Appendix 3

PROJECT AVIATION SAFETY PLAN
(Suggested Template, RAMs May Approve Other Templates)

Project Aviation Safety Plan

U.S Department of the Interior

National Park Service

This Project Aviation Safety Plan (PASP) is specific to _____

Procedures outlined within this document follow standards set forth in the Park/Region Aviation Management Plan, NPS RM-60, DM 350-353, and the Interagency Helicopter Operations Guide (IHOG). This plan will be reviewed with all individuals participating in this mission prior to commencing operations.

Requested by Project Manager: _____ Date: _____

Reviewed by Park Aviation Manager: _____ Date: _____

Reviewed by Flight Manager: _____ Date: _____

*Approved by: _____ Date: _____

* See risk assessment to determine level of approval

National Park – Project Aviation Safety Plan

Section 1 – *(To be completed by project manager)*

Project Manager:

Job Title:

Unit:

Phone Number:

Project Name and Objectives:

Justification:

Project Dates: *(List specific dates or time frames if flexible)*
Project Location: *(Provide a latitude and longitude and geographic reference; attach map for large geographic operational area)*

Personnel Participant Requirements:

Projected Cost of Aviation Resources:

Charge Code:

Aircraft: *(if known)*

Pilot: *(if known)*

Refueling:

Aircraft Security:

Materials to be transported: *(Type, size, quantity, weight, and special needs of the material to be transported)*

National Park – Project Aviation Safety Plan

Section 2 *(To be completed by flight/helicopter manager)*

Manager Assigned:

Job Title:

Unit:

Phone Number:

Existing Memorandum of Understanding and Standard Operating Procedures: ☐ Yes ☐ No

Operational Environment Considerations:

(Environmental conditions are those conditions over which there is no human control. Forecast or known environmental conditions are not mishap cause factors. For example, structural damage caused by flying into forecast severe turbulence is NOT a mishap causal factor. A pilot's decision to fly into forecast or known severe turbulence is a causal factor. Cause factors are normally under human control and can be eliminated. Managers must be aware that their actions may encourage pilots to operate beyond existing capability. Pilots must be ever cognizant of environmental conditions in which they are expected to operate safely and are the final authority relative to a GO/NO-GO decision based upon environmental and safety considerations)

* Get a current weather brief and check weather forecasts before every flight. Be alert for weather deterioration. Do not attempt visual flight rules (VFR) flight when there is a probability of weather being below FAA minimums at your destination or in the intended operating area.

* Study and become familiar with unique geographical conditions in the area in which you intend to operate. Know your aircraft's performance capability. If you are flying in mountainous terrain, be aware of standing lenticular or mountain-wave conditions. Exercise caution when winds are greater than 20 knots or when wind gust spread exceeds 10 knots. Stop flight operations when winds are greater than 30 knots or when wind-gust spread exceeds 15 knots.

* Know your own capability. It is the pilot's responsibility to ensure that he or she is qualified for the flight, that the aircraft is properly equipped for the flight, and that the flight is flown according to the appropriate regulations and aircraft operating limitations.

* Conduct a brief operational risk assessment prior to each flight. Aircraft equipment, standard operating procedures, charts, detailed checklists, or recommended avoidance techniques will not prevent a controlled flight into terrain (CFIT) if flight crews are not adequately prepared with risk mitigations.

Pilot and Duty Day Limitations:

Flight Following:

(As a potential lifesaving condition, each bureau should include a flight-following requirement in the aircraft mishap prevention plan. This plan should specify the method or procedure to be used that will accommodate communications from mission personnel (or the pilot) to the flight-following facility at predetermined intervals. Additional information concerning flight following is contained in 351 DM 1).

Function	Primary Frequency	Purpose
Flight Following		
Air-to-Ground		
Air-to-Air		
Tactical Ground		
Air Guard		

*The operational/tactical frequency will be determined and confirmed on the day of the actual mission.

Emergency Search and Rescue:

Aerial Hazard Analysis:

Protective Clothing/Equipment:

Load Calculations and Weight-and-Balance:

(It is imperative that proper consideration and planning be given to the aircraft weight and balance computation and subsequent loading. The actual weight of personnel and/or cargo must be considered relative to environmental and aircraft performance capabilities. This will be accomplished for each takeoff and landing for all aircraft)

Does NPS Have Operational Control?

(With respect to flight services, this means the exercise of authority over initiating, conducting, or terminating a flight.)

GAR RISK ASSESSMENT MODEL

STEP 1: Define the Mission or Task

- Clearly identify the mission or task and state your desired outcome. The GAR Risk Assessment involves looking at multiple threats.

STEP 2: Define the Threats

- Identify the hazards of the mission in general terms. Since we are looking at a mission or task there will be multiple threats. Focus on the ones you think pose the greatest risk.

STEP 3: Assess Risk & Assign a Numerical Value

- Use the eight mission risk factors to evaluate the threats. If an activity produces an accident, it will generally be because of weaknesses in one or more of these areas. Conversely, if a team improves these elements, the probability of an accident will likely decrease.
- Assign a numerical value for each job, task, or project risk factor.

Supervision: Supervisory control should consider how qualified the supervisor is. It's not about subject matter expertise it's about supervising. You need to determine whether effective supervision is taking place. Is there someone there to provide supervision? Even if a person is qualified to perform a task, supervision acts as a control to minimize risk. This may simply be someone checking what is being done to ensure it is being done correctly. The higher the risk, the more the supervisor needs to be focused on observing and checking. A supervisor who is actively involved in a task (doing something) is easily distracted and should not be considered an effective safety observer in moderate to high-risk conditions.

