



Seaplane Facilities Plan: Classifications and Performance Measures

A COMPONENT OF THE
ALASKA
Aviation System Plan

July 2016

Prepared for

Alaska Department
of Transportation and
Public Facilities

With a Grant from

Federal Aviation
Administration



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PURPOSE OF THE SEAPLANE FACILITY PLAN

The recently completed Alaska Aviation System Plan (AASP) analyzed 232 Alaska airports in terms of compliance with Federal Aviation Administration (FAA) design standards and the types of facilities and services typically required by airport markets. These 232 airports were stratified into six classifications, with a set of performance measures related to design standards and services. That document was an update of a previous AASP, which allowed for the tracking of system performance over time.

The Seaplane Facility Plan is an addendum to the AASP, focusing exclusively on Alaska's state-owned seaplane facilities. With 37 facilities owned by the Alaska Department of Transportation and Public Facilities (DOT&PF), an additional 18 facilities owned by other state departments, and many other locally- and privately-owned facilities, seaplane facilities are of crucial importance to the Alaska aviation system. Like the AASP, this document stratifies the system of 55 total state-owned seaplane facilities into various logical categories, so that specific performance measures and benchmarks can be established to measure system performance now and over time.

The over-arching goal of the Seaplane Facility Plan is to "Preserve a safe seaplane facility system." This goal is consistent with the goals of the AASP, which emphasize safety, preservation, and services. To achieve this goal, this document performs a similar analysis to the performance measures analysis of the AASP. Specifically, this document and analysis includes the following elements:

- **Establish Seaplane Facility Categories:** Because not all aviation facilities serve the same market or need within the overall system, it is necessary to stratify facilities. This section describes the process used to stratify the system of state-owned seaplane facilities into five categories. This is similar to the way the AASP stratified airports into system roles. System stratification identifies the market being served by each facility so that appropriate facility and service benchmarks can be developed.
- **Seaplane Facilities Included in Study:** This section details the 55 state-owned facilities included in this study, their ownership, and type of water body in which they are located.

This section also details whether the facility is a standalone seaplane facility or a combined land/water airport.

- **Seaplane Facility Inventory:** After establishing the exact seaplane facilities to be analyzed, a detailed data inventory was conducted, which served as the basis for all subsequent analysis. This section describes the type of data gathered and the various data sources. Collecting the most accurate data about Alaska’s state-owned seaplane facilities helps to maximize the validity of the classification and system performance processes.
- **Performance Measures and Benchmarks:** Detailed performance measures and benchmarks were developed for each of the five seaplane facility categories. These performance measures and benchmarks are specifically designed to help each seaplane facility best support the market defined by its category and to fulfill the overarching system goal of preserving a safe seaplane facility system. Performance measures refer to broader categories of facilities and services that may be important for seaplane facilities, such as floats, aircraft fuel, and access. Benchmarks refer to specific thresholds for each seaplane category, such as having tie-down floats or automobile access.
- **Seaplane Facility Index:** The Index is the ultimate product of the Seaplane Facility Plan, a quantitative assessment of Alaska’s state-owned seaplane facility individually, as full categories, and as a full system. This assessment is based on the performance measures and benchmarks established in the previous step of the process. The Seaplane Facility Index provides a score (0 to 100 percent) for how well each seaplane facility meets each facility benchmark. This Index is designed to allow performance tracking over time.

The analysis, data inventory, and decision-making involved in this process was conducted by the Seaplane Facilities Work Group, which was made up of the consultant team and DOT&PF personnel.

SEAPLANE FACILITY CATEGORIES

There are three key justifications for stratifying an aviation system – in this case a system of seaplane facilities – as part of a system planning process. The first is descriptive, in that seaplane facility categories make it easier to describe the system as a whole simply by knowing how many facilities fall into each category. Secondly, categorization allows for the setting of baseline facility and service recommendations through performance measures and benchmarks. It is then

possible to evaluate not only individual seaplane facilities, but established groups and the system as a whole. Finally, categories, in conjunction with system performance, lead to a list of facility and service deficiencies. These deficiencies help to identify the development necessary for each seaplane facility to best serve the market defined by its category.

The Seaplane Facility Plan utilizes the following five seaplane facility categories:

- **Seaplane Base (SPB):** These are facilities with a high level of seaplane activity and are used exclusively for aviation. Such facilities will typically have tie-down floats, access to the shore, space for transient aircraft, and on-site aircraft fuel. SPB facilities should also be easily accessible via the road network and have space for automobile parking. SPB facilities are typically crucial transportation and economic hubs for their communities and regions.
- **Seaplane Float (SPF):** These are facilities used exclusively for aviation activity that are not as busy as a SPB, but still important to the transportation and economics of their communities. Such facilities typically have a float with shore access, space for transient aircraft, and fuel available on-site or via truck.
- **Harbor Float (HSF):** This is a facility that caters to aviation but is part of a shared harbor facility. An HSF may have space for transient aircraft, tie-downs, and fuel available on-site or via truck.
- **Refuge (RSF):** This is a simple, multi-purpose float adequate for mooring a plane if necessary, but not specifically dedicated for seaplane use. It must be identified through published latitude and longitude.
- **Other Seaplane Operating Area (OOA):** This is an area identified as a seaplane landing/takeoff area with published latitude and longitude, but typically has no facilities or float.

A seaplane facility's category, as determined by this analysis, is not set in stone. In future analyses, these categories will be reassessed to assure that the system of state-owned seaplane facilities is being accurately described, analyzed, and planned for. Factors such as facility development, economic growth, or area urbanization may cause a seaplane facility's category to change.

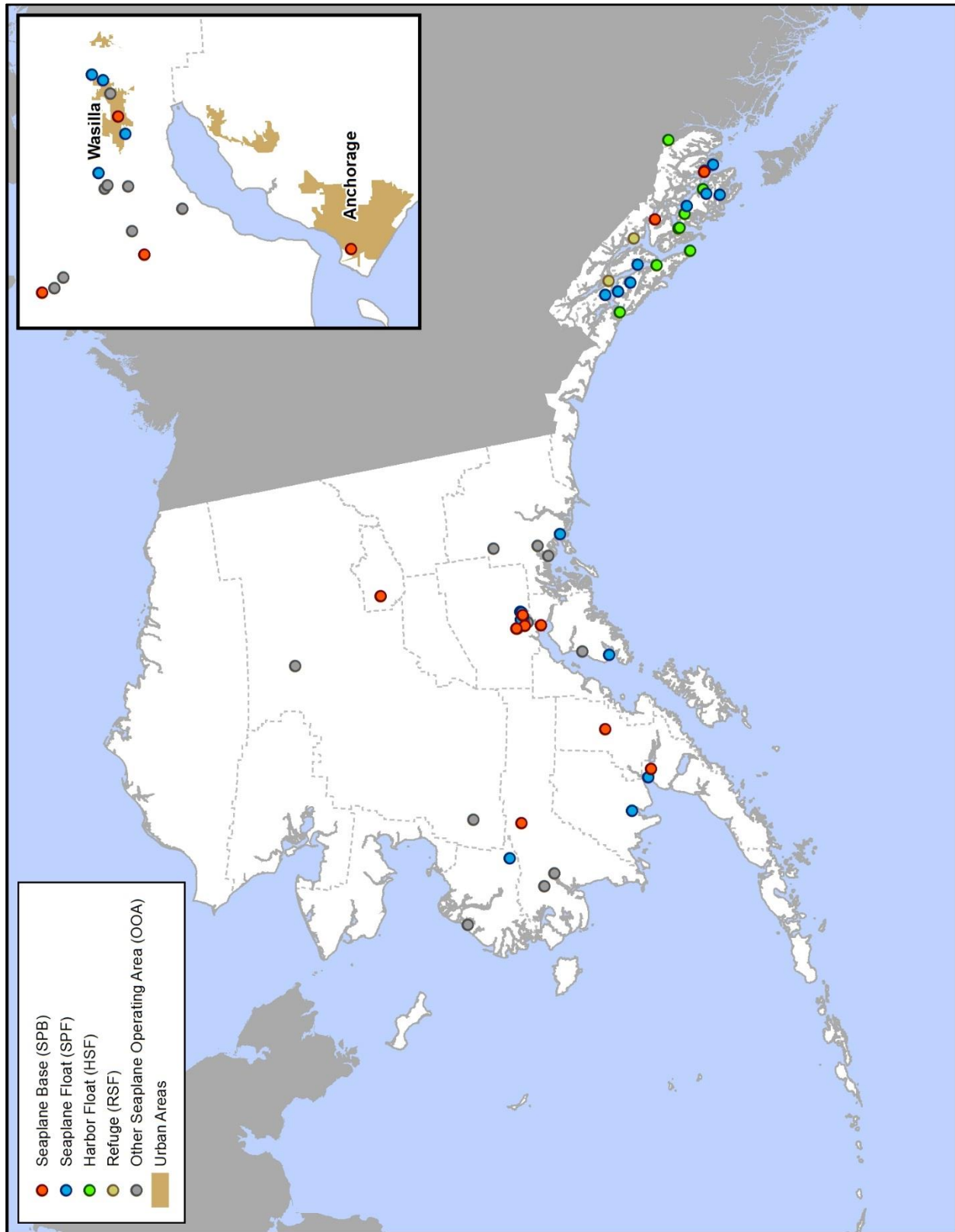
SEAPLANE FACILITIES INCLUDED IN STUDY

The next step in conducting the analysis is to determine exactly which seaplane facilities should be included as part of the Seaplane Facility Plan. Alaska DOT&PF can only fund and influence decisions at facilities actually owned by DOT&PF. However, it was the determination of the Work Group that all state-owned facilities would be included so that the benchmarking process could be applied to all of these facilities. These facilities are a combination of seaplane facilities owned by DOT&PF, Alaska Department of Natural Resources (DNR), and Alaska Department of Fish and Game (DFG). In total, 55 seaplane facilities are included in this analysis. These facilities are a combination of standalone seaplane facilities and those located at airports with land runways. In addition, these seaplane facilities are located in a variety of water bodies including tidal basins, lakes, and rivers. The following summarizes this information for the 55 facilities:

- **Facility Category:** By the categories defined above, the Alaska system of 55 state-owned seaplane facilities includes 10 SPBs, 18 SPFs, eight HSFs, two RSFs, and 17 OOAs. **Figure 1** depicts the location of these seaplane facilities by categories.
- **Facility Ownership:** 37 airports included in the study are owned by Alaska DOT&PF, 17 are owned by Alaska DNR, and one is owned by the Alaska Department of Fish and Game. **Figure 2** maps all 55 facilities by ownership.
- **Type of Facility:** 41 of the 55 facilities included in this study are standalone seaplane facilities, while the remaining 14 are combination land/water airports. **Figure 3** shows the locations of standalone and combination land/water facilities throughout the state.
- **Water Bodies:** The majority of these facilities are located in lakes (27) or tidal basins (22). The remaining six facilities are located in rivers. **Figure 4** maps seaplane facilities by the type of water body in which they are located.

