO	172	40	HAM	240	2
4075'	MSO	168	55	HAM	177	16
4192'	MSO	169	45	HAM	127	8
3880'	MSO	170	54	HAM	175	14
5200'	MSO	156	47	HAM	109	13
5942'	MSO	155	46	HAM	104	12
7000'	MSO	157	50	HAM	121	15
4520'	MSO	162	66	HAM	152	27
6970'	MSO	164	67	HAM	156	28
5000'	MSO	153	62	HAM	127	26
7200'	MSO	162	74	HAM	155	35
6000'	MSO	157	66	HAM	139	28
4395'	MSO	173	67	HAM	179	28
4250'	MSO	172	63	HAM	176	24
4240'	MSO	172	63	HAM	175	24
4800'	MSO	174	76	HAM	179	36
4700'	MSO	172	68	HAM	184	30
6800'	MSO	181	74	HAM	193	36
4090'	MSO	187	77	HAM	203	42
3090'	MSO	190	69	HAM	214	35

ELEV	VOR	RAD	DIST	BASE	Mag. Bear.	DIST (NM)
9350'	MSO	182	25	HAM	330	16
8210'	MSO	155	36	HAM	55	10
7284'	MSO	166	53	HAM	154	14
6191'	MSO	164	63	HAM	154	25
6629'	MSO	153	60	HAM	127	25
7822'	MSO	178	73	HAM	187	34
8116'	MSO	184	79	HAM	197	42
7729'	MSO	172	77	HAM	175	38
8024'	MSO	192	75	HAM	214	41
8943'	MSO	189	84	HAM	205	49
6597'	MSO	194	63	HAM	224	32

1. Stevensville Helibase CTAF: 122.8; AWOS:120.925
Stevensville Ranger District
Elevation 3610' MSL
46 31.63'N 114 03.24'W T9N R20W Sec 24 SWN



At Stevensville Airport (32S). Access through the NW Gate (unlocked). The SRE building is available for use. Code access on demand (call FAO, D1 or Helitack Aviation committee member, or Hamilton Dispatch). Initial Attack use of area and facility is pre-approved. Extended use—activate LUA. A portajohn is set up near the building for summer use. Any supplies usually come from the Stevensville Ranger station located in the town of Stevensville approximately 4.5 miles to the southwest. The primary pads are in the field, though heli-parking on the NE taxiway is permitted—Helicopters with any attachments to the skids that could cause damage to the asphalt should park off of the asphalt. Request Notam to close taxiways to F/W traffic. Large helicopter/extended parking in the field (mowed area). Vehicles should avoid the ramp/taxiways and stay in mowed areas. Airport Board Craig Thomas 363-8742 ckyber@bigsky.net Airport MGR: Paul O’Bagy 369-5502 or 240-9004, assistant MGR: Dan Denton 531-2078 carolmt@bitterroot.net Bitterroot FAO: Dean Bitterman 406-370-7024 Driving: Located 25 miles north of Hamilton - 30 minute drive

10. Lone Pine Helibase.
Elevation 4395' MSL
45 48.54'N 114 16.06'W
T1N R22W Sec 25 SENE



Located approximately 1 mile southwest of the West Fork Ranger Station, and 1/4 mile on Nez Perce Rd. It is on the north end of a sloping meadow and can normally accommodate up to 2 type II helicopters (more with work), K-max access depending on fuel truck. There are two elevated concrete pads, and one relatively flat area to the east. There is an operations building and two smaller buildings which house a cache of helicopter support equipment. There is a phone, solar powered radio, and an out-house. The building is wired for power, but requires a generator that may be stored on location or at the West Fork Ranger Station. There is a seasonal irrigation system that may be tapped into for water depending on the time of year. Fuel trucks must use caution when approaching pads due to the slope. May have to open and close up to two gates for access, as fields are used for livestock. Call or drive to West Fork R.S. for support.

No cell coverage available. BRF-1 or Lookout Rptr. for radio
 Lone Pine Helibase Phone – 406-349-2260
 West Fork Fire Phone – 406-821-1230

Located 38 miles south of Hamilton – Driving time 45 minutes

9. Lost Trail Helispot
Sula Ranger District
Elevation 7200'
45 41.58°N 113 57.11°W
T2S R19W Sec 4 NENE



Ski area parking lot is graveled and can accommodate up to three aircraft depending on type.

