



Interagency Aviation ACCIDENT PREVENTION BULLETIN



No. IA APB 11-03

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Subject: Mid-Air Collision Avoidance

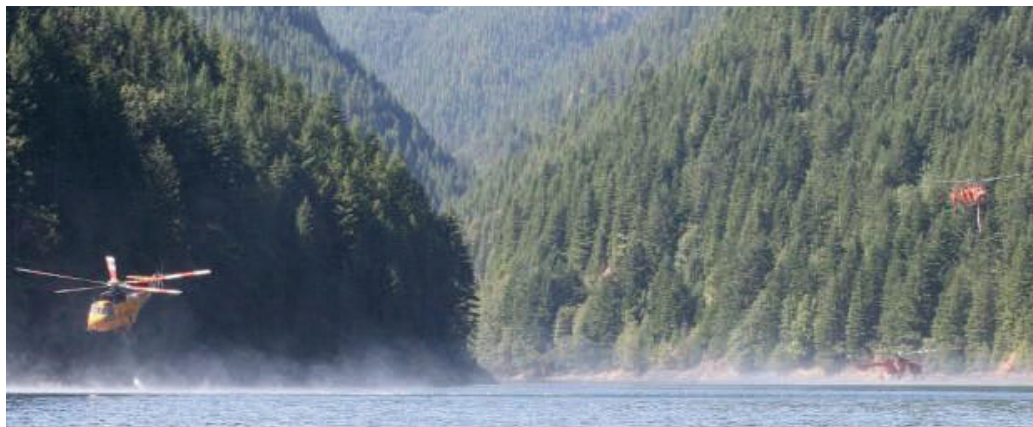
Area of Concern: All Aviation Operations

Distribution: All Aviation Users

Discussion: The recent increase in fire activity throughout the Southwest has required an increase in aviation support operations as well. There have been multiple airspace related events with conditions that could lead to a mid-air collision. Analysis of past and recent near mid-air collisions revealed that communications, deviation from standard operating procedures, and situational awareness were common contributing factors (see [Safety Alert IA 06-04](#)). “See-and-avoid” is our first line of defense against a mid-air collision. The following are common situations that increase the possibility of a midair collision:

Poor Communications:

- Extremely heavy radio traffic and multiple frequencies make it difficult to transmit and receive critical, flight safety related information.
- Radio transmissions not being acknowledged which results in others making dangerous assumptions that the message was delivered and understood.
- Missed radio calls resulting from aircrews turning their volume down too low or momentarily switching off the assigned frequency.
- When aerial supervision aircraft are transitioning, radio frequencies are usually saturated as well as less attention directed towards maintaining aircraft separation.



Deviation from Standard Operating Procedures:

- Aircraft entering the FTA without clearance from aerial supervision. When the FTA is in close proximity to a base, aircraft may already be inside the 7 mile radius or soon after becoming airborne.
- Multiple controlling aircraft (ATGS, LEAD, ASM, HELCO) has created confusion as to which aircraft each one is controlling.
- Aircraft flight routes through the various zones are not clearly identified or coordinated.
- Incident aircraft are either operating on the same retardant line or their flight routes cross with other flight routes resulting in airspace conflicts.
- Firefighters on the ground requesting aircraft to perform missions without going through proper aerial supervision procedures.

Loss of Situational Awareness:

- Aerial supervision platforms are beginning to exceed their optimal capacity for control due to large numbers of aircraft or multiple missions ultimately resulting in excessive confusion.
- Boundaries or virtual fences are either not established or clearly identified which negatively impacts the ability to ensure safe separation of aircraft.
- Emergent missions often impede the ability to conduct and obtain complete briefings. Morning missions are usually briefed in controlled environments with little distraction. In the afternoon, emergent missions are not afforded the same opportunity for crews to obtain clear and complete information prior to flight.
- Some fires have become so large and complex they are divided into zones with aerial supervision assigned to each zone. A lack of planning and coordination of aircraft transitioning through the various zones have resulted in near mid-air collisions.

**Recommendations:**

- Follow the ABCs of communication - **Accurate, Bold, and Concise**. Keep discussions to the information required and allow breaks for other aircraft to communicate, especially during transition. Excessive communications create distractions, cause other aircraft to tune out (mentally or by volume), and prevent the flow and dissemination of critical flight safety related information.
- Acknowledge all radio calls. **NEVER ASSUME** the person on the other end has heard you!
- When working on a fire with multiple zones, they should be treated as separate FTAs. Do not transition from one zone into another without approval from each zone aerial supervision platform.
- Establish and brief transition corridors when significant traffic is expected to be moving through complex fire areas with multiple zones. These corridors should have altitude and lateral restrictions to deconflict transiting aircraft from operational traffic.
- Follow established FTA procedures, **DO NOT** enter the FTA until positive radio contact and clearance has been obtained.
- Coordinate air support requests with the appropriate aerial supervision platform. Direct requests to an aircraft could create a hazard when aerial supervision is unaware.
- Utilize HELCOs as they are a good resource for load sharing when operations become complex. Managers should dedicate resources or request additional resources to fill HELCO positions.
- Ensure all briefing elements that are normally covered in the morning are also applied to emergent missions throughout the day. Ideally, crews should be able to coordinate and receive an adequate brief on the ground vice in the air. When this is not possible, the level of risk for any given mission has been increased. Ensure you establish clear instructions, control and frequency assignments.
- For additional information, review chapter 7 of the [Interagency Aerial Supervision Guide](#).

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