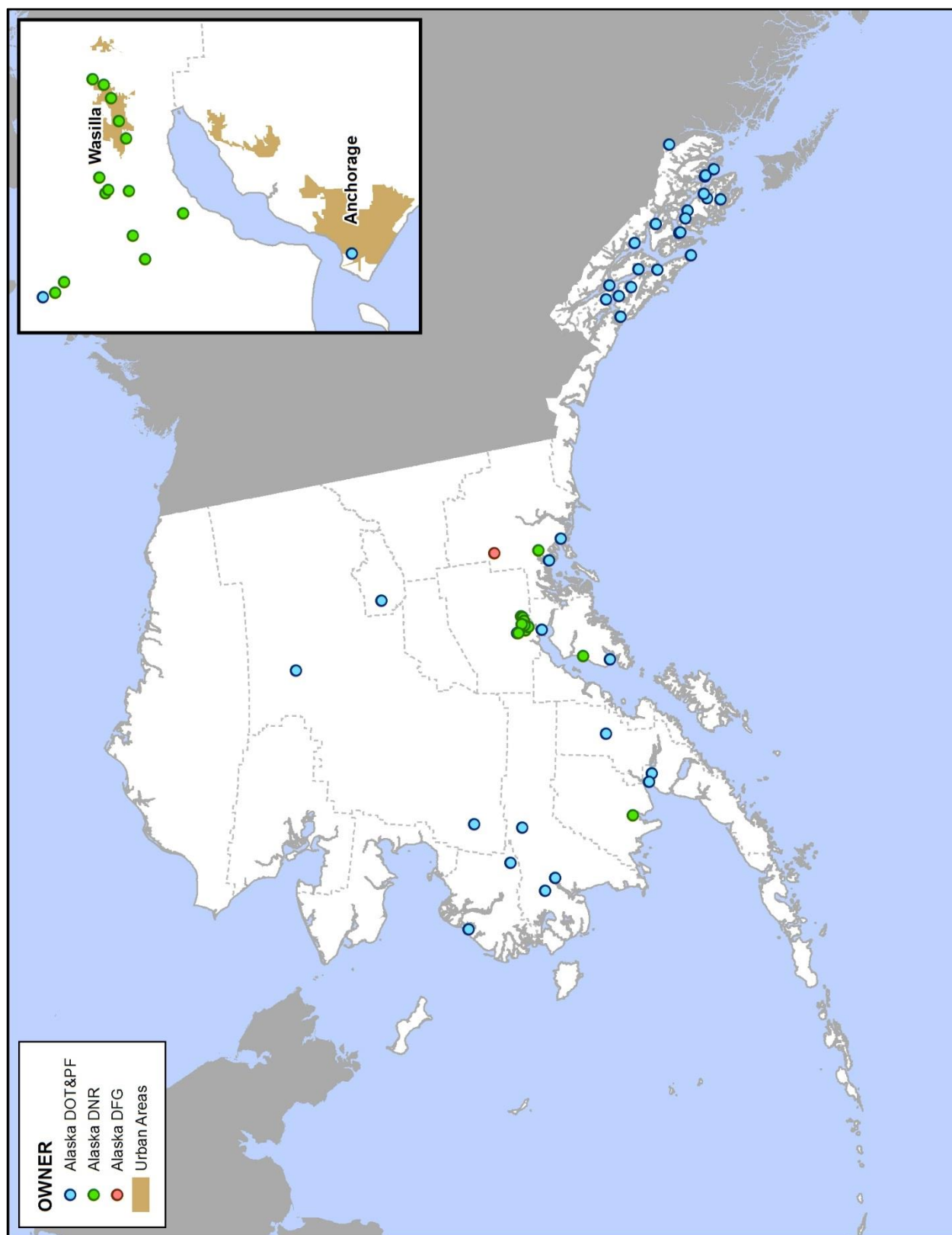
Table 1 lists these details for all 55 airports included in this study.

Figure 1: State-Owned Seaplane Facilities by Category



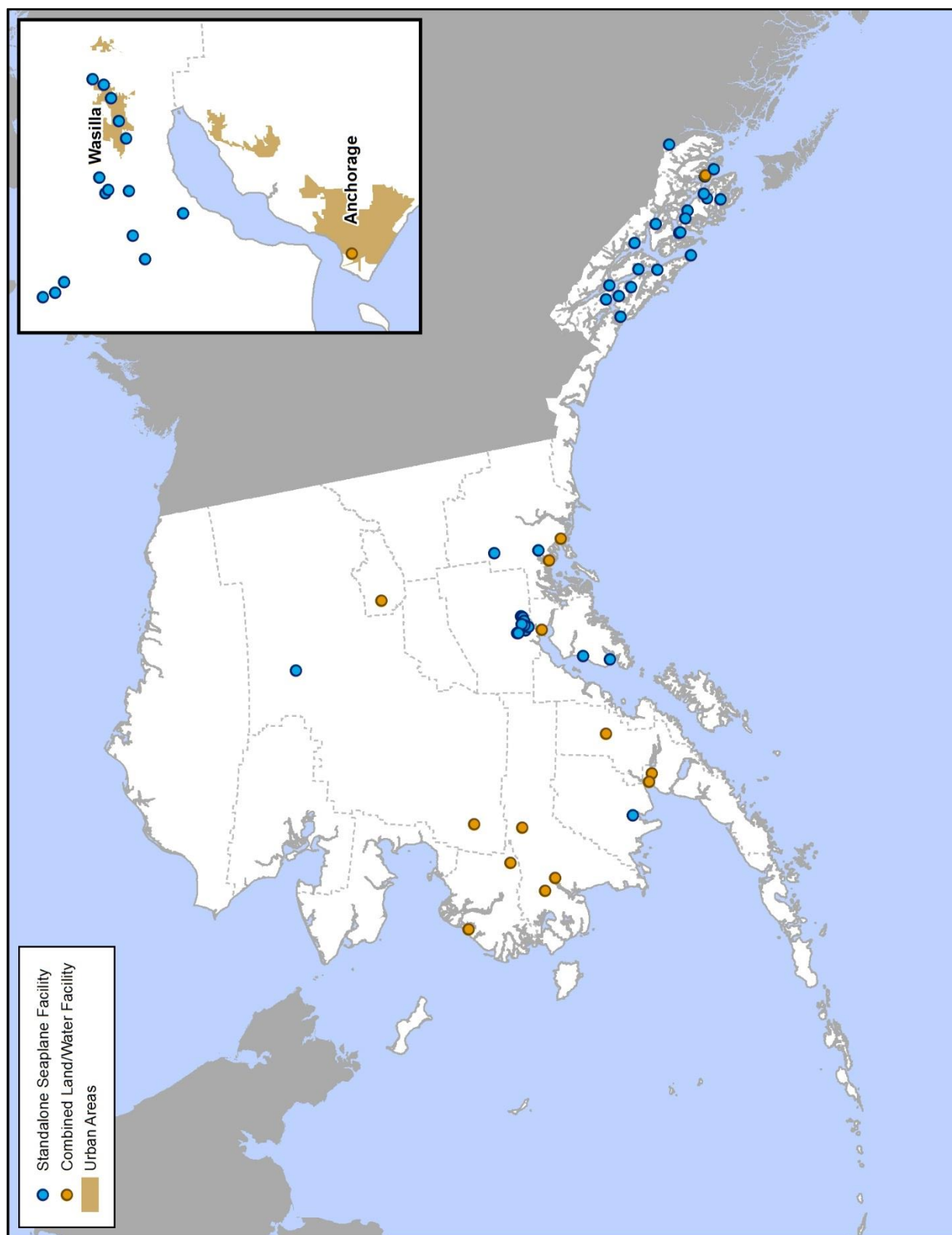
Source: Alaska DOT&PF.