Hazards

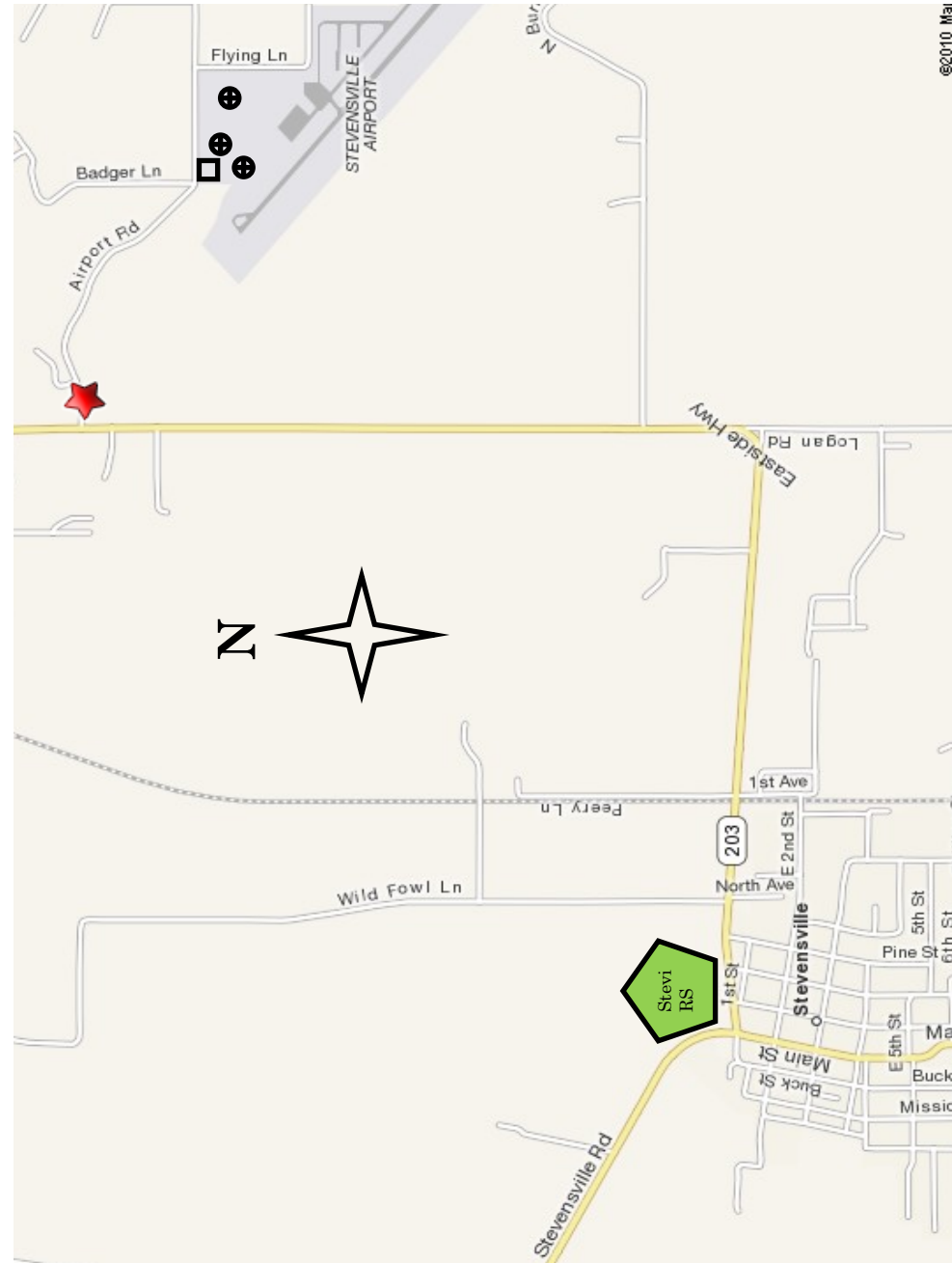
- Turbulent and erratic winds off topography in area
- On boundary with Salmon -Challis NF in R4 and Bearhead - Deerlodge NF in R1
- Chair lifts in ski area
- High use Rest Area nearby - foot and vehicle traffic.

