



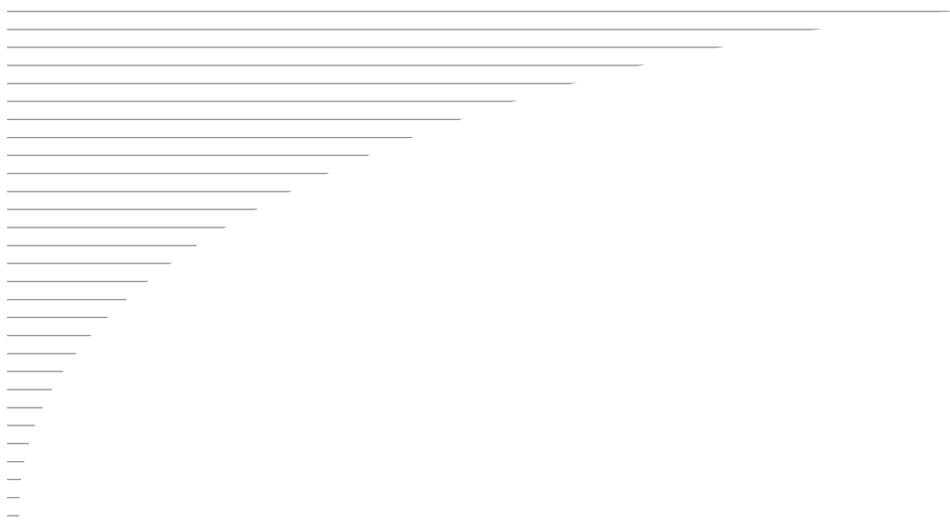
Economic Benefits of Lake Hood Seaplane Base

Prepared for:
**Anchorage Economic
Development Corporation
and
Ted Stevens Anchorage
International Airport**



Research-Based Consulting

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Anchorage



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Executive Summary

Anchorage Economic Development Corporation (AEDC) and Ted Stevens Anchorage International Airport (ANC) contracted with McDowell Group to conduct an assessment of the economic impact of Lake Hood Seaplane Base. Lake Hood Seaplane Base is recognized as the busiest seaplane base in the world.

In 2012, Lake Hood Seaplane Base saw 67,000 flight operations (take-offs and landings). In June 2012, the busiest month of the year, there were 13,159 operations, averaging 439 operations per day.

The value of Lake Hood Seaplane Base to the Anchorage aviation community is evident in the long waiting list (over 300 names) to secure a float plane slip. Applicants at the bottom of the waiting list can expect a ten-year wait.



The economic impact of Lake Hood Seaplane Base includes jobs and payroll with the many businesses and organizations that operate at Lake Hood. It also includes commercial, industrial, and community activities that are supported by Lake Hood-based air taxi and charter operators.

Key findings from the economic impact analysis are summarized below.

- Including direct, indirect and induced employment, Lake Hood Seaplane Base accounted for an estimated 230 jobs in 2012, with peak season employment effects of about 300 jobs.
- Lake Hood-related employment accounted for approximately \$14 million in labor income in 2012, including direct, indirect and induced effects.
- Total 2012 output (a measure of total economic activity) related to Lake Hood Seaplane Base is estimated at \$42 million.

Table ES1. Economic Impacts of Lake Hood Operations, 2012

	Direct	Indirect/ Induced	Total
Employment (annual average equivalent)	130	100	230
Labor Income (millions)	\$8.5	\$5.5	\$14.0
Output (millions)	\$25.0	\$17.0	\$42.0

Source: McDowell Group estimates.

- In addition to the jobs and income reported above, Lake Hood supports additional economic activity with the many businesses and communities that rely on the flight services provided by Lake Hood air charter operators.
- A large number of fishing, hunting, and wildlife viewing lodges are either entirely or partially dependent on flight service from Lake Hood. Research conducted for purposes of this study identified 25 remote lodges that are served by Lake Hood-based charter operators.
- Lake Hood served the majority of the 23,200 non-resident Alaska visitors who purchased a flightseeing tour during their visit to Anchorage in the May 2011 through April 2012 period.
- Lake Hood also supports resource development activities. Mining exploration activity in Southwest, Southcentral and Interior Alaska, as well as Cook Inlet oil and gas production is supported out of Lake Hood. Lake Hood flight operations also support private sector and government environmental research programs, often related to resource or infrastructure development.
- In addition to supporting business and industry, Lake Hood-based flight services occasionally or regularly support the air transportation needs of communities throughout Southcentral Alaska, as well as Prince William Sound and Southwest Alaska.
- There are a number of government offices that conduct business at Lake Hood, including Alaska Department of Transportation and Public Facilities Central Region, U.S. Department of the Interior, Office of Aviation Services (OAS), Alaska State Troopers, U.S. Air Force Civil Air Patrol, and Federal Aviation Administration.