Figure 2: State-Owned Seaplane Facilities in Alaska



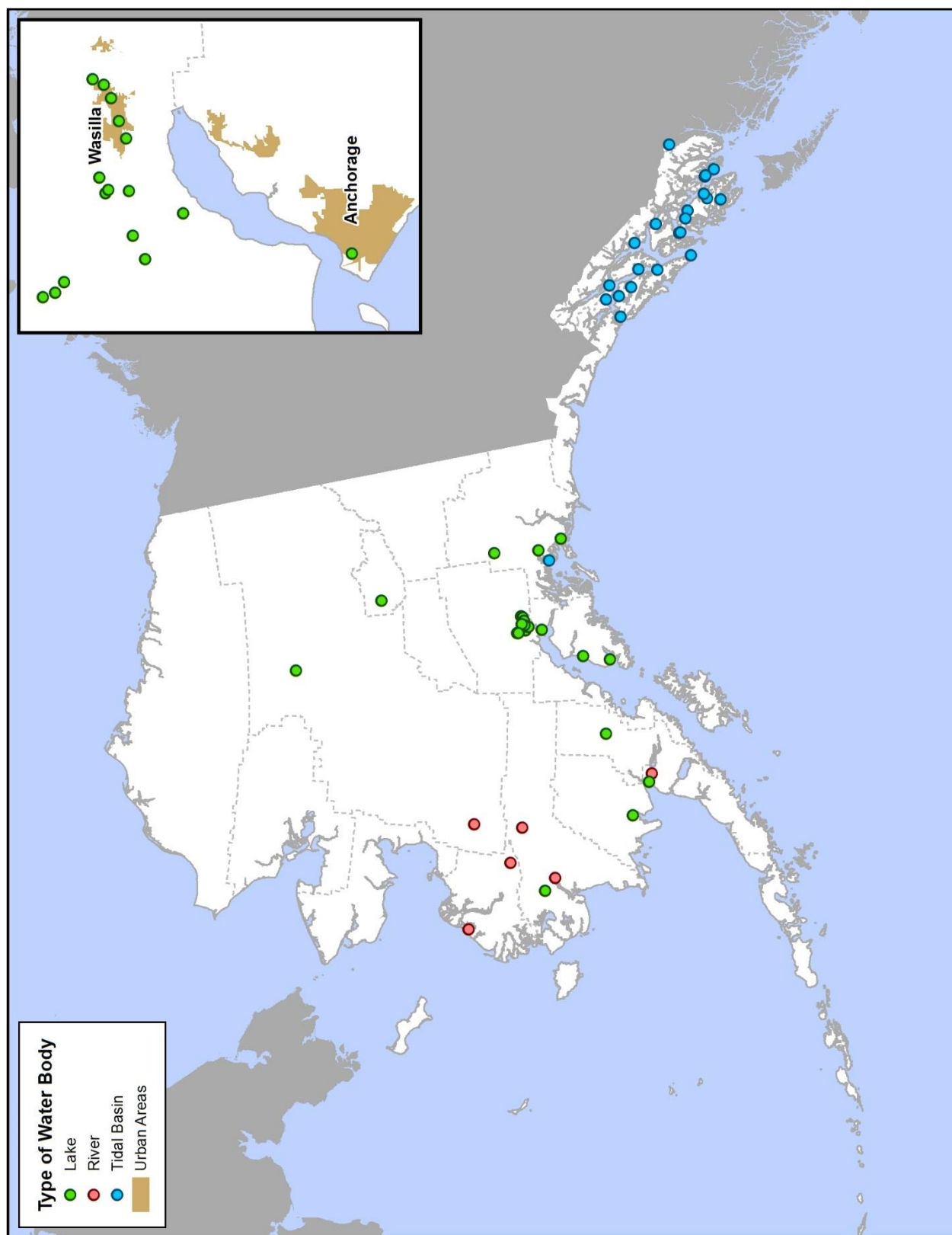
Source: Alaska DOT&PF.

Figure 3: Standalone and Combination Land/Water Facilities



Source: Alaska DOT&PF.

Figure 4: Seaplane Facility Water Bodies



Source: Alaska DOT&PF.

Table 1: State-Owned Seaplane Facilities in Alaska

FAA ID	Associated City	Facility Name	Owner	Standalone or Airport	Water Body
Seaplane Base					
LHD	Anchorage	Lake Hood	Alaska DOT&PF	Airport	Lake
ANI	Aniak	Aniak	Alaska DOT&PF	Airport	River
L95	Big Lake	Jones Landing	Alaska DNR	Standalone	Lake
FAI	Fairbanks	Fairbanks International	Alaska DOT&PF	Airport	Lake
ILI	Iliamna	Iliamna	Alaska DOT&PF	Airport	Lake
9C0	Ketchikan	Peninsula Point Pullout	Alaska DOT&PF	Standalone	Tidal Basin
AKN	King Salmon	King Salmon	Alaska DOT&PF	Airport	River
63A	Petersburg	Lloyd R. Roundtree Seaplane Facility	Alaska DOT&PF	Standalone	Tidal Basin
5L6	Wasilla	Wasilla Lake Seaplane Base	Alaska DNR	Standalone	Lake
2X2	Willow	Willow SPB	Alaska DOT&PF	Standalone	Lake
Seaplane Float					
AGN	Angoon	Angoon Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
KCC	Coffman Cove	Coffman Cove Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
CKU	Cordova	Cordova Municipal	Alaska DOT&PF	Airport	Lake
0Z3	Dillingham	Shannons Pond Seaplane Base	Alaska DNR	Standalone	Lake
EXI	Excursion Inlet	Excursion Inlet Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
HYL	Hollis	Hollis Clark Bay Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
5BL	Homer	Homer-Beluga Lake Seaplane Base	Alaska DOT&PF	Standalone	Lake
OOH	Hoonah	Hoonah Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
HYG	Hydaburg	Hydaburg Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
KTN	Ketchikan	Ketchikan International	Alaska DOT&PF	Airport	Tidal Basin
MTM	Metlakatla	Metlakatla Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
5NK	Naknek	Naknek	Alaska DOT&PF	Airport	Lake
99Z	Palmer	Finger Lake Seaplane Base	Alaska DNR	Standalone	Lake
2D3	Palmer	Gooding Lake	Alaska DNR	Standalone	Lake
RSH	Russian Mission	Russian Mission	Alaska DOT&PF	Airport	River
TKE	Tenakee Springs	Tenakee Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
29A	Wasilla	Island Lake	Alaska DNR	Standalone	Lake
4A3	Wasilla	Lake Lucille	Alaska DNR	Standalone	Lake
Harbor Float					
BNF	Baranof	Warm Spring Bay Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
ELV	Elfin Cove	Elfin Cove Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
4Z7	Hyder	Hyder Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
KXA	Kasaan	Kasaan Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
96Z	North Whale Pass	North Whale Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
KPB	Point Baker	Point Baker Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin

Table 1: State-Owned Seaplane Facilities in Alaska

FAA ID	Associated City	Facility Name	Owner	Standalone or Airport	Water Body
AHP	Port Alexander	Port Alexander Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
19P	Port Protection	Port Protection Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
Refuge					
2Z1	Entrance Island	Entrance Island	Alaska DOT&PF	Standalone	Tidal Basin
FNR	Funter Bay	Funter Bay Seaplane Base	Alaska DOT&PF	Standalone	Tidal Basin
Other Seaplane Operating Area					
2A4	Bettles	VOR Lake Waterlane	Alaska DOT&PF	Standalone	Lake
D71	Big Lake	Beaver Lake	Alaska DNR	Standalone	Lake
6A7	Big Lake	Brocker Lake	Alaska DNR	Standalone	Lake
AK5	Kasilof	Encelewski Lake	Alaska DNR	Standalone	Lake
78Z	Nancy Lake	Nancy Lake	Alaska DNR	Standalone	Lake
PKA	Napaskiak	Napaskiak	Alaska DOT&PF	Airport	River
SXP	Nunam Iqua	Sheldon Point	Alaska DOT&PF	Airport	River
16A	Nunapitchuk	Nunapitchuk	Alaska DOT&PF	Airport	Lake
SHX	Shageluk	Shageluk	Alaska DOT&PF	Airport	River
7KA	Tatitlek	Tatitlek	Alaska DOT&PF	Airport	Tidal Basin
58A	Tolsona Lake	Tolsona Lake	Alaska DFG	Standalone	Lake
L93	Valdez	Robe Lake	Alaska DNR	Standalone	Lake
D75	Wasilla	Blodgett Lake	Alaska DNR	Standalone	Lake
3H3	Wasilla	Cottonwood Lake Seaplane Base	Alaska DNR	Standalone	Lake
3A3	Wasilla	Seymour Lake Seaplane Base	Alaska DNR	Standalone	Lake
T66	Wasilla	Visnaw Lake Seaplane Base	Alaska DNR	Standalone	Lake
MFN	Willow	Minuteman Lake	Alaska DNR	Standalone	Lake

Source: Alaska DOT&PF.

SEAPLANE FACILITY INVENTORY

The inventory effort of the Seaplane Facility Plan identifies current facilities, conditions, and services at seaplane facilities throughout Alaska. An accurate facility inventory is essential to the validity and integrity of all subsequent analyses. The inventory built as part of the Seaplane Facility Plan is also a valuable resource to DOT&PF as it plans for the future development of the system of 55 state-owned seaplane facilities.

The Seaplane Facility Plan inventory effort collected various data, including ownership, type of water body, AASP Role and NPIAS service level where applicable, airport services, and runway facilities. Specific to this analysis, however, is the data gathered that applies to the performance measures and benchmarks used to develop the Seaplane Facility Index.

Various data sources were used to gather the most accurate data available for these facilities, including the following:

- **Satellite Imagery:** Including Google and Bing satellite imagery. Most often used to examine a seaplane facility's floats, ease of access, and automobile parking.
- **FAA Records:** Including 5010 Airport Master Record inspections and the Air Traffic Activity Data System (ATADS).
- **Alaska DOT&PF Records:** Including facility inspection records and the personal knowledge of DOT&PF staff.
- **Other Online Sources:** Including Airnav.com, which maintains records of airport services such as aircraft fueling.

The following sections describe the facilities and services data gathered as part of the inventory effort.

Type of Seaplane Float

Data on floats at facilities was divided into two categories: floats with shore access or simple floats that can be used for aircraft mooring. Shore access at seaplane bases is important because it connects the pilots and passengers to destinations and other transportation modes. This connection helps to ensure that the seaplane facility is more entrenched in the economic activity of a community or region. Shore access typically comes in the form of walking ramps from the float to the shore. Floats for mooring are simple floats to which a pilot can tie an aircraft.

Of the 55 total state-owned seaplane facilities, 41 have a float with shore access, and an additional two facilities have a float available for mooring. The remaining 12 do not have a float. Specifically, of the 37 seaplane facilities owned by DOT&PF, 29 have a float with shore access, two facilities have a float available for mooring, and six do not have a float. Of the remaining 18 state-owned facilities, 12 have a float with shore access, while six do not have a float.

