

BY ELIZABETH G. MACALASTER

# Feathered Fire Fighters

*The Use of Homing Pigeons  
in Fire Communication*



*Swift, reliable communication is critical to fighting wildfires. For a time, the U.S. Forest Service used homing pigeons to carry dispatches, to great effect.*

The U.S. Forest Service quickly made the detection and suppression of wildfires in national forests a priority with its establishment in 1905. Among the challenges the agency faced was communicating the location of fires. Beginning in 1910, lookouts were stationed in towers built on mountain tops or in trees to watch for fires, but how could they convey information to firefighters? Telephone lines were expensive and time consuming to construct, and often unreliable: falling trees broke the lines, snow slides wiped them out, and they could melt in intense heat. Heliographs were equally problematic, requiring sunlight to reflect off the fragile mirrors as well as operators who knew Morse code—and were watching for the signal.

As early as 1909, American foresters had advocated for the use of airplanes for detecting and reporting forest fires. The first aerial fire patrol flight was made in 1915 on behalf of the Wisconsin Conservation Commission. But not until Colonel H. H. “Hap” Arnold of the Army Air Service took control of aerial patrols in 1919 did cooperation between the Army Air Service and U.S. Forest Service begin.

During the First World War, Arnold had been in charge of the Information Service in the Aviation Division of the Signal Corps. In early 1919, after being assigned as supervisor of the Air Service at Coronado, California, by luck he had a conversation with

the forester in charge of the Forest Service’s California district about the benefits of aerial fire detection. Eager to give his pilots more experience, Arnold wasted no time striking an agreement with the civilian agency. In June the Air Service began patrols over national forests in southern and central California.<sup>1</sup> The experiment worked. By year’s end, Arnold had expanded coverage into northern California and Oregon.

Although airborne observers could spot smoke and fires, reporting the locations remained a problem. The biplane models JN-4H and JN-6H had radio-telegraph, but this technology didn’t always work, especially over mountainous terrain. The JN-4Ds had no radios at all and could communicate with crews on the ground only by dropping messages or landing to give a report. A new kind of messenger service was needed.

### **TAKING FLIGHT**

Help arrived in the form of feathered couriers. Homing pigeons had provided a highly reliable means of communication during the war, and at its conclusion, both the Army and the Navy set up large breeding and training centers. The birds, together with those already at military lofts around the country, became a source of ready-to-work couriers. From 1919 through the early 1940s, the Army Air Service, U.S. Forest Service, and then the Civilian Conservation Corps deployed homing pigeons to assist in fire communication.

When a fire was spotted, the birds literally flew into action. The plane’s observer would write a fire’s location on special message paper, roll up the message, insert it into a capsule attached to the pigeon’s leg, and release the bird to return to its loft at an air base. Flying at an average speed of 40 mph, the pigeon could place the

location of the fire in the hands of a ranger within just hours.

The instinct to return home to its nest and mate explains the homing pigeon’s utility, and nothing but an accident or death (usually in the talons of a raptor) would stop it. The bird’s navigational skills, based on an internal compass and the position of the sun, are augmented by superb hearing, smell, and sight—environmental cues that make a kind of map. Wings that beat up to 600 times per minute, for as long as 16 hours without stopping, speed the bird home. Smoke was not a problem. Homing pigeons have three eyelids, and when needed, as when flying through dust or smoke, they can close this third, semitransparent lid to protect their eyes while flying. It’s no wonder homing pigeons were such successful couriers in the hell of trench warfare.

Of the 570 fires reported by flights originating in Oregon during the 1919 season, 128 were detected from the air. Everyone involved considered the program a success, and Arnold made big plans for the coming fire season. For 1920 he wanted to expand Air Service patrols to 12 bases covering forests in California, Oregon, Washington, Montana, Idaho, and Wyoming, with five squadrons consisting of 90 aircraft and 180 personnel to serve as pilots and observers. Each aircraft would be allotted two pigeons for communications with ground crews. The planners expected to need five pigeoners to oversee the 930 pigeons distributed among the squadrons.<sup>2</sup> The addition of experienced pigeoners would be crucial to the program’s success, as only well-trained pigeons can be relied on to reach home no matter the conditions.

Along with expanding the aerial patrols for the 1920 season, Arnold created a training program at March Field in California to begin in February 1920. Both the Air Service and the Forest Service would provide

**A U.S. Forest Service ranger is ready to turn a carrier pigeon loose on the Umpqua National Forest, 1920. The message is in a cartridge on the bird’s leg.**

instruction, which included the care, training, and use of homing pigeons. But by January 1920, the Air Service had taken no action; its part in firefighting declined after that year. After the 1921 season, despite the outstanding record and popularity of the program among state and federal foresters, forest associations, and lumbermen, Congress was no longer willing to provide enough funding for the military personnel needed. By 1925, aerial patrols were turned over to civilian contractors.