Contact for long term use: Scott Grasser - 406-360-9663

No land use agreement needed unless the ski lodge or other lodge facilities are used. No cell phone coverage from site. Located 45 miles South of Hamilton—Driving time 50 minutes.

Stevensville Airport Transportation Map

From Stevensville: Turn East at the Stevensville Ranger Station on Eastside Highway (secondary HWY 203). Stevi Airport Road is approximately 4 driving miles NE of Stevensville



2. Hamilton Helibase CTAF: 128.8
Elevation 3640' MSL
46 15.33'N 114 07.75'W
T6N R20W Sec 29 NENW



The helibase has 2 concrete Type II pads and an open field to the north which can accommodate several more aircraft depending on type. H1 is the primary pad for the Forest exclusive use helicopter. H2 and the grass field to the north can be utilized for visiting resources (beware of soft/swampy ground). H1 is also equipped with lights, which can be activated from within the building.

Helibase Phone- (see contacts list on page 46)
 Ravalli Co. Airport Manager - Page Gough 406-381-0419

8. East Fork Guard Station
Sula Ranger District
Elevation 5000' MSL
45 55.36'N 113 43.46'W
T 2N R 17W Sec 16 NESW



Access to the area is through the East Fork Guard Station gate with a combo or FS key and through the second gate to the east.

Hazards include a Forest Service rental cabin and facility to the west and is located within a fenced area. Several large trees exist to the northeast of the landing area. The landing area is a grassy area midway from the old tree cache and the Guard Station. The cargo area is E/SE of the landing area. Minimize driving fuel trucks too far off the road. Heritage/Cultural concerns at site—minimize disturbances. No driving off roadway except for direct access to heli. No digging No cell phone coverage(unless boosted) or land line available.

Sula Fire Phone - 406-821-3336, Tepee Rptr for radio.

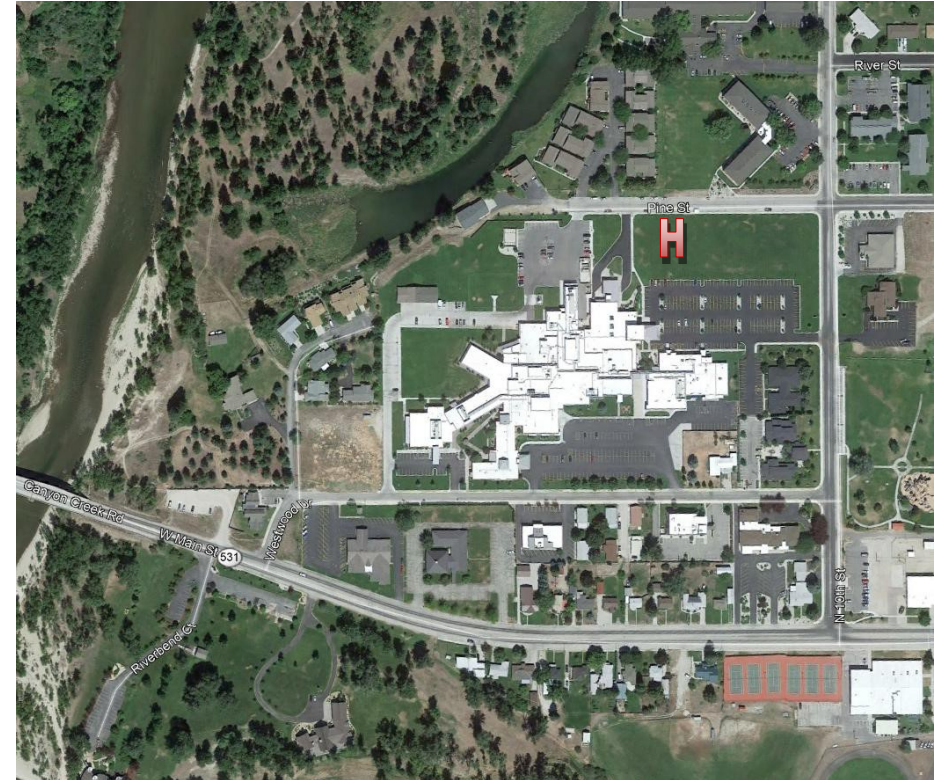
Driving: Located 45 miles southeast of Hamilton -1 hour drive

**7. Andrews H/S:
Sula Ranger District
Elevation 6970'
45 48.24' N 114 00.41' W**

8 miles through State and FS on RD 728, and beyond the locked FS gate for another mile – Total 9 miles from Sula R.S.
Cell service available.