Floats with Space for Transient Aircraft

Ensuring float space for transient aircraft provides a number of benefits for a seaplane facility, including making these seaplane facilities far more attractive to transient activity than those that lack space. Space for transient activity can also help a seaplane facility become more integrated with economic activities in its community, while also being a source of revenue.

Of the 55 total state-owned seaplane facilities in Alaska, 30 provide float space for transient aircraft. Specifically, 25 of the 37 DOT&PF-owned seaplane facilities have float space available for transient aircraft. Of the 18 facilities owned by other state agencies, five have float space for transient aircraft.

Tie-Down Floats

A tie-down float is a timber float that descends into the water. Seaplanes are docked onto the float and then tied down for parking. Tie-down floats offer a more secure, safe parking and storage option for pilots than simple floats with ropes for mooring.

At this time, only 13 of the total 55 state-owned seaplane facilities in Alaska are equipped with a tie-down float. Of these, 10 are owned by DOT&PF while the remaining three are owned by other state agencies.

Haul-Out Ramps

For the purposes of this study, a haul-out ramp is defined as any surface descending into a body of water that is large enough for a seaplane to come ashore. Ramps have various uses at seaplane facilities, from simply parking seaplanes on a shore to putting the seaplane on a trailer so that it can be towed to a maintenance facility. Such ramps may be a beach, wide boat ramp, or ramp built specifically for seaplanes.

Currently, 26 of the 55 total state-owned seaplane facilities in the state have a type of haul-out ramp allowing shore access for aircraft. Specifically, 16 of the 37 DOT&PF-owned facilities have a haul-out ramp. Ten of the remaining 18 state-owned facilities also have a haul-out ramp.

Wind Cone

A wind cone or windsock indicates the direction of surface winds at an airport or seaplane facility, assisting pilots during takeoff and landing. Because seaplane facilities are not normally utilized at night, it is typically not necessary for wind cones at seaplane facilities to be lighted.

In total, 36 of the 55 state-owned seaplane facilities in Alaska are equipped with a wind cone. Of the 37 facilities owned by DOT&PF, 29 have a wind cone. Seven of the remaining 18 state-owned facilities also have a wind cone.

Lease Lots

Having lease lots available for rent by airport users helps to encourage activity, particularly based activity. Space to build hangars (both on land and in water) makes a facility an attractive option for pilots when choosing where to base an aircraft. Lease lots can also be a valuable source of revenue for seaplane facilities.

Of the 55 state-owned seaplane facilities in the state, 11 have lease lots available to customers. All 11 of these seaplane facilities are owned by DOT&PF.

Aircraft Fueling

The availability of aircraft fuel is one of the most basic services that an aviation facility can offer its customers. Fuel availability makes a seaplane facility more attractive to transient activity, and can be a key source of revenue. Aircraft fuel includes 100LL avgas and jet fuel, which at Alaska seaplane facilities includes Jet-A, Jet-A1, and Jet-B. Aircraft fuel is typically available on-site at Alaska seaplane facilities or via truck. The latter is typical for combined land/water airports or standalone facilities located near a separate surface airport.

In total, 19 of the 55 state-owned seaplane facilities in Alaska offer aircraft fueling, either on-site or via truck. Of the 37 seaplane facilities owned by DOT&PF, 15 offer aircraft fueling, with 10 offering both avgas and jet fuel, four offering only avgas, and one offering only jet fuel. Of the 18 other state-owned facilities, four have aircraft fuel availability, with two offering both avgas and jet fuel, and one each offering avgas or jet fuel exclusively.

Automobile Parking

Having automobile parking helps to connect seaplane facilities to Alaska's road network. For the purposes of this study, automobile parking is defined as any surface that is regularly used for parking, and does not necessarily only refer to paved parking lots.

Of the 55 total state-owned seaplane facilities in Alaska, 38 have space for automobile parking. Specifically, 24 of the 37 seaplane facilities owned by DOT&PF have space for automobile parking, while 14 of the other 18 state-owned facilities also have space for automobile parking.

Access

Access to and from seaplane facilities is crucial for their connection to other transportation modes, and for a facility's integration into the local and regional economy. Modes of access to and from Alaska's state-owned seaplane facilities include automobile, all-terrain vehicle (ATV), and pedestrian access.

Of the 55 total state-owned seaplane facilities, 43 are accessible via automobile, while four are only accessible via ATV and eight are only accessible on foot. Of the 37 total facilities owned by DOT&PF, 25 are accessible with an automobile and four are accessible via ATV, while the remaining eight are only accessible on foot. All 18 seaplane facilities owned by a different state agency are accessible via automobile.

PERFORMANCE MEASURES AND BENCHMARKS

The establishment of seaplane facility categories makes it possible to set minimum facility and service standards for each category, providing a basis by which Alaska's system of seaplane facilities can be evaluated. This analysis makes use of both performance measures and benchmarks:

- **Performance Measures:** Performance measures evaluate a broad category of facility or service, such as the type of float, access, or aviation services available.
- **Benchmarks:** To evaluate performance measures, there needs to be a threshold, or benchmark, against which the actual measurement can be compared. If a seaplane facility meets or surpasses its benchmark for a particular performance measure, then it is adequately serving its market in terms of this specific facility or service. Benchmarks are the specific thresholds set for each seaplane facility category under each performance

measure. Not all performance measures have benchmarks in all seaplane facility categories.

Table 2 details the performance measures and benchmarks for each of the five seaplane facility categories described in the previous section. These performance measures and benchmarks include a combination of facilities such as floats with services such as aircraft fueling. Each set of benchmarks is designed to assess how well a seaplane facility is serving the market specified by its seaplane facility category. The highest levels of facility and service benchmarks are established for the SPB category. With only a benchmark set for access, OOA facilities have the least demanding set of benchmarks.

Table 2: Facility and Service Benchmarks by Seaplane Facility Category

Performance Measure	Seaplane Facility Category Benchmarks				
	SPB	SPF	HSF	RSF	OOA
Float Type	With Shore Access	With Shore Access	With Shore Access	For Mooring	No Benchmark
Float for Transient	Yes	Yes	Yes	No Benchmark	No Benchmark
Tie-Down Float	Yes	Yes	Yes	No Benchmark	No Benchmark
Haul-Out Ramp	Yes	Yes	Yes	No Benchmark	No Benchmark
Wind Cone	Yes	Yes	Yes	No Benchmark	No Benchmark
Lease Lots	Yes	No Benchmark	No Benchmark	No Benchmark	No Benchmark
Aircraft Fuel	AvGas or Jet A	AvGas or Jet A	AvGas or Jet A	No Benchmark	No Benchmark
Auto Parking	Yes	Yes	No Benchmark	No Benchmark	No Benchmark
Access	Auto	Auto	Auto	ATV	Pedestrian

Source: Alaska DOT&PF, CDM Smith.

SEAPLANE FACILITY INDEX

The Seaplane Facility Index quantifies the results of the performance measure and benchmarking analysis, giving each seaplane facility a total Index score out of 100 percent based on meeting these benchmarks. Each of the five seaplane facility categories can also be assessed in this manner, as can the entire system of 55 facilities. These percentage scores are designed so that progress and development of seaplane facilities, categories, and the entire system can be easily tracked over time.

To quantify the results of the performance measures and benchmarking analysis, it was necessary to assign each benchmark with a percentage score out of the possible 100 percent. The scores applied to each benchmark were developed so that benchmarks deemed to be of the most importance were weighted more than benchmarks deemed to be less important. For example,

float type is viewed as the most important benchmark for four of the five seaplane facility categories, and is weighted accordingly. Performance measures were not necessarily weighted the same for all seaplane facility categories.

Table 3 details the percentage scores associated with performance measures for each seaplane facility category. If a seaplane facility meets its category benchmark for a performance measure, it is awarded the percentage score for that benchmark. For example, if a facility in the SPB category meets the benchmark for float type of having shore access, it is awarded the 20 percent associated with the float type performance measure for the SPB category. Similarly, a SPF facility that meets only the benchmarks for float type, tie-down float, wind cone, and aircraft fuel would have a total Index score of 60 percent, the aggregate of the scores associated with those performance measures for the SPF category. Seaplane facilities that meet all benchmarks for their seaplane facility category will have a Seaplane Facility Index of 100 percent.

Table 3: Benchmark Percentage Scores in Seaplane Facility Index

Performance Measure	Benchmarks Weights				
	SPB	SPF	HSF	RSF	OOA
Float Type	20%	20%	20%	50%	--
Float for Transient	10%	15%	10%	--	--
Tie-Down Float	15%	15%	15%	--	--
Haul-Out Ramp	10%	10%	15%	--	--
Wind Cone	10%	10%	10%	--	--
Lease Lots	5%	--	--	--	--
Aircraft Fuel	15%	15%	15%	--	--
Auto Parking	5%	5%	--	--	--
Access	10%	10%	15%	50%	100%
Total	100%	100%	100%	100%	100%

Source: Alaska DOT&PF, CDM Smith.

Table 4 summarizes the Seaplane Facility Index by category and full state-owned system. Each category's Index is an average of all seaplane facilities in that category, while the full system Index is an average of all 55 state-owned seaplane facilities. Because it has very low demands for benchmarks, the OOA category scores highest, with all facilities earning the 100 percent rating. Following are the SPB (74 percent) and SPF (63 percent) categories. By scoring well, these categories show that the most utilized of Alaska's state-owned seaplane facilities are currently serving their markets at adequate, if not optimal levels. In total, the full system of 55 state-owned seaplane facilities averages to an Index of 73 percent.