### FLYING SOLO

That change, however, did not end the role of homing pigeons in fire communications. The Forest Service would simply have to fly solo. In the early 1920s, the Forest Service continued using both Army and Navy pigeon couriers and was particularly successful in Oregon. In the Willamette National Forest, pigeon lofts were built at the West Boundary and McKenzie Bridge ranger stations. Fast speeds with pigeon couriers were reported; one bird flew more than six miles from the Castle Rock lookout to the McKenzie Bridge ranger station in just four minutes.<sup>3</sup>

Other pigeons operated in the Deschutes National Forest. In 1919, pigeons were brought to Bend, Oregon, from Portland and a flock established and trained. The city of Bend assigned a pigeon to each of its wildfire crews. When seven weeks old, the fledglings transported messages to their Bend loft from nearby parts of the national forest. At three months, they carried valuable information a distance of more than fifty miles, and at four months they had no difficulty covering a hundred miles. During that year's fire season, eight birds carried six hundred messages, averaging forty-five miles per hour. On several occasions, they were released at points on the summits of the Cascades in heavy smoke.<sup>4</sup> They got their messages through.



COURTESY OF THE LAKE COUNTY HISTORY MUSEUM, EUGENE, OR

**Castle Rock Lookout Tower was the starting point for one speed test in 1920. One bird flew more than six miles from the lookout to the McKenzie Bridge ranger station in just four minutes.**

Test runs with homing pigeons in Idaho yielded equally impressive results. "In one case," wrote Gary Craven Gray in *Radio for the Fireline*, "a bird was carried by pack horse into a remote area, kept overnight, and released the next day. Within 30 minutes, the pigeon was back at its cote after covering 18 miles of rugged terrain. In another instance, a ranger took two birds to the scene of a fire and released one to call for help. When the crew successfully brought the blaze under control, the other was sent to cancel the call."<sup>5</sup>

The Minnesota State Forest Service also used the swift couriers. In the early 1900s, in the northeast part of Minnesota, rivers functioned as roads, and the most efficient way to travel to a wildfire was in a canoe. Firefighters paddled to fires through lakes, over portages, down rivers and channels, and over rapids. Communication in such terrain, however, was slow. In the 1920s, a ranger at Tower, a small town near the Canadian border, responded to fire alerts by loading crates of homing pigeons into the canoes, along with supplies and equipment. Some of the pigeons had been trained

by World War I pigeoneer Stuart W. Cohen, whose birds could fly up to fourteen hundred miles. Birds returned to the Tower ranger station carrying urgent requests for supplies and reinforcements.<sup>6</sup>

Although pigeons were successful firefighting partners in the Northwest on a small scale, many in the Forest Service thought they were not worth the upkeep and training to keep them in firefighting shape. In most national forests in the northwestern states, despite their good service record, the feathered firefighters were phased out by 1922, along with their fixed-wing counterparts.

### REVIVAL AND RESPECT

A decade later, some in the Civilian Conservation Corps revived the practice of using homing pigeons in firefighting. Company 2329-C, an African American CCC company located on the Cleveland National Forest in California, gained prominence in fire suppression by employing homing pigeons to transmit messages. Company members constructed lofts, raised and trained pigeons, and used them to ferry



**A ranger stands in the doorway of a pigeon cote in Bend, Oregon, in 1920. Pigeons were successfully used on a small scale in the Northwest from 1919 through 1921 but were deemed too costly to maintain.**

time-sensitive reports from the fire lines back to their base camp when other means of communication were impractical.<sup>7</sup> No doubt the birds helped Company 2329-C maintain a highly regarded fire suppression record.

Another CCC company, the 1139th, in West Townsend, Massachusetts, also employed pigeons. Originally raised in the camp as a hobby, the homing pigeons of the 1139th were called to serve when a fire broke out near Groton in 1941. With no communications between the fire line and the CCC camp, several birds were sent with each fire crew dispatched from the camp. Though untested under actual fire conditions, the pigeons unfailingly returned to their camp loft with information on the progress of the fire, the means to control it, and the need for additional men and tools. According to Maj. Gen. James A. Woodruff, commander of the 1st Corps area, the pigeons' service resulted in the savings of thousands of dollars. Mercury, an outstanding member of the 1139th's pigeon loft, was later awarded the title "Captain" at a ceremony at the Boston Army Base by Lt. Col. George L. Smith,

Army director of the CCC in New England.<sup>8</sup> After the ceremony, Captain Mercury flew back to West Townsend with a message of congratulations to the camp members who had raised and trained him.

Today, only about three hundred manned lookout towers remain in the United States, with spotters using a host of advanced communication technologies to locate and report forest fires. But when the U.S. Forest Service restored and reactivated the Ute Mountain Fire Lookout Tower in eastern Utah in 2015, it decided to also honor the history of feathered firefighters in a special event. After completion of the restoration, the lookout staff recreated the pigeon messenger service, though it worked in reverse. Pigeons from the Ute Lookout loft were dropped off at the Red Canyon visitors center about ten miles away, where sightseers attached messages to a bird's leg and released the bird to find its lookout loft at the tower. Visitors then proceeded to the tower and retrieved their messages. The pigeon messenger system, together with a tour of the historic site, gave onlookers a chance

to experience how rangers spotted and reported forest fires in the early part of the twentieth century, when homing pigeons flew crucial messages from pilots, lookouts, and frontline firefighters.<sup>9</sup> The event in Utah was a reminder of the important contribution these extraordinary birds made in America's firefighting history.

*Elizabeth G. Macalaster is the author of War Pigeons: Winged Couriers in the U.S. Military, 1878–1957 (McFarland and Company, 2020).*

## NOTES

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