Introduction

Lake Hood Seaplane Base (LHD) plays an essential role in moving people and goods within Alaska. Eight in ten Alaska communities have no road access to regional service and supply hubs and aviation is critical to reach many of these communities. Nationally, annual enplanements are about double the country's population, while in Alaska annual enplanements are seven times the state's population.¹ With a flight area of over 3 million square miles, Alaska has the largest aviation system in the nation.²

To serve Alaska's 700,000 residents, there are:

- 700 FAA registered airports and 1,200 airstrips³.
- 1.3 active pilots per 100 Alaska residents (Montana and Colorado are ranked second and third with approximately 0.4 active pilots per 100 residents)
- 271 certified air carriers (commercial operators)
- 835,000 total commercial flight hours annually (including 420,000 scheduled flight hours and 415,000 unscheduled flight hours)
- 10,947 registered Alaska-based aircraft (40 percent in Anchorage (2011))
- 8,272 active pilots (2011), including 1,068 students, 3,107 private, 1,916 commercial, 2,134 airline transport, 47 miscellaneous, and 1,313 flight instructors⁴
- 1,096 pounds of air freight per capita annually -- 39 times more than the freight load for rural communities in the next highest state (Oregon) (2008)⁵



This level of aviation-related activity translates into substantial economic impact in Alaska. In fact, as of 2007 (the most recent estimates), aviation annually accounted for \$3.5 billion in economic activity in Alaska, and 47,000 jobs, including direct, indirect and induced employment effects. That amounted to 10 percent of all employment in Alaska.⁶

¹ FAA fact Sheet (Feb. 2011)

² <http://www.alaskaaircarriers.org/>

³ <http://www.alaskaasp.com/>

⁴ (FAA) US Civil Airmen Statistics 2011

⁵ "The Economic Contribution of the Aviation Industry to Alaska's Economy," Northern Economics, 2009. Prepared for Alaska Department of Transportation and Public Facilities, p. ix.

⁶ *Ibid.*

The scale and diversity of aviation activity in Alaska is remarkable. At one end of the spectrum is Ted Stevens Anchorage International Airport (ANC), the fourth busiest airport in the world after Hong Kong, Memphis, and Shanghai in terms of air cargo volume moved to or through the airport. A total of 5.4 billion pounds of air cargo moved through ANC in 2012, along with 5 million passengers. At the other end of the spectrum are the dozens of very small, remote Alaska communities almost entirely dependent on a daily single-engine plane arrival for mail, groceries and passenger travel.

LHD is a vital and active part of ANC, playing a special role in Alaska's aviation infrastructure. First, LHD is generally recognized as the world's busiest seaplane base. But more important, Lake Hood serves a number of important aviation-related roles, such as:

- Lake Hood is the only public seaplane facility serving Anchorage, Alaska's largest city, with a population of 300,000 residents. The ten-year wait to secure a floatplane slip attests to critical role the facility plays in the local aviation community.
- Lake Hood supports year-around flying, serving float operations in the summer and ski operations in the winter. LHD's gravel strip is open to wheeled aircraft in all seasons.
- Lake Hood connects Anchorage to dozens of remote recreation lodges and rural villages that rely on floatplane and small aircraft services to support their operations, moving customers/residents and supplies continuously throughout the year, especially during the busy summer visitor season. Ski equipped aircraft use Lake Hood during the winter.
- Lake Hood serves as a base for a wide variety of aviation-related services, ranging from aircraft repairs and maintenance to flight training.

The purpose of this study is to measure the economic contribution of Lake Hood Seaplane Base. While Lake Hood is widely recognized as a busy center of general aviation activity, especially seaplane activity, less is understood about the economic impact of the commercial and agency activity at Lake Hood that, as described in this report, includes millions of dollars in payroll and spending on goods and services.



This report begins, in Chapter 1, with an overview of the history of Lake Hood. Chapter 2 provides an overview of aviation and aviation-related activity at Lake Hood. Finally, in Chapter 3, the direct and indirect economic impacts of Lake Hood are described. An appendix is included that lists the names of people and businesses interviewed during the course of this study.

Chapter 1: History of Lake Hood Seaplane Base

Infrastructure Development

While the first seaplane activity at Lake Hood occurred about 90 years ago, Lake Hood's evolution into the busiest seaplane base in the world began almost 75 years ago.⁷ In 1938, a channel connecting two natural lakes, Lake Hood and Lake Spenard, was constructed, along with a 2,200-foot gravel runway along the south side of the lake. Development of runways and a terminal at what would become Ted Stevens Anchorage International Airport (ANC) did not begin until about ten years later, when Congress approved \$13 million for airport construction in Anchorage and Fairbanks.



By the 1940s and 1950s, the first generation of aircraft providing seaplane services in Alaska (and at Lake Hood) emerged, including an assortment of Lockheed Vega, Grumman Goose, DeHavilland Beaver and Otters, Cessnas, Super Cubs, and other aircraft. Many of these aircraft remain a mainstay in Alaska's aviation inventory.



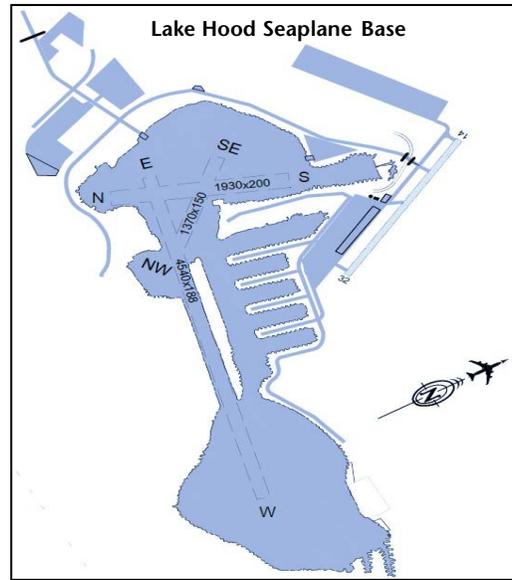
Further development occurred at Lake Hood in the 1950s, when the floatplane complex was enlarged and additional floatplane parking constructed. In 1954 an air traffic control tower was constructed.