Table 4: Average Seaplane Facility Index by Category

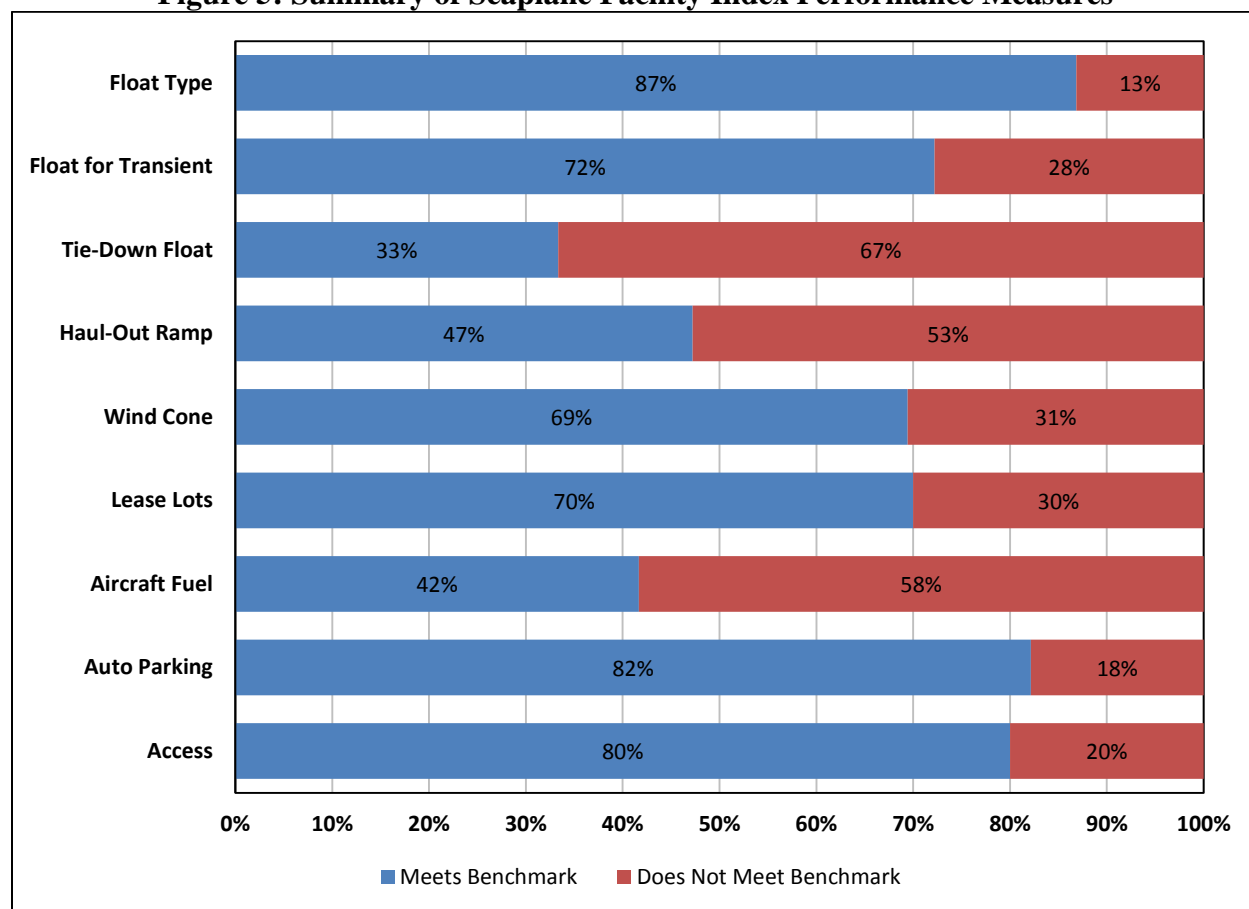
Facility Category	Seaplane Facility Index Average		
	Full State-Owned System	DOT&PF Facilities	Other State-Owned Facilities
SPB	74%	79%	53%
SPF	63%	67%	52%
HSF	43%	43%	NA*
RSF	50%	50%	NA*
OOA	100%	100%	100%
All Facilities	73%	69%	81%

*No non-DOT&PF-owned facilities in these categories.

Source: Alaska DOT&PF, CDM Smith.

Figure 5 summarizes the Seaplane Facility Index by performance measure. Note that this chart only includes seaplane facilities that have a benchmark for a particular performance measure. For example, the percentages shown for lease lots only apply to the SPB category, while the OOA category is only included as part of the access line. In total, benchmarks were met the most often for float type (87 percent), automobile parking (82 percent), and access (80 percent). The lowest performing performance measures were tie-down float (33 percent of applicable airports meeting benchmarks) and aircraft fueling (42 percent).

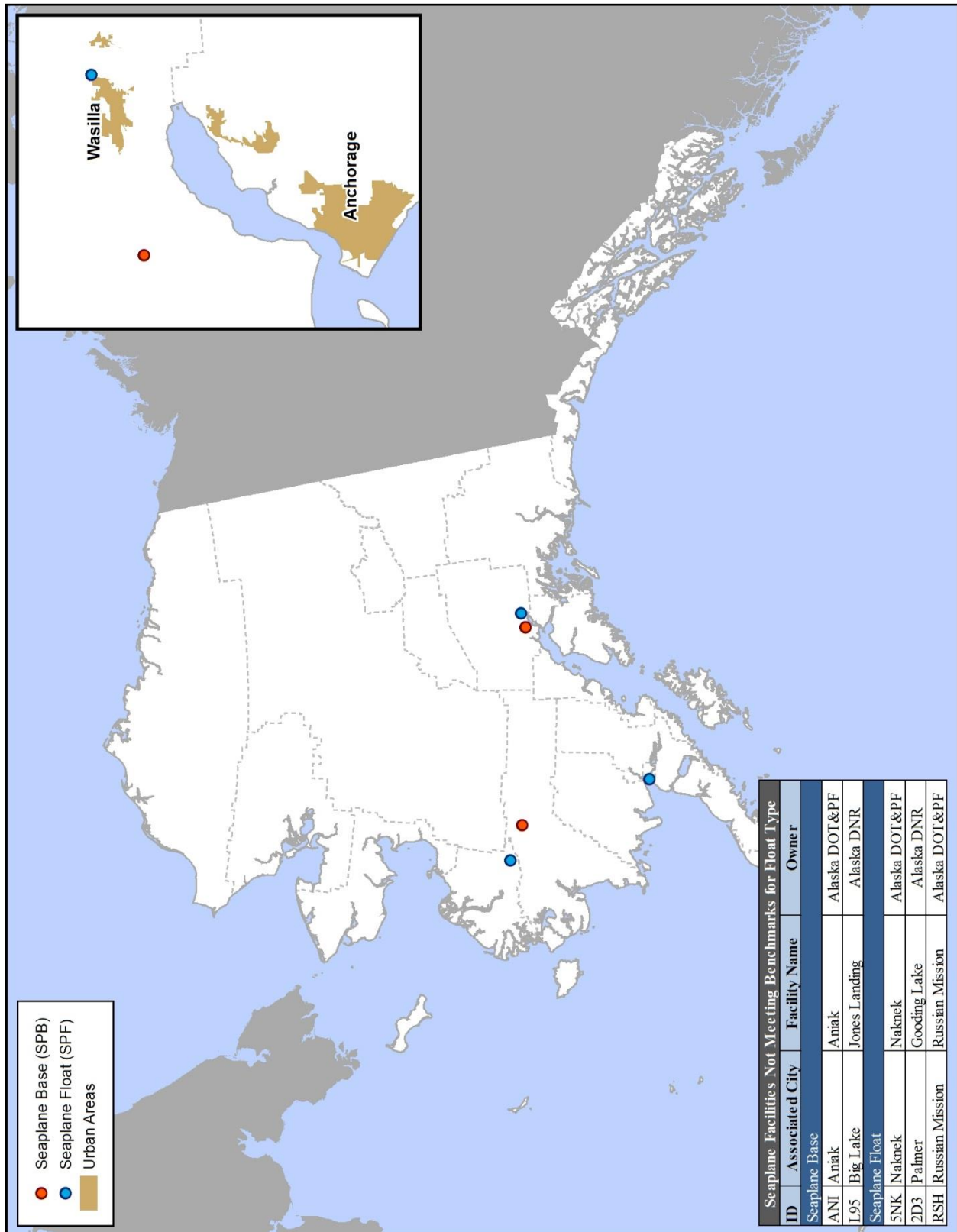
Figure 5: Summary of Seaplane Facility Index Performance Measures



Source: Alaska DOT&PF, CDM Smith.