**3. Marcus Daly Memorial Hospital; CTAF 122.8
EMS victor A-A coordination: 123.025
Elevation 3545' MSL
46° 14.955'N 114° 10.275'W
T 6N R 21W, SW/NW Sec. 25**



Marcus Daly Memorial hospital is located on the West side of the town of Hamilton just east of the Bitterroot River. The helipad is on the North East side of the Hospital facility. It is approximately 75' X 100' surrounded by 3' chain-link fence and can accommodate Type 3 and Type 2 helicopters. Land in grass if directed if there is a need to keep the pad clear for an imminent EMS heli. Aircraft can contact the hospital direct on White, FM freq. 155.280 Tx/Rx. The hospital emergency room can be reached directly via phone at: 406-375-4440 1200 Westwood Dr, Hamilton 3 miles from Hamilton; driving time 5 minutes.

4. New Darby Helibase @ Two Feather
 Darby Ranger District
 Elevation 4075' MSL
 45 59.7' N 114 11.8' W
 T3N R21W Sec 22 SW



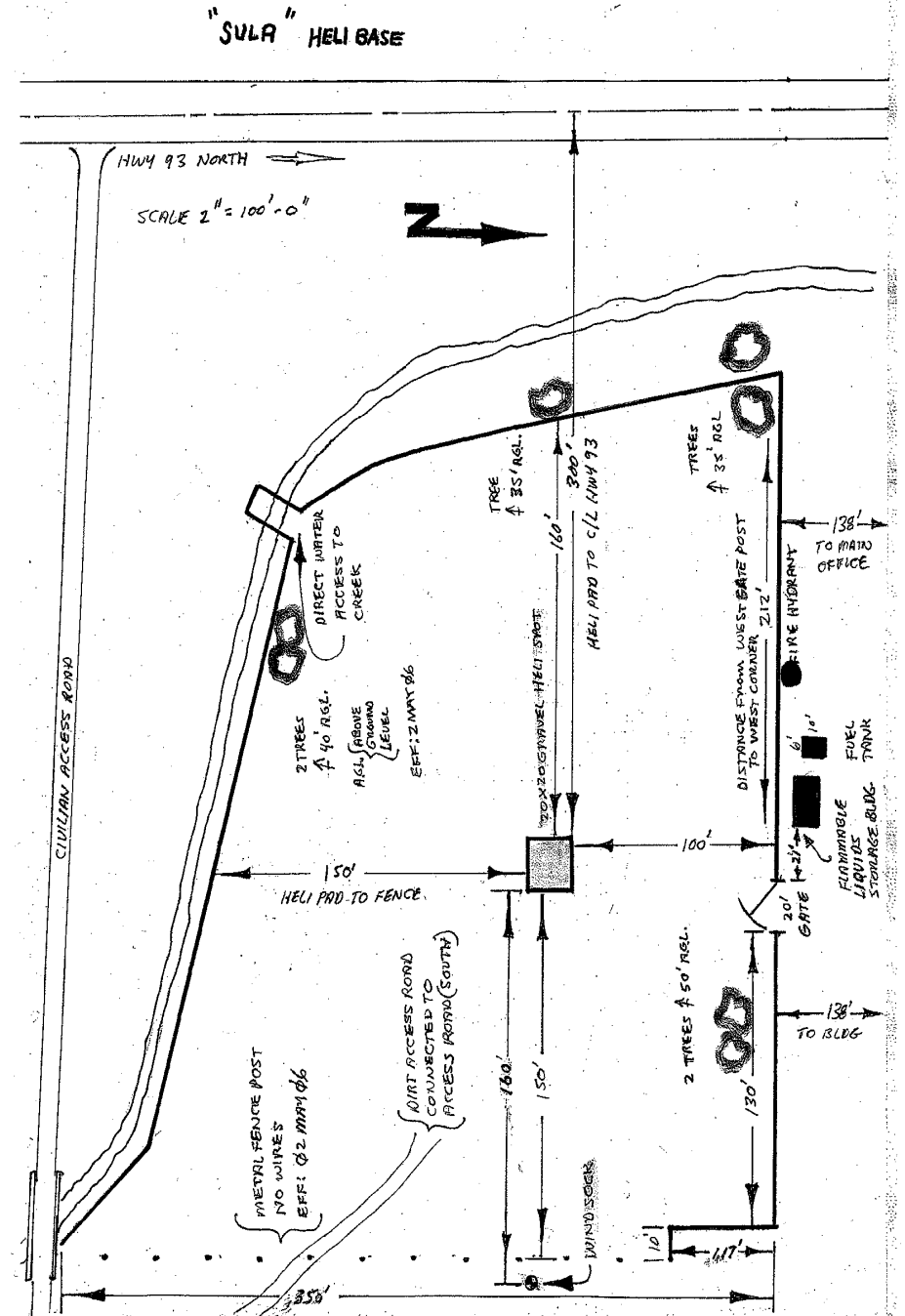
Land use agreement in effect 7/10/19

(agreement is for intermittent use: for extended or IMT use—call for emergency LUA)

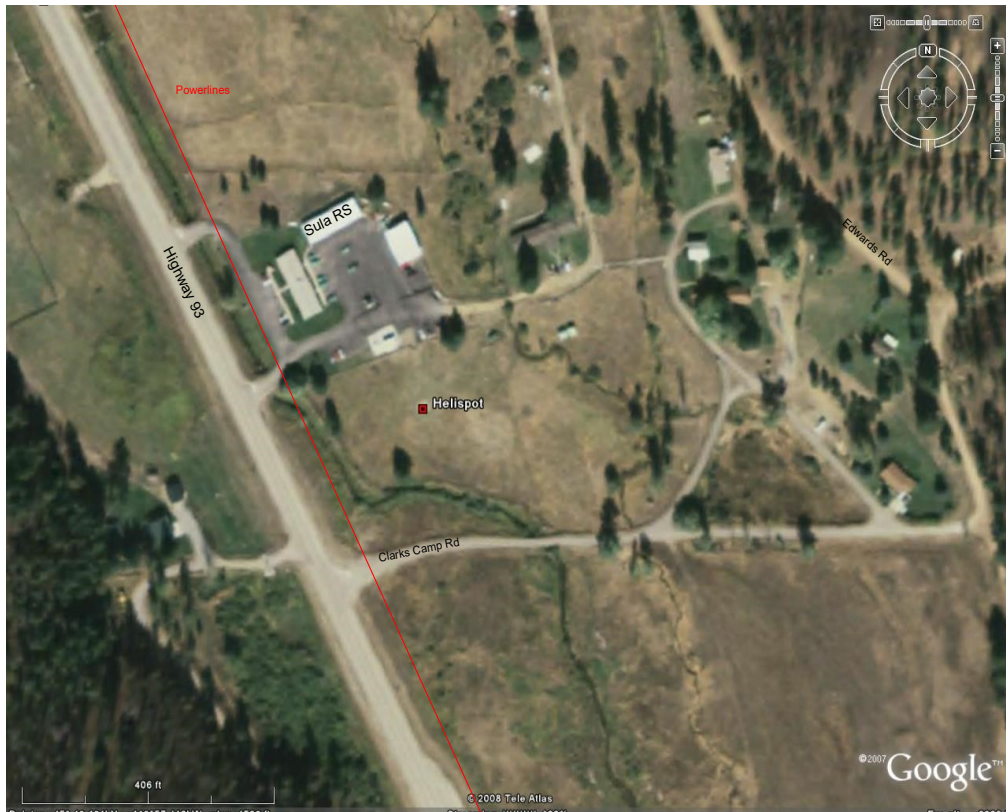
Road Directions: On Hwy 93...2 miles South of Darby R.S, 1.5 miles up Chief Joseph Road. Right Turn at gate. Access to field before the Hayshed. Use second gate access.

