Abstract

The image of a Piper Super Cub or a de Havilland Beaver on a glacier or with rugged mountains as a backdrop has become iconic within Alaskan culture and identity. There are very few places in which aviation is so tightly integrated into society. Alaska has more pilots per capita and more aircraft per capita than any other place in the United States; but despite the importance of aviation within the state, little anthropological or archaeological research has been conducted on this topic. By examining the cultural, social, and material aspects associated with flying in this distinct area of the world, this research creates a more complete understanding of aviation within the social history of the Alaskan frontier.

Introduction

This paper investigates the historical development of civil aviation and the role of air travel in Alaska. By studying material culture, historical documentation, and oral traditions, this research creates a more complete understanding of aviation within the social history of the Alaskan frontier, as well as demonstrates the social and cultural aspects associated with pilots and flying.

First of all, this project does not engage in what had been loosely termed “aviation archaeology.” Aviation archaeology or wreckchasing, as it is often called, involves locating and documenting aircraft crash sites. It focuses on the preservation of these sites and on the history surrounding the activities that caused them. Organizations, such as The International Group for Historic Aircraft Recovery, one of the institutions dedicated to uncovering the mysteries surrounding Amelia Earhart’s disappearance, seeks to find, save, and preserve rare and historic aircraft. While organizations such as these have made valuable contributions, my research takes a different path. Instead of focusing on the discovery and preservation of crash sites, this project examines the people, technology, and sites that made aviation possible within Alaska (Figure 1).

Figure 1: Bob Reeves, owner/founder/pilot of Reeve Airways, and mechanics work on the engine of a bush plane near Cliff Mine, Alaska in 1937.

Alaska has always been an on obstacle course for surface travel, but until the 1920s people had no choice (Bruder 1991). Alaskans got around by dog sled, pack horse, boat, or by foot. Furthermore, the rugged landscape of Alaska placed great difficulties in the way of building roads and
railroads (Naske and Slotnick 1994; Haycox 2002). In addition, the severe climate conditions, together with the vast distances between communities, made these tasks extremely expensive. Of all the modes of transportation, air travel was the most readily adaptable to the Alaska environment and in the early 20th century, aviation began to play a critical role within the territory.

The Early Stages of Alaskan Aviation

In 1913, the first airplane, a Gage-Martin biplane, reached Alaska packed in a wooden crate that traveled by steamship, railroad, and riverboat from Seattle to Fairbanks (Stevens 1990a; Ruotsala 1997; Rozell 2004; Szurovy 2004). On July 4th hundreds of Alaskans gathered around the ballpark in Fairbanks to watch the 11 minute exhibition flight by entrepreneur and pilot, James Martin (Figure 2).

![Figure 2: James and Lily Martin and their Gage-Martin biplane in 1913.](image)

Seven years passed before airplanes were seen over Alaska again. In 1920, on the first international cross-country flight in history, officers and enlisted men of the Army, known as the Black Wolf Squadron (Figure 3), traveled from New York City to Nome, Alaska with four de Havilland DH-4Bs (Stevens 1990a; Ruotsala 1997; Rozell 2004). The Black Wolf Squadron covered over 4,500 miles from New York to Nome without any serious problems and it only took 53 hours and 30 minutes of actual flying time. The planes landed in Nome on August 23, 1920, forty days after they had departed New York. All members of the flight were awarded the Distinguished Flying Cross for this endeavor (Ruotsala 1997).

![Figure 3: Members of the Black Wolf Squadron.](image)