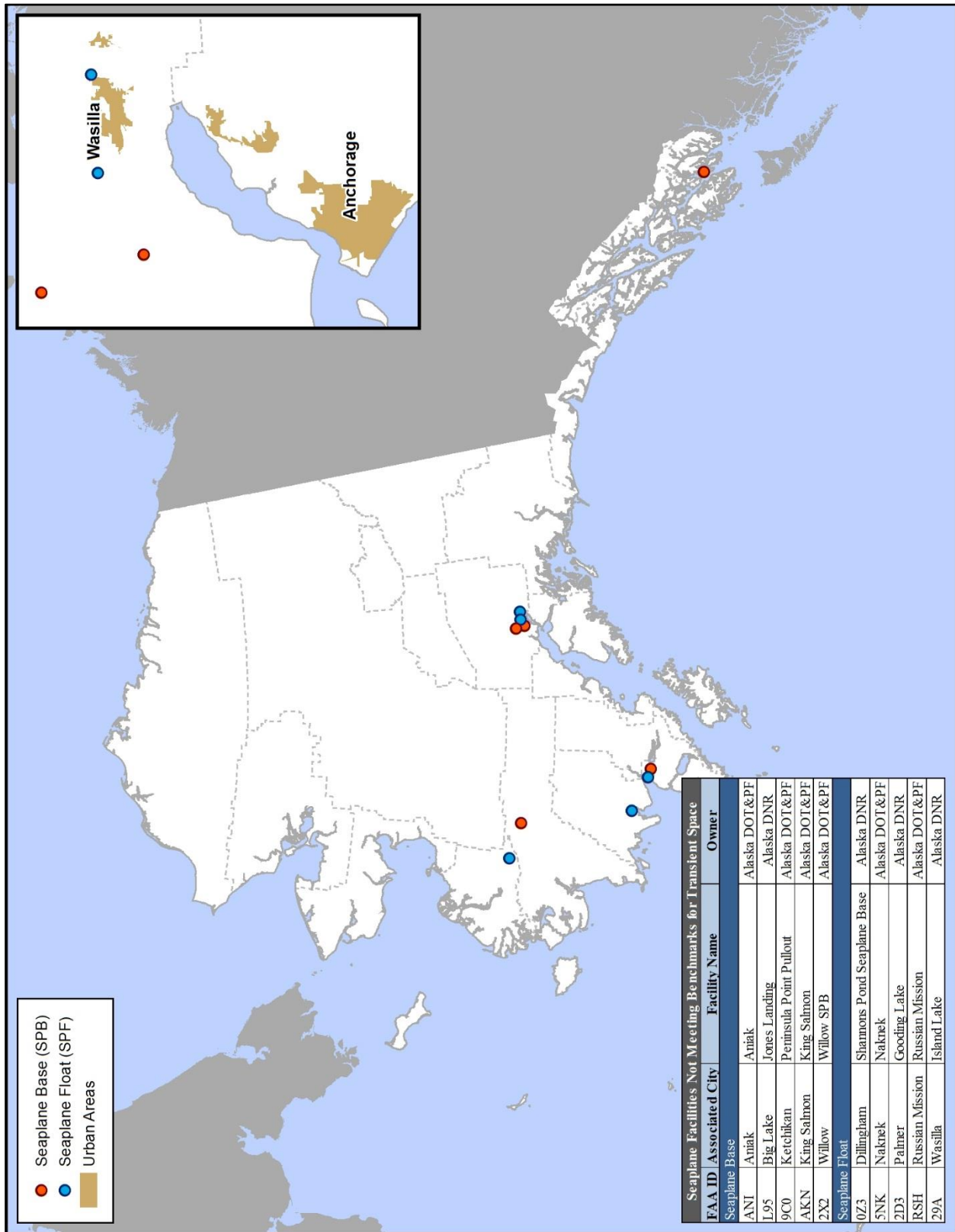
Figures 6 through 14 reveal the locations of seaplane facilities not meeting benchmarks. Both the maps and tables in the subsequent sections detail specific facilities that do not meet benchmarks for their seaplane category.

Figure 6: Seaplane Facilities Not Meeting Float Type Benchmarks



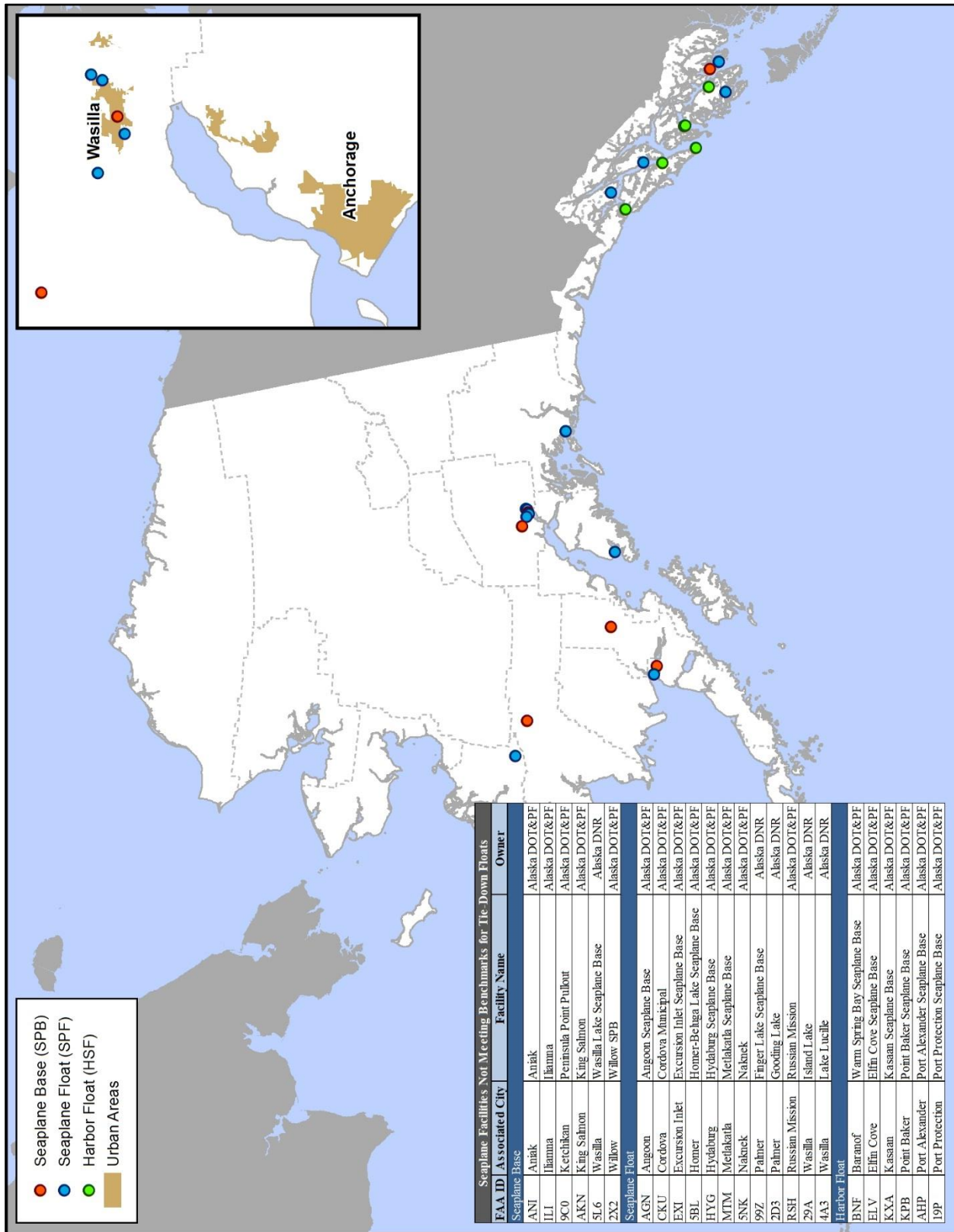
Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 7: Seaplane Facilities Not Meeting Float for Transient Benchmarks



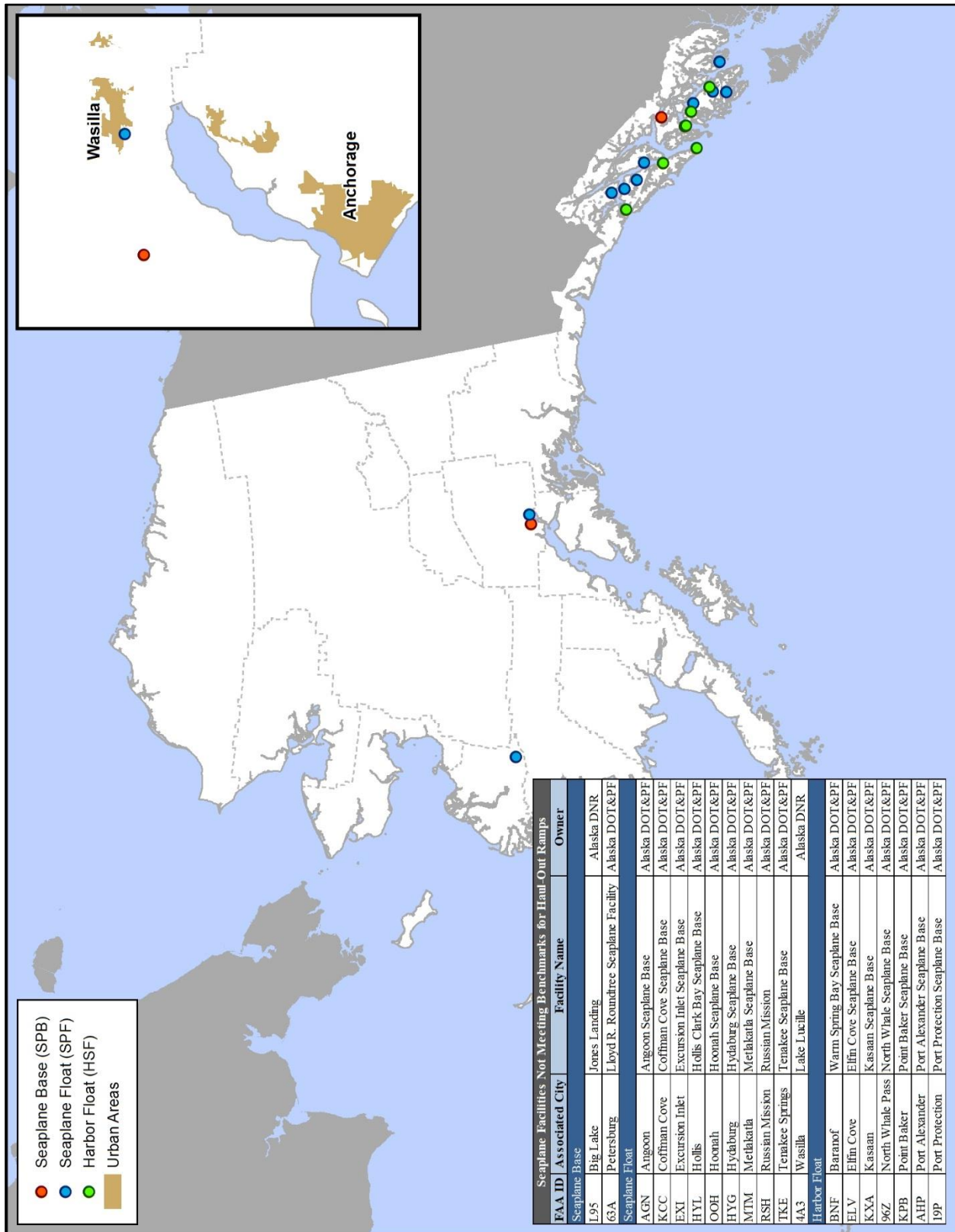
Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 8: Seaplane Facilities Not Meeting Tie-Down Float Benchmarks