Planning: Planning and preparation should consider how much information you have, how clear it is, and how much time you have to plan the activity or evaluate the situation. Planning includes the development and use of pre-defined plans, training programs, operating procedures, SOPs, operational guidelines, JHAs, etc.

Team Selection: Team selection should consider the qualifications and experience level of the individuals used for the specific event. The participants in a mission or activity should have the skills and experience necessary to perform tasks/assignments including the ability to use specialized equipment, make decisions, use judgment, and operate effectively in a team environment. Individuals may need to be replaced during the activity and the experience level of the new team members should be assessed. Teams should have an adequate number of qualified members from which to choose for any single mission or activity.

Team Fitness: Team fitness should consider the physical and mental state of the team. This is often a function of the amount and quality of rest a team member has had and basic physical fitness as it relates to the task or mission. Quality of rest considers conditions slept in, potential sleep length, and any interruptions. Fatigue normally becomes a factor after 18 hours without rest; however, lack of quality sleep builds a deficit that worsens the effects of fatigue. Other factors to consider are physical preparedness and personal life factors that may impede the outcome of the operation or activity.

Communication: Good communications ensure clear and accurate sending and acknowledging of information, instructions, commands, and useful feedback. This includes interpersonal communications and the physical communication equipment if personnel are not within immediate voice contact. Communication should consider radio/cellular capability, dispatching, and overall infrastructure and operational reliability. In addition to the technical means to communicate you should also consider the communication culture of the organization.

Contingency Resources: Contingency resources are not necessary as an immediate part of the operation, but would be needed should conditions change or an emergency occur. They should be those pre-defined resources that a team will call in an emergency or when incident or activity demands exceed the capability of existing resources. You should consider whether you have the ability to activate the resources, whether they will respond in the expected timeframe, and whether there are pre-plans in place for those resources.

Environment: Environment considers factors affecting human performance and factors affecting the performance of equipment being operated. This includes, but is not limited to, time of day, temperature, humidity, precipitation, altitude, etc.

Event or Incident Complexity: Event/Incident complexity should consider both the required time and the situation. Generally, the longer one is exposed to a hazard, the greater are the risks. However, each circumstance is unique. Factors to consider include: how long environmental conditions will remain stable, whether the activity requires specialized skills,

whether there are dynamic and changing conditions or whether team members are required to divide their attention while performing multiple tasks, whether a fast-paced activity and sense of urgency induces stress, whether pre-plans and operating procedures cover a high percentage of the activities or whether team members must use judgment and experience to respond appropriately to novel circumstances. Generally, simple, repetitive tasks occurring in highly structured and controlled work environments have the lowest complexity.

To compute the total level of risk for each threat previously identified, assign a risk code of 1 (For Almost No Risk) through 10 (For Maximum Risk) to each of the eight elements. This is your personal estimate of the risk. Add the risk scores to come up with a Total Risk Score for the overall job, task, or project.

OPERATIONAL/MISSION RISK ASSESSMENT WORKSHEET					
Risk rated 0-10 for each category (Mitigations should be considered for any category rated higher than 5) **1-35** Green **36-60** Amber **61-100** Red	**Individual Assessment**	**Group Discussion**	**New Assessment**	**Mitigation**	**New Assessment**
Supervision: Presence or accessibility of leadership/supervision for all teams and personnel. Clear chain of command.					
Planning: Current SOP/Operational Guidelines, team trained IAW same. Adequate information and planning time. Required equipment, training is provided. Brief/de-briefs planned, team input solicited.					
Contingency Resources: Resources available if needed. MOUs in place with participating cooperators. Planning accomplished with cooperators. Shared communications plan and frequencies.					
Communication: Infrastructure: Radio communications possible throughout area of operations (presence of portable repeaters). Communication's plan established and rehearsed.					
Team Selection: Level of individual training & experience. Cohesiveness and atmosphere that values input/self critique.					
Team Fitness: Level of overall physical fitness of team. Level of team member's rest/fatigue and overall morale. Team members with major life distractions.					
Environment: Extreme temperatures, elevation, difficulty of terrain (aspect, foliage, slope, etc.), long approach, remoteness.					
Incident Complexity: Whether the activity requires specialized skills, whether there are dynamic and changing conditions, or whether team members are required to divide their attention while performing multiple tasks; whether a fast-paced activity and sense of urgency induces stress; whether pre-plans and operating procedures cover a high percentage of the activities, or whether team members must use judgment and experience to respond appropriately to novel circumstances.					
TOTAL					

STEP 4: Identify Risk Control Options.

- Look at ways to manage, control, or eliminate the risk associated with the eight factors considered.

MITIGATION FACTORS
Supervision:
Planning:
Contingency Resources:
Communication:
Team Selection:
Team Fitness:
Environment:
Incident Complexity:

STEP 5: Evaluate Risk vs. Gain

- Since the GAR Risk Assessment is usually a strategic planning tool the team leader or management will probably make the final decision on the acceptable level of risk.

STEP 6: Execute Decision

STEP 7: Supervise - Watch for Change

- Monitor the situation and evaluate the risk control measures selected. You may want to re-valuate the risk again after you have identified appropriate risk control options.

Risk Level	Go/No Go Decision
RED	Park Superintendent and/or RAM
AMBER	Chief Ranger
AMBER	Park Aviation Manager
GREEN	Flight Manager

Appropriate management level decision for go/no-go performed by:

☐ Park Superintendent ☐ Chief Ranger ☐ Park Aviation Manager ☐ Flight Manager

Approved by:_____ Date:_____