Early pilots gradually demonstrated the airplane’s potential in Alaska’s vast wilderness. Parts of Alaska that had never heard the sound of an automobile – and still haven’t – heard the sound of aircraft flying above. So quickly did the airplane revolutionize travel, that by the early 1930s planes were being used extensively in Alaska (Bruder 1991). Notable pilots, such as Charles Lindbergh, Wiley Post, and Howard Hughes participated in the development of Alaska aviation, but this was the time of the pioneer bush pilots and bush flying. The end of World War I left a surplus of planes and pilots, many of whom found a niche in Alaska, flying people, supplies, and mail to and from the remote communities across the territory (Figure 4). They became the lifelines for people who had no other way to obtain goods and services (Helmericks 1969). The airplane made it possible for communities, which previously had been almost completely isolated for much of the year, to have year-round contact with the outside world.
It can be argued that in the past, all flying was essentially “bush flying” which refers to off-airport takeoff and landings (Szurovy 2004). Flying underpowered biplanes, bush pilots took off without weather reports or radios. Sandbars, gravel riverbeds, fields, frozen rivers, lakes, and glaciers served as their runways and engine failures and wrecks were not uncommon occurrences (Figure 5).

The Golden Years of Alaskan Aviation

Pilots from the mid-1930s through the 1950s enjoyed a mix of romance, science, innovation, and routine (Stevens 1990b; Bruder 1991). Isolated areas of the Alaskan landscape became more and more accessible thanks to aircraft with greater speed and range capabilities and the willingness of pilots to venture out into the unknown. During this time period, construction workers created the Alaska or Alcan Highway, the military defended the remote Aleutian Islands from Japanese invaders, the territory became the country’s 49th state, and government agencies brought services and resource management to outlying villages. In each of these projects, the airplane played an important component, transporting people, supplies, mail, and equipment (Figure 6).

The airplane made significant contributions (Stevens 1990a, 1990b; Ruotsala 2002; Szurovy 2004). First of all, bush pilots were able to fly into villages which previously had been accessible only by dogsled. They could transport supplies needed by miners, fishermen, loggers, traders, and trappers and could do so on an emergency basis. The airplane drastically reduced travel time from weeks to hours and could quickly take sick and injured people to medical help. Government agencies were also able to use the airplane to great advantage, such as for aerial survey and mapping. By the start of the modern aviation era in Alaska in the 1960s, flying had become almost as common as driving in the Lower 48 (Bruder 1991).

The Bush Plane

Alaska has changed in many ways since the first flight in 1913, but one feature has remained the same – bush planes are the best way to access this vast frontier (Rozell 2004). Small planes are still the number one
choices of Alaskans who want or need to reach remote villages, coastal towns, or off airstrip gravel bars and hilltops (Figure 7). The earliest bush planes were surplus open-cockpit biplanes from World War I, but as people in Alaska needed more and more service by air, the pilots, in cooperation with the manufacturers, adapted airplanes to serve their needs (Szurovy 2004). At one time there were over one hundred bush plane manufacturers, but today the most popular planes include Cessna, de Havilland, Piper, and Maule (McCaffery 2002; Szurovy 2004). Many of the original companies no longer manufacture these types of planes. For example, the Piper Super Cub is the first image that comes to mind when the subject of bush flying is mentioned and is still the favorite among pilots, however it has not been produced for almost 20 years (Figure 8).

Bush planes are distinguished from other types of planes due to a number of specific characteristics. First, bush planes have high wings to help improve ground visibility. Having the wings on top also allows airplanes to land on small strips that have become overgrown with vegetation. Second, bush planes are equipped with tailwheel (or conventional) landing gear. The tailwheel, as opposed to a nose wheel, produces a nose high attitude which increases ground clearance. In Alaska, nose-wheel planes are often limited to improved airstrips because their propellers are more susceptible to dipping down into gravel or other obstructions upon landing (Rozell 2004). Although bush planes come in all sizes and shapes, an efficient bush plane will be able to take-off and land in short distances, a capability known as STOL. Being able to get in and out of small areas requires a good deal of piloting skills and bush pilots are very proficient at precise flight at very slow speeds, as required for takeoffs and landings.