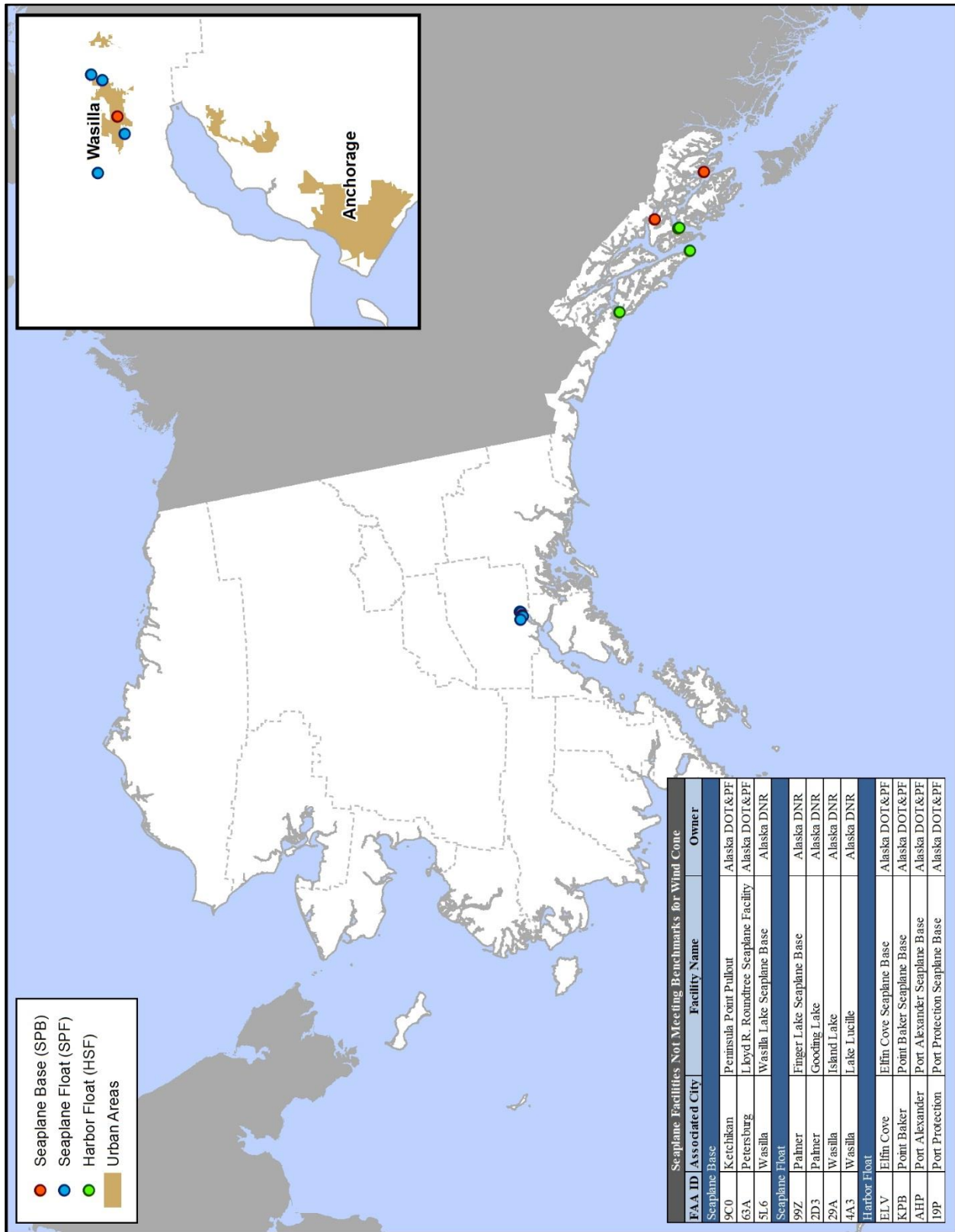
Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 9: Seaplane Facilities Not Meeting Haul-Out Ramp Benchmarks



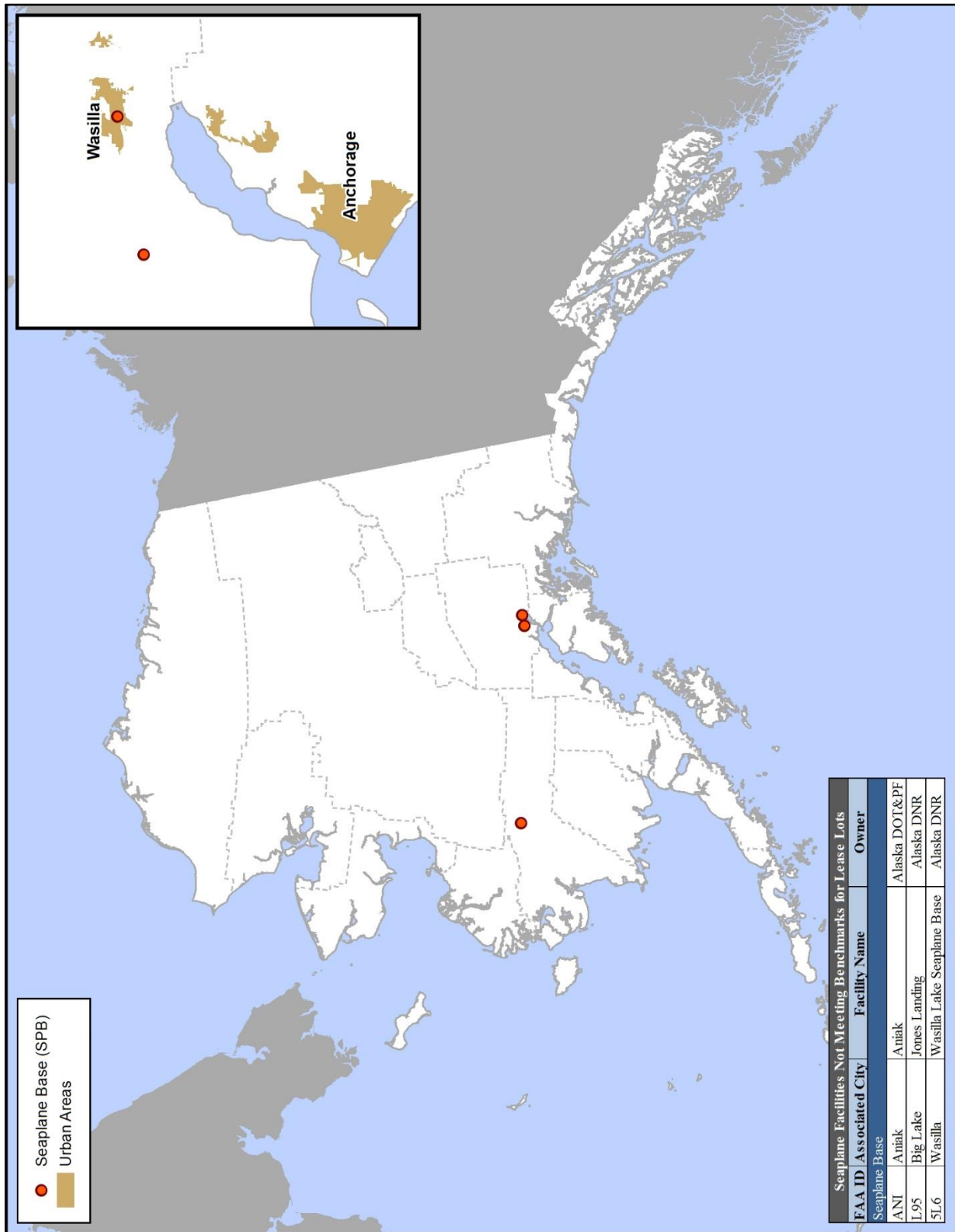
Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 10: Seaplane Facilities Not Meeting Wind Cone Benchmarks



