



The Forest Protection Aviation Branch consists of a chief pilot, four ranger pilots, dual-rated in fixed-wing and helicopters. A mechanic supervisor and three FAA-certified aircraft mechanics maintain the aircraft.

THE ROLE OF MAINE'S FOREST PROTECTION AIR FLEET

The Forest Protection Aviation Branch flew 452 missions in 2020 that included flight response to 117 different fires requiring the use of helicopters for transporting 300 firefighters and 19,000 thousand pounds of supplies. The primary use of the helicopters is dropping water on fires, which is performed using a flexible bucket attachment to withdraw from ponds, rivers, or lakes and dispense from the air. In 2020, we dropped 289,000 gallons of water on fires. In addition to firefighting, the fleet has conducted over 1,200 aerial inspections on logging sites, as well as 22 inter-agency Search and Rescue operations with state police, game wardens, and fire departments. The Aviation Branch also utilizes aircraft to assist other agencies with transport for important scientific sampling and surveying efforts that help conserve and maintain the state's natural resources. For instance, wildlife biologists are transported for moose surveying that directly informs the number of permits issued in different areas.

The Aviation Branch spends approximately \$1.4M annually for all ten aircraft, five pilots, four mechanics, eight fuel trucks, and all parts, hangarage, flight time, and maintenance. Without the fleet, the State would have to rely on outside contracting for commercial aircraft. Contracting one UH-1H helicopter for a 120-day fire season would cost approximately \$1.5M. Over the last five years, fleet operations have saved over \$1.3M in Office of Information Technology transport expenses (e.g., for flying technicians and equipment to mountaintop repeater sites for repairs and resupply). Similarly, Forest Protection aircraft use has saved the Department of Inland Fisheries & Wildlife (DIFW) approximately \$350K in expenses over the last five years.

THE AIRCRAFT

This fleet of aircraft is aging. Five of the six helicopters used to fight fires and perform search and rescue activities are more than 50 years old. And the average age of the three airplanes operated to conduct activities such as fire detection flights, water quality enforcement, and entomology surveys for mapping pest infestations is 56 years old. While the aircraft are well maintained by Maine Forest Service aviation mechanics, there comes a time when the age of the aircraft interferes with the safe completion of the State's mission. As it stands now, parts have become more expensive and harder to find, and older aircraft spend more time grounded due to maintenance issues. On several occasions, the military or the FAA has put out a service bulletin on the Hueys, downing the entire, worldwide fleet of Hueys, sometimes for months at a time, due to maintenance issues.

The aircraft fleet consists of:

- Five Vietnam era (1965-1968) UH-1H (Huey) utility helicopters can only be used for firefighting, law enforcement, and search and rescue. They carry up to ten firefighters and a 240-gallon bucket of water. Three of the five have been overhauled at the factory, but all show signs of age and wear.
- Two smaller civilian helicopters (Bell 407 and 206) carry three to six passengers and less water. They can be used for any mission that the rangers perform – fire, law enforcement, search-and-rescue, OIT communication towers, DIFW moose surveys, etc.
- Three aging fixed-wing aircraft- Cessna L-19, C-180, C-185 (1952-1980) on wheels, skis, and floats used for fire patrol, surveys, and transportation.

THE AIRCRAFT (CONTINUED)

There is no specific end date or life limit to the Huey airframes, but at some point, it won't be viable to operate old helicopters. The Forest Service began replacing the Hueys in the early 2,000s by purchasing a Bell 407. Modernization of the fleet must continue before there is a need to ground the Hueys for maintenance and safety issues.

THE PLAN TO MODERNIZE THE FLEET

- Purchase two used but modern Bell 407 helicopters and modify them for fire use, providing hooks, sliding doors, VHF-FM radios, etc.
- Dismantle the two Hueys that haven't been overhauled for parts, storing the engines, transmissions, and rotor systems for later use.
- Modify the three overhauled Hueys to left seat drive with FastFin tail booms and strakes, providing additional power and tail rotor authority at high altitudes and high temperatures while reducing strain and metal fatigue on the tail booms.
- Purchase two used but modern Cessna 206's to replace the C-180 and C-185.
- Sell the Bell 206 and C-185. Turn the C-180 back into the U.S. Forest Service.

Costs of modernizing the fleet:

• Purchase of two modern, used Bell 407	\$5 MM
• Upgrading the three remaining Hueys	\$0.74 M
• Upgrading the Bell 407	\$0.26 M
• Purchase of modern, used Cessna 206 on floats	\$0.5 M
• Purchase of modern, used Cessna 206 on wheels	\$0.4 M
• Sale of Jet Ranger and C-185	<u>(\$0.54 M)</u>
Total	\$6.36 MM

**Selling the aircraft and turning in the older, federally-owned aircraft will bring the fleet's complexity down to four different types of aircraft.*