The 1970s brought significant changes to Lake Hood. In 1972, the airstrip on the south side of Lake Spenard was closed, and a new 2,200-foot north-south gravel airstrip was constructed on the north side of the lake. In 1975, an east/west channel between Lake Hood and Lake Spenard was dredged just north of the original channel. This channel was developed to provide a safe, slow-speed taxiway between the two lakes. At that time five float plane

tie-down channels were also constructed. The Lake Hood air traffic control tower was decommissioned in 1977 with air traffic control for Lake Hood transferred to the new ANC control tower.

⁷ <http://dot.alaska.gov/anc/about/history.shtml>

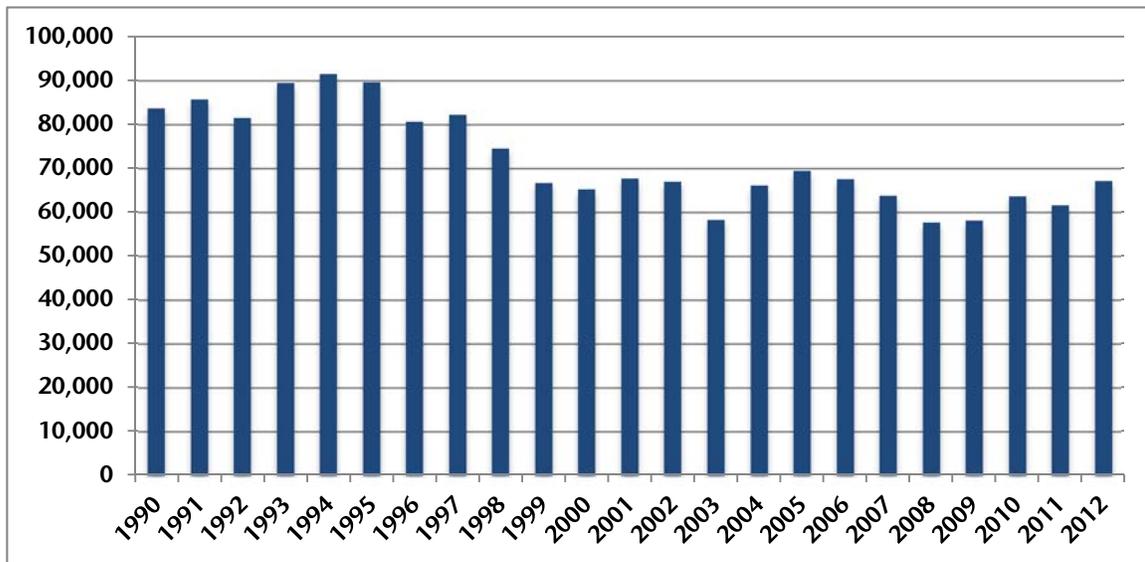
Today, Lake Hood Seaplane Base includes a 4,540-foot by 188-foot east/west waterway, a 1,930-foot by 200-foot north/south waterway, and a 1,370-foot by 150-foot northwest/southeast waterway. Lake Hood has 500 slips for floatplanes and 500 tie-downs at the gravel strip. In addition several areas are designated as ski-plane parking areas.⁸ Transient aircraft parking includes 26 spaces for wheeled aircraft and eight spaces for float planes. A full range of services are available for aircraft operators at Lake Hood, which are described in some detail in Chapter 2.



Historical Flight Activity

Over the past two decades, Lake Hood flight operations activity peaked in 1994 with just over 90,000 take-offs and landings. Activity declined steadily for the next several years before generally leveling off in 2000 and then fluctuating between 58,000 and 70,000 operations annually between 2001 and 2012. Traffic in 2012 totaled 67,000 operations.

**Figure 1. Lake Hood Flight Operations, 1990 to 2012
(Number of Take-offs and Landings)**



Source: Lake Hood Master Plan, 2006, AIAS Draft Technical Forecast Report, 2012, ANC 2103.