Street address:

406 Chief Joseph Trail



6. Sula Ranger District Helispot
Sula Ranger District
Elevation 4520' MSL
45 49.12'N 113 57.45'W
T 1N R19W Sec 21 NESE

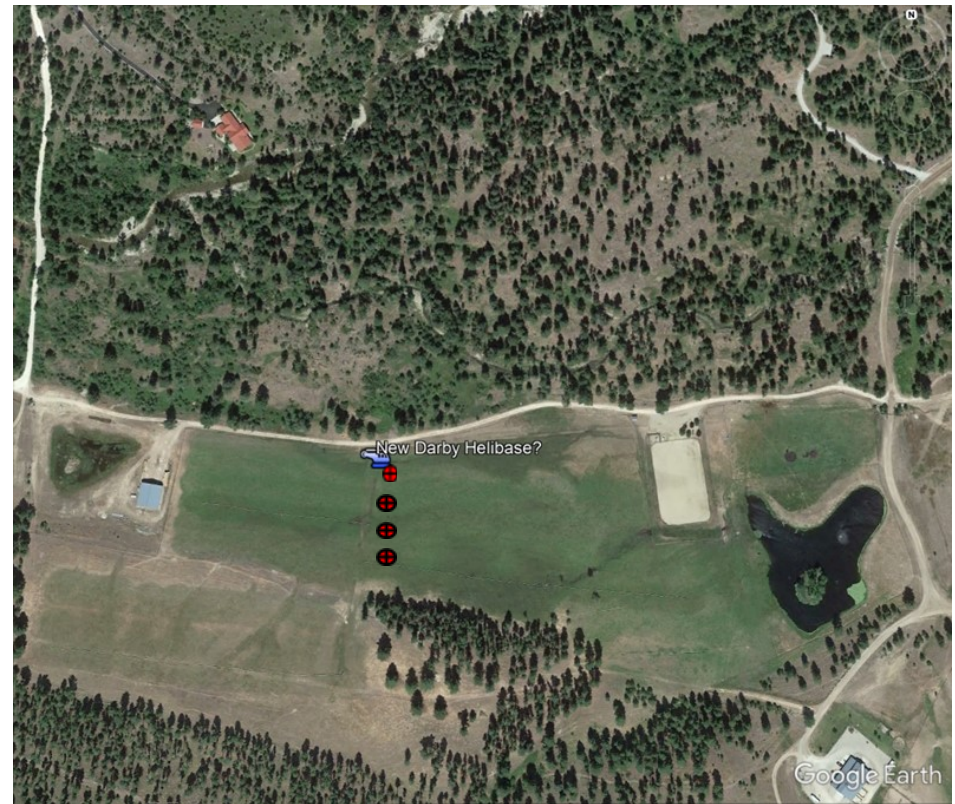


Hazards include power lines along the creek to the west of the pad as well as a fence and trees within the pasture. The gravel pad is 15' X 15'. Departures should avoid flights over the station. Pilots should use caution when departing to the west with external loads. The flight path crosses highway 93, power lines running parallel to the highway exist and road guards may be needed for external load flights over the highway. Helitack support equipment is located in the helitack shed to the northeast of the pad.

Sula Fire Phone – 406-821-3336


Driving: Located 40 miles south of Hamilton on Highway 93 – 45 minute drive.

4. New Darby Helibase (continued)



Field Size: 25 acres

Options: Water access: possible access to irrigation water (check with ranch manager. Access to pond on site for dipping for I.A.
Parking: access to parking area just past field and fence at pole barn.

Hazards: 1' irrigation risers  **in field**

Other improvements: Pond on same property just East of field.
 Turnaround area and hayshed just West of field. Fencelines and gates.
 Portapotty may get placed on N. side of road just past gate.