Bush planes have constantly been modified throughout their existence to suit pilots’ needs (McCaffery 2002; Rozell 2004; Rossiter 2005). Skis allow for landing on glaciers and snow packed airfields. Floats are used to land on rivers and lakes (Figure 9). Many planes are equipped with ski and wheel combinations allowing a pilot to takeoff from a gravel or paved airstrip and land on a glacier, or vice versa. Tundra tires are another very common modification and allow pilots to land somewhat smoothly on gravel bars, alpine hilltops, and other improvised airstrips. Amphibious planes, planes with both floats and tires, gives pilots the option to land belly down in the water or on land with the help of retractable landing gear. Downward-curved wingtips are also added to the wings to provide extra lift, allowing for slower speed takeoffs and landings. In the winter months, air restrictor plates are often placed over the front
cowling to retain more engine heat. Scientists also modify bush planes to suit their needs. For instance, wildlife biologists attach radio tracking antennas to the wing struts and climatologists have installed systems underneath their planes to measure the heights of glaciers.

They have to handle their own navigation, and make their own life-or-death decisions on a day-to-day basis. One component of this project is to understand the cognitive skills involved with piloting. For instance, how were these skills acquired? Was there a certain type of flight training implemented in the early stages of aviation or did bush pilots they simply “fly by the seat of their pants” so to speak?

Perhaps more than other types of flying, bush flying invokes romantic notions of adventurous pilots flying off to exotic locations. The image of a Super Cub or a de Havilland Beaver on a glacier or with rugged mountains as a backdrop has become iconic in the aviation community as portraying the bush pilot’s lifestyle. Historical documents and oral traditions portray very a distinctive notion of bush pilot life. The mythology of the often romanticized version of bush pilot culture evokes a sense of individualism and free spirit, very much like the cowboy of the American West (Figure 10). But I argue that in reality, this was not the case. Instead, bush pilots made up a rather large social network. Aviation has been termed as a sort of fraternity, and in Alaska most pilots, while often in competition with each other, established very close connections (Bruder 1991).

The Bush Pilot

With that said, Alaska is a land that came to depend on bush pilots. So what makes a bush pilot? Is it an innate joy of living that leads to bush flying, or does bush flying insure such a spirit? Most likely the answers are yes and yes. No one becomes a bush pilot without the desire for excitement and adventure and a love of the outdoors. A bush pilot is energized by endless stimulation. Every flight is unpredictable.
The stereotype of a young, Caucasian male often accurately portrays the bush pilot appearance. However, Alaskan aviation history often overlooks the multiple roles and contributions of women in the field of aviation. From the very first day of Alaskan flying, women played a key role when Lily Martin, an English pioneer aviatrix, helped her husband bring the first aircraft to Alaska. Not only did women fly the Alaskan skyways, but they worked on aircraft and owned and managed commercial aviation companies.

As a private pilot and a participant observer in the aviation industry I have the opportunity to examine flying in a contemporary setting and understand what can be loosely termed as “pilot culture.” By interacting with the bush pilots of today I’ve been able to examine the ways in which flying is an essential part of Alaskan and American identity. One important aspect of this research is the lore of Alaskan flying. Flying in the Alaskan bush evokes a sense of freedom and adventure in the minds of many individuals. People involved in the aerospace industry, ranging from commercial pilots to former astronauts, want to “live the dream” in Alaska.

Aviation can also be classified as a living tradition; however the tradition of flying in Alaska has evolved over the years. While it is still a way to make a living for many residents, flying has also become a sport. For example, Alaska hosts the largest bush pilot competition in North America. For the past five years, hundreds of pilots and spectators travel to Valdez to witness the top bush pilots participate in a variety of events such as short field takeoff and landings, flour bombing competitions, and even a poker run (Figure 11). This Fly-In competition and other flying events throughout the state not only provides an opportunity to promote economic development and tourism, but it also demonstrates the importance of aviation in Alaska by illustrating how bush pilots continue to be a significant component of Alaska culture and identity.

![Figure 11: Bush pilot Paul Claus competes in the May Day Fly-In in Valdez, Alaska.](image)

**Conclusion**

The importance of aviation has continued into the present day. There are very few places in which aviation is so tightly integrated into society. Alaska has more pilots per capita and more aircraft per capita than any other place in the country; but despite the importance of aviation within the state, little anthropological or archaeological research has been conducted on this topic. In conclusion, by examining the cultural, social, and material aspects associated with flying and pilots in this distinct area of the world, this project demonstrates the significance of civil aviation within the history of the Alaskan frontier.

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