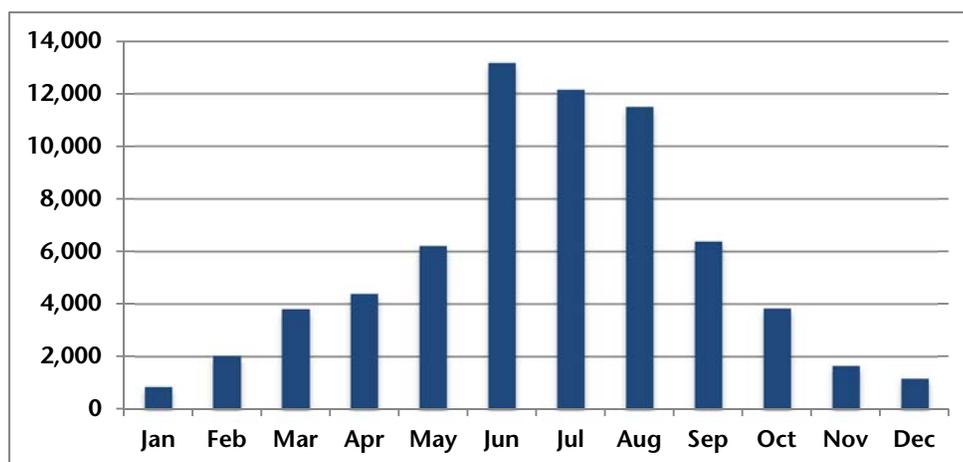
⁸ <http://dot.alaska.gov/anc/business/generalAviation/history.shtml>

Chapter 2: Overview of Current Activity at Lake Hood Seaplane Base

Recent Flight Activity

In 2012, Lake Hood operations totaled 67,101 take-offs and landings at the lake and airstrip combined. While flight operations occur year-round, activity is highly seasonal, with over half (55 percent) of flight operations occurring during the busy summer months of June, July, and August. In 2012, June was the peak traffic month, with a total of 13,159 operations, averaging 439 per day. January was the slowest month of the year, with 839 total operations, an average of 24 per day.

**Figure 2. Lake Hood Flight Operations, by Month, 2012
(Number of Take-offs and Landings)**



Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
839	2,027	3,803	4,397	6,213	13,159	12,155	11,506	6,381	3,825	1,643	1,153

Source: ANC.

On an annual basis, approximately two-thirds of the flight traffic at Lake Hood is local general aviation, one-third is air taxi (commercial), and a small fraction is transient general aviation. An estimated 760 single-engine aircraft are based at Lake Hood, along with 21 multi-engine planes.⁹

While there is a relatively low volume of winter-time flight operation activity (compared to summer), approximately 100 ski-equipped airplanes use Lake Hood. For lake ice operations, floatplane owners replace their floats with skis while wheeled aircraft operators add skis to their landing gear. Lake ice operations are permitted for aircraft up to 12,500 pounds.

⁹ <http://www.AirNav.com>

The demand for floatplane slips is very high, with approximately 300 active pilots on the waiting list. Those at the bottom of the list can expect to wait about ten years for a slip.¹⁰

Business and Organizational Activity

A variety of businesses and organizations are active at Lake Hood, providing a broad range of services and supplies, including:

- Aircraft charters, air taxis, and scheduled flights for passengers and freight
- Flightseeing tours
- Aviation gas sales
- Aircraft sales (such as aircraft, parts, floats)
- Aircraft maintenance and repair (including custom modifications, rebuilds, overhauls, and avionics)
- Aircraft hangar facilities and other storage (private and commercial)
- Flight training and FAA examinations
- Aircraft appraisal services
- Weather observation services and facilities
- Government-related and non-profit services and activities.

Aviation-related operations at Lake Hood support a range of commercial and non-commercial activity in the Anchorage area and throughout Alaska, described in more detail below.

Visitor Industry

Lake Hood is an important part of Alaska's visitor industry infrastructure, serving aircraft operators that provide flightseeing opportunities and move visitors to destinations throughout Southcentral Alaska, Prince William Sound, and Southwest Alaska.

Lake Hood operations are also critical to remote lodges that are entirely or partially dependent on floatplane service. Some of these lodges operate their own aircraft while others use the services of charter operators to move passengers and freight.

Research conducted for purposes of this study identified 25 lodges that are served by Lake Hood-based charter operators. These lodges are located on Lake Clark, in Katmai National Park, Susitna River drainages (such as the Alexander, Yentna, and Talachulitna), west side of Cook Inlet, the Denali region, and various locations in Prince William Sound.



¹⁰ <http://dot.alaska.gov/anc/business/generalAviation/index.shtml>

While a full accounting of flightseeing passenger traffic is not available, available data and interviews with commercial operators suggest that over 15,000 customers (both residents and visitors) experience a flightseeing adventure from Lake Hood.

According to Alaska Visitor Statistics Program (AVSP) data, during the summer (May through September) of 2011, 22,000 non-resident Alaska visitors purchased a flightseeing tour during their visit to Anchorage.¹¹ Another 1,200 purchased a flightseeing excursion during the fall and winter.¹² Most of this flightseeing service was provided out of Lake Hood (with the balance provided from Merrill Field).

Lake Hood-based flightseeing operations include trips ranging in duration from 30 minutes to full-day customized trips. The short flight excursions feature Turnagain Arm and the Chugach Mountains, while longer flights take in the Knik or Triumvirate Glaciers, or the Prince William Sound area. It is a 3-hour trip to tour Denali. Other popular flightseeing opportunities include the Iditarod Sled Dog race during the winter season.

Bear viewing is also a particularly popular visitor activity supported by Lake Hood flight services. From Lake Hood, visitors fly to one of several destinations for a day of bear viewing, including Redoubt Bay, Lake Clark National Park, Katmai National Park, and other destinations.