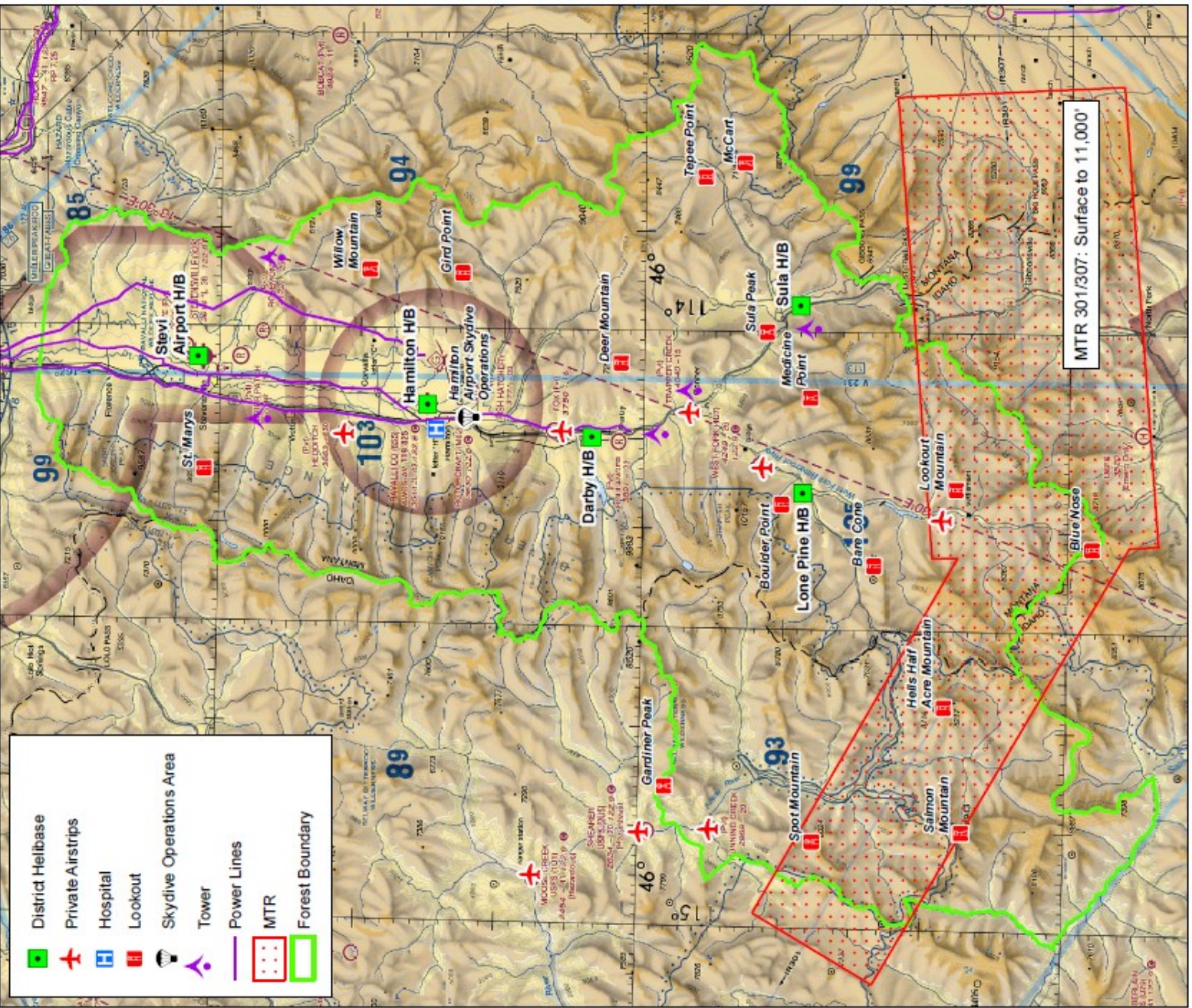
Alternative access: through Tin Cup Road

Other info: Private property. Private road. Keep speed low (max 25 mph) on access along road through other property easements.

Government Point of Contact: Richard Griffin (Darby R.S.) 406-925-1951 or Tanya Neidhardt 406-381-5975

Landowner/Manager: Jeff Rennaker 406-360-0304

Bitterroot National Forest Flight Hazard Map



Due to the numerous line crossings, all river and road corridors have multiple unmarked hazards

Conflict Hamilton Dispatch prior to approaching closer than 2 NM to Forest boundary

Map not legal for navigation
Updated May 31, 2019

0 5 10 20 30 Nautical Miles