Lake Hood air charter companies also support guided and unguided sportfishing, river raft trips, guided and unguided hunting, trekking, and other recreational activities (such as skiing) on Alaska's numerous lakes, rivers, and other areas not accessible by road.

Support for Other Industry and Commercial Activities

While visitor industry-related activity is LHD's most visible and significant basic industry contribution, the flight services based at Lake Hood also serve the needs of a variety of other commercial and industrial activities. Mining exploration activity in Southwest, Southcentral and Interior Alaska, as well as Cook Inlet oil and gas production, is supported out of LHD. For example, charter services move technicians, professionals (such as geologists, engineers, and biologists) and other personnel (camp support staff, etc.), equipment (surveyor equipment, environmental monitoring devices, drills), supplies (lumber, replacement parts, foodstuffs, etc.), and drill core samples. LHD flight operations also support private sector and government environmental research programs.

Community Support

Wheeled aircraft using the Lake Hood strip serve the communities throughout Southcentral Alaska. This includes the Kenai Peninsula communities of Kenai, Soldotna, Seward, Homer, and Port Graham; Cook Inlet destinations such as Beluga, Tyonek, Drift River, Trading Bay, and Nikolai Creek; Copper River area communities of Gulkana, Chitna and McCarthy; Prince William Sound communities of Valdez, Cordova, Tatitlek and Chenega; and Lake Clark/Iliamna Lake communities of Iliamna, Nondalton, Pedro Bay, Kokhanok and Igiugig (many of these

¹¹ McDowell Group, Alaska Visitor Statistics Program (VI) Summer 2011. Prepared for the Alaska Department of Commerce, Community and Economic Development.

¹² McDowell Group, Alaska Visitor Statistics Program (VI) Fall/Winter 2011-12. Prepared for the Alaska Department of Commerce, Community and Economic Development.

communities are also served out of Merrill Field). Residents, visitors, service providers (such as electricians, teachers, health aides), supplies (from foodstuffs to fuel), mail, and equipment are moved each day.

Government and Non-Profit Organization Activity

Extensive government and other non-profit related aviation activity is based at Lake Hood.

U.S. DEPARTMENT OF INTERIOR

The Department of Interior (DOI) maintains a service facility for aircraft utilized by the U.S. Fish and Wildlife Service, Bureau of Indian Affairs, Bureau of Land Management, and the National Park Service. Staff at the facility are responsible for 58 aircraft used to support DOI operations across the state, including five planes that are stationed at the Lake Hood hangar (float planes, skis/wheels). The DOI Alaska Region Aircraft Maintenance Division's Lake Hood facility is a FAA Certified Repair Station performing maintenance, inspection, overhaul and modification of DOI Alaska Fleet aircraft. According to the DOI website, the facility is staffed by a Supervisor, Shop Inspector, Parts Specialist and five FAA Certified Mechanics.¹³

ALASKA DEPARTMENT OF PUBLIC SAFETY

The State of Alaska operates a Lake Hood aircraft maintenance and training base for Alaska State Troopers and Alaska Wildlife Troopers. The Alaska Department of Public Safety – Aircraft Section employs 14 workers at Lake Hood. The facility's maintenance crew maintains 40 department-owned aircraft, performing routine maintenance, as well as engine and airframe overhauls and rebuilds.¹⁴

ALASKA WING CIVIL AIR PATROL

The Alaska Wing Civil Air Patrol has a statewide maintenance facility at Lake Hood, servicing 30 aircraft in support of the organizations search, rescue and training mission, employing four workers year-round.

ALASKA AIRMEN'S ASSOCIATION

The Alaska Airmen's Association, a non-profit organization representing 2,500 members, is headquartered at Lake Hood. The Association's mission is to "promote and preserve" aviation in Alaska.¹⁵ Its annual tradeshow, held at the FedEx hangar, attracted 21,000 attendees in 2012 and 800 exhibitors.¹⁶ Many attendees are from out-of-town, and create local economic activity with spending at hotels, restaurants, car rental agencies, and other businesses.

ALASKA AVIATION MUSEUM

Lake Hood is home to the Alaska Aviation Museum. The museum provides visitors with the opportunity to learn about Alaska's rich



¹³ <http://oas.doi.gov/akro/akmaint/index.htm>

¹⁴ <http://www.dps.state.ak.us/AWT/aircraft.aspx>

¹⁵ <http://www.alaskaairmen.org>

¹⁶ <http://www.greatalaskaaviationgathering.org/index.html>

aviation history, with displays of a number of aircraft. The museum leads efforts to restore historically significant aircraft and operates a retail facility. Approximately 20,000 people visit the museum annually.

“IDITAROD AIR FORCE”

It should also be noted that Lake Hood is a base of operations for the “Iditarod Air Force.” The Iditarod Air Force includes 31 volunteer pilots who move hundreds of dropped or scratched dogs, over 120,000 pounds of dog food, hundreds of bales of straw/hay (for dog bedding) and a variety of other material needed to support the 1,049-mile sled dog race.¹⁷ The Iditarod Air Force flies hundreds of volunteers who provide essential services to the race, including the large team of veterinarians who monitor the health of the sled dogs throughout the race. They also fly the communications volunteers and their equipment to and from checkpoints along the race route, race judges, logistics personnel, media, photographers, and many others who play some role in the race.



Personal Use Aviation

While difficult to describe in economic terms, an important role Lake Hood plays is in serving the personal needs of the local general aviation (non-commercial) community. No statistics are available on personal use flight operations at Lake Hood, but it is generally recognized as accounting for a significant portion of flight activity and most tie-down space and hangar usage. While not considered a basic industry, pilots will attest to the fact that there is significant economic activity associated with airplane ownership. The magnitude of the economic is described in the next chapter of this report.

Business Travel

Not only do people fly for personal pleasure, owners of private aircraft also commonly use their planes for business travel, flying themselves to jobsites or “commuting” to places of business outside of Anchorage. Additionally, pilots use LHD when coming to Anchorage to conduct business. With its central location, LHD is convenient to catch follow-on flights at ANC and access other services, such as car rentals or hotels.

¹⁷ <http://www.iditarodairforce.com>

Chapter 3: Economic Impact of Lake Hood Seaplane Base

The economic impact of the ANC is substantial and well documented. According to a 2011 McDowell Group study, the airport and related activities account for over 15,500 jobs and a billion dollars in personal income in the Anchorage area. One in ten Anchorage area jobs is directly or indirectly tied to ANC. The economic impacts of Lake Hood, however, are only partially captured in these estimates which are based primarily on airport employment within the secured area at ANC. Lake Hood operations lie outside the area where all employees are required to have security clearance to access planes, cargo facilities, and airline operations.

To measure the economic activity that occurs at Lake Hood, 25 representatives of businesses, agencies and other organizations were interviewed. These representatives were asked about employment within their organizations, their local purchase of goods and services, and overall annual budgets.

Direct Spending and Employment

Based on these interviews and other secondary data research, it is estimated that direct economic activity supported by Lake Hood totals approximately \$25 million annually. This is a measure of total spending, including payroll and non-payroll expenditures.

Employment at Lake Hood is a variable mix of year-round, seasonal and temporary employment. The interview process identified a total of approximately 130 year-round workers and peak season employment of 210 workers engaged in aviation-related activity at Lake Hood in 2012. It is estimated these workers received about \$8.5 million in annual payroll in 2012.



Total Economic Impact

This measure of direct spending and employment does not capture all the jobs in the Anchorage area that are affected by Lake Hood activity. As Lake Hood businesses and other organizations purchase goods and services in the Anchorage area, a multiplier effect is created, where additional jobs and income are supported. These jobs may be in the aviation sector; for example, avionics technicians who provide their services to aircraft owners based at Lake Hood, or the jobs may be outside the aviation sector; with accounting firms, for example, that work with Lake Hood businesses. Jobs and income that are generated as a result of business spending on goods and services are termed “indirect.” Jobs and income are also created when workers employed by Lake Hood-based firms spend their payroll dollars in the local economy. This “induced” employment and income occurs throughout the economy; wherever residents spend their income on household necessities, transportation, recreation, health care, other personal services, etc.

Economic impact models can be used to estimate the multiplier effects of Lake Hood operations. Air transportation services activity in Alaska has an output multiplier of 1.7, according to IMPLAN, a widely-used model for measuring the multiplier effects of commercial and industrial activity. That means that \$25 million in direct economic output would have total direct, indirect and induced output of approximately \$42 million. While IMPLAN’s employment, labor income and output multipliers for air transportation services are an imperfect proxy for Lake Hood operations – IMPLAN multipliers include large commercial air transportation activity, as well as the air taxi and charter operations typical of Lake Hood and Lake Hood aviation activity likely includes a higher proportion of aircraft maintenance services than the Alaska air transportation sector overall – IMPLAN multipliers for the air transportation sector provide a reasonable approximation of the multiplier effects associated with Lake Hood activity.

Including direct, indirect and induced effects, the total economic impacts of Lake Hood operations are estimated at 230 jobs (annual average equivalent), \$14 million in labor income, and \$42 million in output.

Table 1. Economic Impacts of Lake Hood Operations, 2012

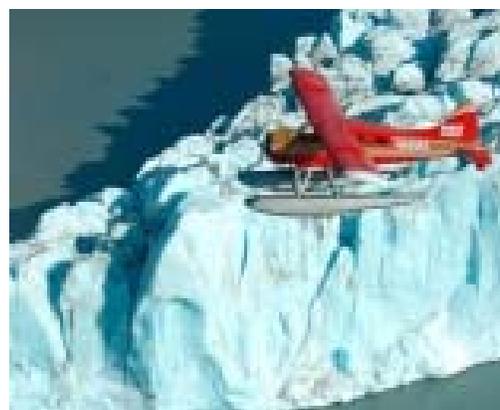
	Direct	Indirect/ Induced	Total
Employment (annual average equivalent)	130	100	230
Labor Income (millions)	\$8.5	\$5.5	\$14.0
Output (millions)	\$25.0	\$17.0	\$42.0

Source: McDowell Group estimates.

Comparing Lake Hood to other Alaska airports places this level of economic activity in perspective. For example, the \$42 million in total Lake Hood economic activity is significantly higher than very important regional air hubs, such as Kotzebue’s airport (\$24 million in output in 2009), Kodiak (\$17 million), and Iliamna (\$11.7 million). Lake Hood’s economic impact is also greater than other key Southcentral general aviation airports such as Talkeetna (\$5.6 million in total output). Talkeetna is the aviation gateway to Denali National Park. Economic output associated with the airport in Wasilla is \$3.7 million. Lake Hood’s economic output is about equal to the Bethel airport (another critical regional aviation hub, with \$45 million in output).¹⁸

Other Economic Impacts

It is important to recognize that these measures of Lake Hood-related jobs and income do not capture all of the economic activity connected with Lake Hood. Jobs and income associated with remote business activity supported fully or partially by float plane operations out of Lake Hood are not included in these estimates. If they were, the overall economic impact of Lake Hood would be substantially above what has been quantified in this study.



¹⁸ A series of airport impact assessments, prepared for the Alaska Department of Transportation and Public Facilities, are posted at <http://www.alaskaasp.com/Documents.aspx>

Support of Alaska's Visitor Industry

While these measurements of economic impact include flightseeing, they do not fully capture the importance of Lake Hood in Anchorage's visitor industry. The opportunity to go on a wildlife viewing flight or see a glacier from the air is a prominent aspect of the city's marketing program. From the Visit Anchorage website: "...visitors to Anchorage can pack in a lot of adventure. Flightsee over vast, snow-covered mountains..." and "All three species of North American bears flourish in Alaska, and are a popular attraction for visitors....Fly-in adventures begin right in Anchorage."¹⁹

The visitor industry is an important part of the Southcentral Alaska economy. In the 12-month period from May 2011 through April 2012, visitors (non-Alaska residents) spent \$1.07 billion in Southcentral Alaska. That spending created 13,400 jobs and \$392 million in labor income. Including multiplier effects, the industry accounted for a total of 18,900 jobs and \$580 million in labor income in Southcentral Alaska. Anchorage's air transportation infrastructure (including Lake Hood) is a central component of that economic activity. Visitors travelling through Anchorage to outlying lodges and other destinations served by Lake Hood flight service operators spend money on lodging (including lodging establishments located on Lake Hood, such as the Millennium Alaskan Hotel and Coast International Inn), food, souvenirs, and activities.

Finally, as the world's busiest seaplane base, Lake Hood is an attraction itself, drawing thousands of visitors each year who watch flight operations, walk the path around the lake, or visit the aviation museum. At least three tour companies include Lake Hood in their bus tour of Anchorage (Anchorage City Trolley Tours, Salmonberry Travel & Tours, and Alaska Tour & Travel).

Spending in Support of Personal Use Aviation

As described previously, personal use aviation accounts for a significant portion of flight activity and most tie-down space and hangar usage at Lake Hood. There is significant local economic activity connected with the fixed and variable costs of airplane ownership, maintenance, and operation, such as spending on:

- Fuel and oil
- Annual inspections and maintenance
- Engine overhauls
- Tie-down fees and/or hangar rentals
- Insurance
- Aircraft accessories, such as headsets, engine covers, etc.

The cost of aircraft ownership varies widely with the type of plane, its age, and how intensively it is used. It is difficult to make generalizations about the cost to own, maintain, and operate the many types of aircraft based at Lake Hood. However, if it is assumed that those costs range between \$15,000 and \$20,000 annually, spending in support of the approximately 780 aircraft based at Lake Hood would total between \$11.7 million

¹⁹ <http://www.anchorage.net/ak/summer>

and \$17.6 million annually. Only a portion of the economic activity associated with this spending is captured in the numbers presented in Table 1.

Maintenance of personal use aircraft is a key component of the aircraft-related maintenance sector in Anchorage. According to Alaska Department of Labor and Workforce Development data, in 2011, 769 people worked as Aircraft Mechanics and Service Technicians in Anchorage. Employment averaged 619 over the year, and workers earned a total of \$37 million in wages. While some of these people work at Merrill Field or Birchwood Airport, many of these people are employed at Lake Hood.

Government Spending and Capital Investment in Lake Hood

The economic impact figures presented in Table 1 (page 13) do not include all economic activity associated with state and federal government expenditures in support of Lake Hood. Maintenance, operations and capital expenditures in support of Lake Hood also created economic activity. While only two ANC employees are dedicated exclusively to management of Lake Hood (the Lake Hood manager and a leasing specialist) a large number of ANC employees serve the Lake Hood facility, ranging from air traffic controllers to snow removal equipment operators to facility maintenance personnel. It is not possible to measure the number of jobs (or payroll) associated in part with Lake Hood operations because those jobs have airport-wide responsibilities.

Additionally, personnel and non-personnel spending in support of Lake Hood operations is partially offset by operating revenues. In FY 2012, Lake Hood revenues included \$570,000 in tie-down and float plane space fees, \$120,000 in aeronautical-related land rental, and \$70,000 in non-aeronautical-related land rental, for total operating revenue of \$760,000.

The federal government has funded (with state matching support) a variety of capital projects at Lake Hood over the past two decades. Following (*next page*) is a list of projects funded through the Federal Aviation Administration (FAA) Airport Improvement Program (AIP) between 1989 and 2011.

Table 2. Lake Hood Capital Improvements, 1989- 2011

Year	Improvement	Total Expenditure
1989	General Aviation Environmental Assessment/Design	\$190,378
1991	Lake Hood UST Removal/Upgrade	1,782,297
1991	Lake Hood UST Removal/Upgrade	1,051,753
1995	General Aviation Improvements	1,378,456
1995	Storm Water Drain	739,469
1996	Lake Hood Water/Sewer Improvements	2,650,345
1997	Lake Hood Boathouse Well Facility	177,079
2000	Lake Hood Bank Stabilization, Erosion, and Lighting	1,388,076
2001	Lake Hood Lake Shore Taxiway Reconstruction	675,497
2002	Lake Hood Upgrades	136,715
2003	Lake Hood Master Plan	450,858
2003	Lake Hood Strip Reconstruction	778,439
2003/2004	Lake Hood Echo Parking	4,137,673
2004	Lake Hood Lake Shore Taxiway Separation	2,648,222
2006	Lake Hood Echo Parking Phase 2	4,771,302
2006	Lake Hood Lake Shore Taxiway Separation	265,562
2008	Lake Hood CCTV	142,198
2010	Lake Hood Strip Improvements	689,272
2010	Lake Hood Lake Spenard Lake Acquisition	1,423,310
2010/2011	Lake Hood Bank Stabilization	3,870,122
2011	Lake Hood Runway Protection Zone Land Acquisition	4,323,312
2011	Lake Hood Strip Improvements Phase 2 (Lighting)	760,812
2011	Lake Hood Web Cameras	146,406
2012	Lake Hood Wayfinding	152,852
2013	Lake Hood Office Cabin Remodel	160,187
TOTAL		\$34,890,592

Source: ANC.

These capital expenditures total approximately \$34.9 million. The economic impact of this capital spending depends on the nature of the project, but often has the greatest impact in the construction sector.

Summary

As described in this report, Lake Hood seaplane base is an important part of the Anchorage and Southcentral Alaska air transportation infrastructure. Commercial, government, business and personal use flight operations and related aviation activities creates a diverse array of economic impacts. Including direct, indirect and induced effects, Lake Hood accounts for approximately 230 jobs, \$14.0 million in payroll and \$42 million in annual economic output.

In addition, Lake Hood supports jobs at the many remote lodges that depend on the float plane charter operators based at Lake Hood. In addition to serving outlying lodges, flightseeing services offered at Lake Hood are an important attraction for many of the nearly one million nonresidents who visit Anchorage each year. ANC operations and maintenance spending in support of Lake Hood operations, along with capital project expenditures to maintain and enhance Lake Hood facilities, complete the picture of a small (relative to ANC) but important economic engine in Anchorage.

Appendix: List of Interviewees & Photo Sources

INTERVIEWEES

- Dick Armstrong, ACE Hangars and Fuel
- Steven Williams, ACME Cub Training
- Jack Barber, Alaska Air Taxi
- Joyce Zerkel, Alaska Aircraft Sales, Inc.
- Dee Hansen, Alaska Airmen's Association
- Sherry Hart, Alaska Aviation Museum
- Sherry Hassell, Alaska Department of Public Safety – Aircraft Section
- Diane Callaway, Alaska Weather Operations
- Mel Sheppard, Alaska Wing Civil Air Patrol
- Richard Guthrie, Arctic Air Transport
- Duke Bertke, Chelatna Lake Lodge
- Brian Gillette
- John Ellison, Ellison Air
- Brian Reist, Flyteck
- Cory Clark, Grant Aviation
- Raymond Peterson, Katmai Air/Lodge
- Dave Matthews, Northern Aviation Maintenance and Repair
- Michael Reeve, Reeve Air Alaska
- Tony Batinock and Mike Laughlin, Regal Air
- Todd Rust, Rust's Flying Service
- Jeff Walker, Seaplanes North -- Floats Alaska
- Ken Kozlowski, Ski's Aircraft Service
- Joe Schuster, Sportsman's Air Service
- Loree Jensen, Trail Ridge Air
- Andrea Larson, Trans Northern
- Rob Heckmann, Turbo North Aviation
- Pamela Hennigan, U.S. Department of Interior, Office of Aviation Services
- William Farmer, White Wing Aircraft Services
- Chuck Gretzke, Wings

PHOTO SOURCES

Page 1: http://commons.wikimedia.org/wiki/File:Lake_Hood_Seaplane_Base_and_Gravel_Strip.jpg

Page 3: <http://www.flickr.com/photos/64177193@N00/2851328675>

Page 4: Alaska Department of Transportation <http://dot.alaska.gov/anc/business/generalAviation/>

Page 5: Alaska Aviation Museum, <http://www.alaskaairmuseum.org>

Page 6: http://web.archive.org/web/20050119175046/http://www.alaska.faa.gov/fai/images/ARPT_DIAGRAMS/LHD.gif

Page 8: Chelatna Lake Lodge, <http://www.chelatna.com>

Page 10: Alaska Aviation Museum, <http://www.alaskaairmuseum.org>

Page 11: <http://www.alaskadispatch.com/article/iditarod-air-force>, photo courtesy of Alaska Airlines.

Page 12: Photo by Pat Wellenbach, in <http://bangordailynews.com/2011/06/22/>

Page 13: <http://www.flyrusts.com/alaska-flightseeing.html>