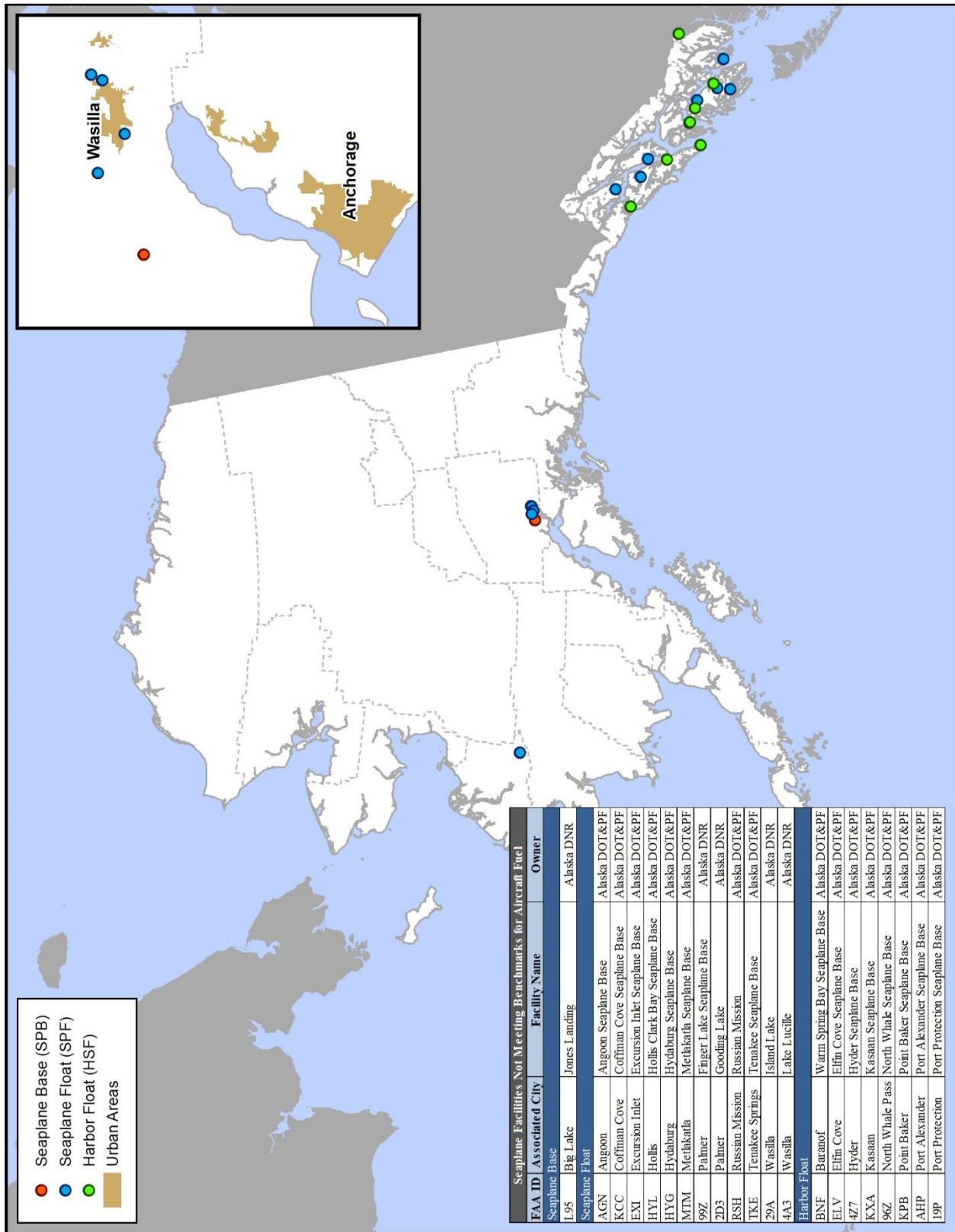
Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 11: Seaplane Facilities Not Meeting Lease Lot Benchmarks



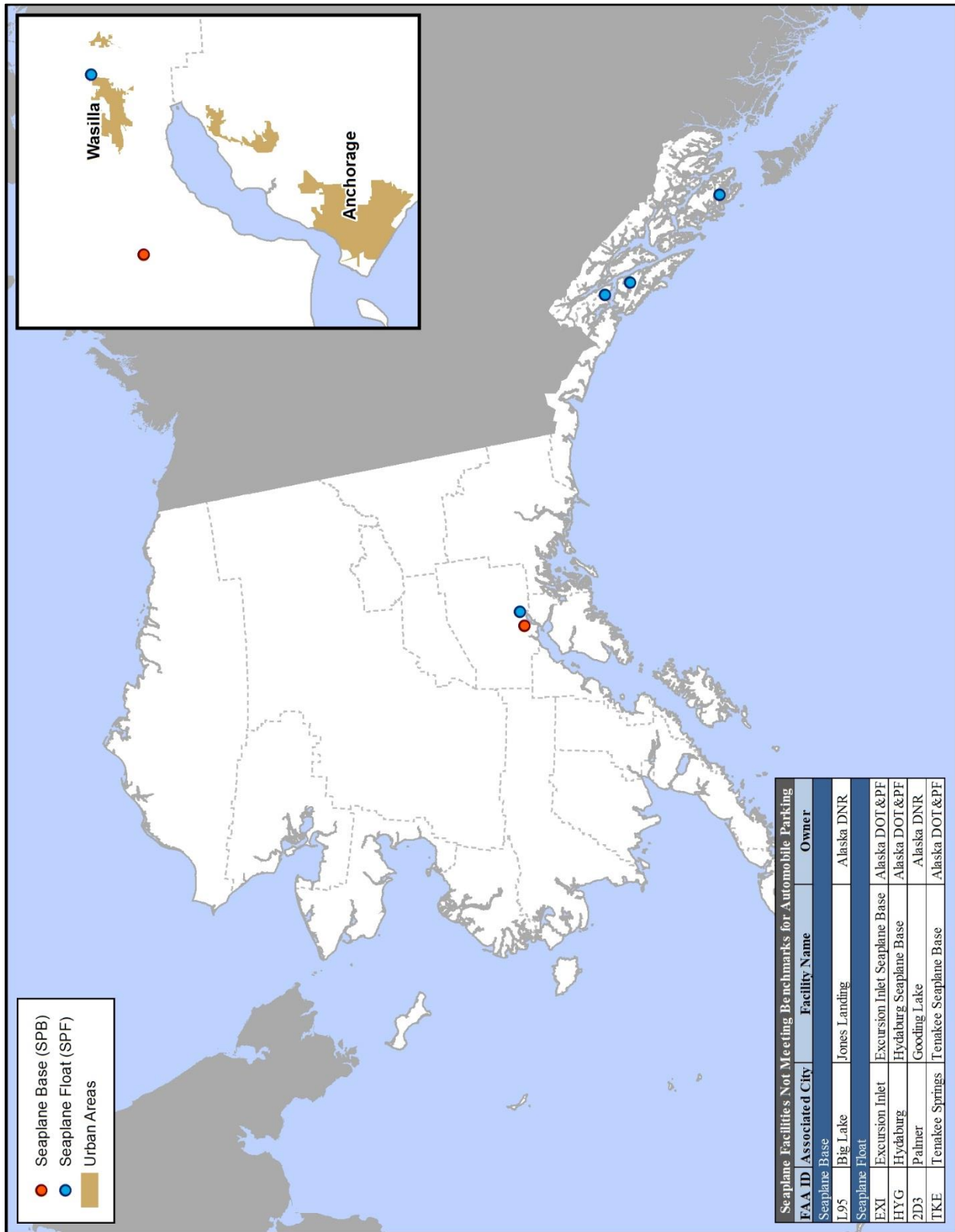
Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 12: Seaplane Facilities Not Meeting Aircraft Fuel Benchmarks



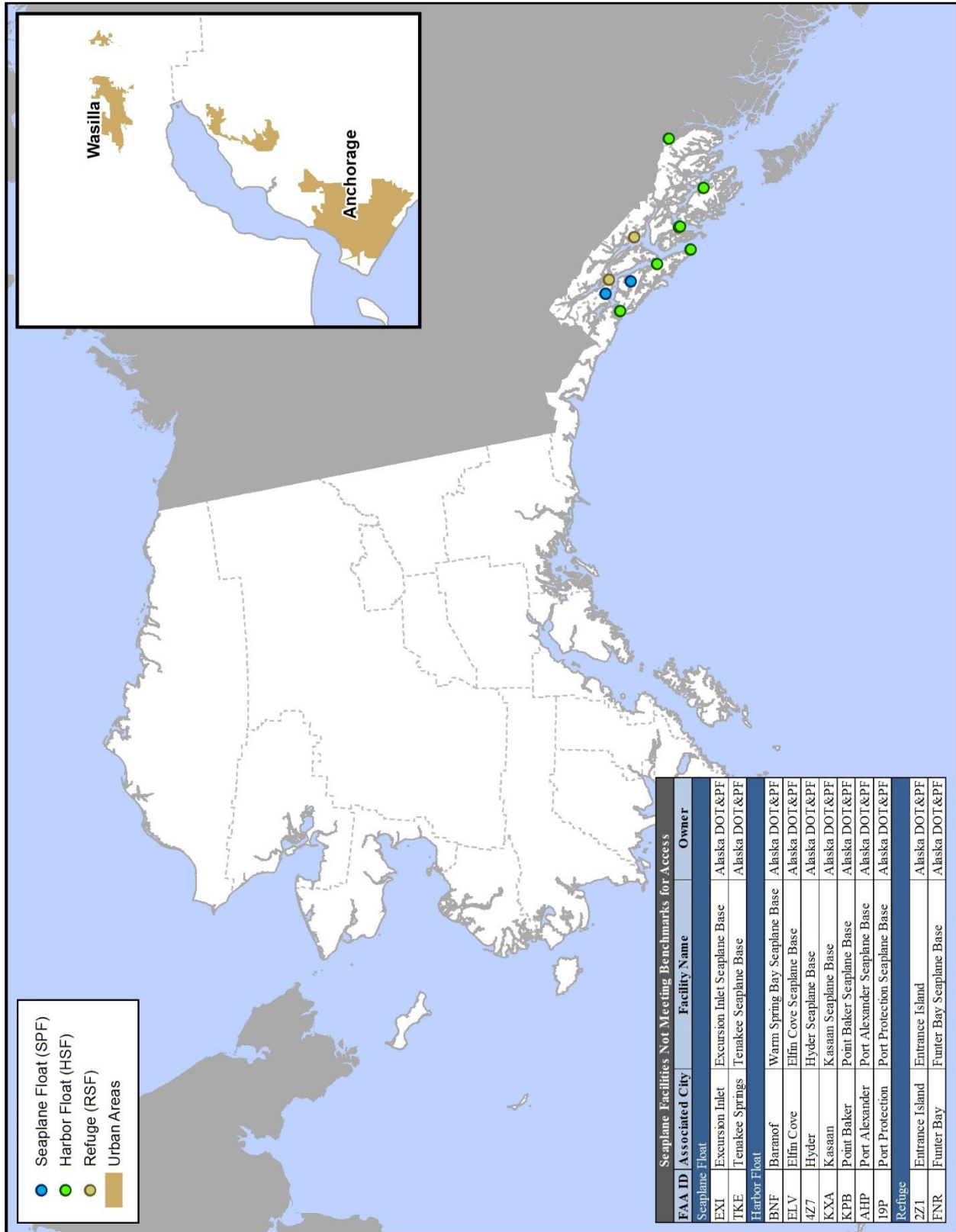
Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 13: Seaplane Facilities Not Meeting Automobile Parking Benchmarks



Source: Alaska DOT&PF, CDM Smith, DOWL.

Figure 14: Seaplane Facilities Not Meeting Access Benchmarks

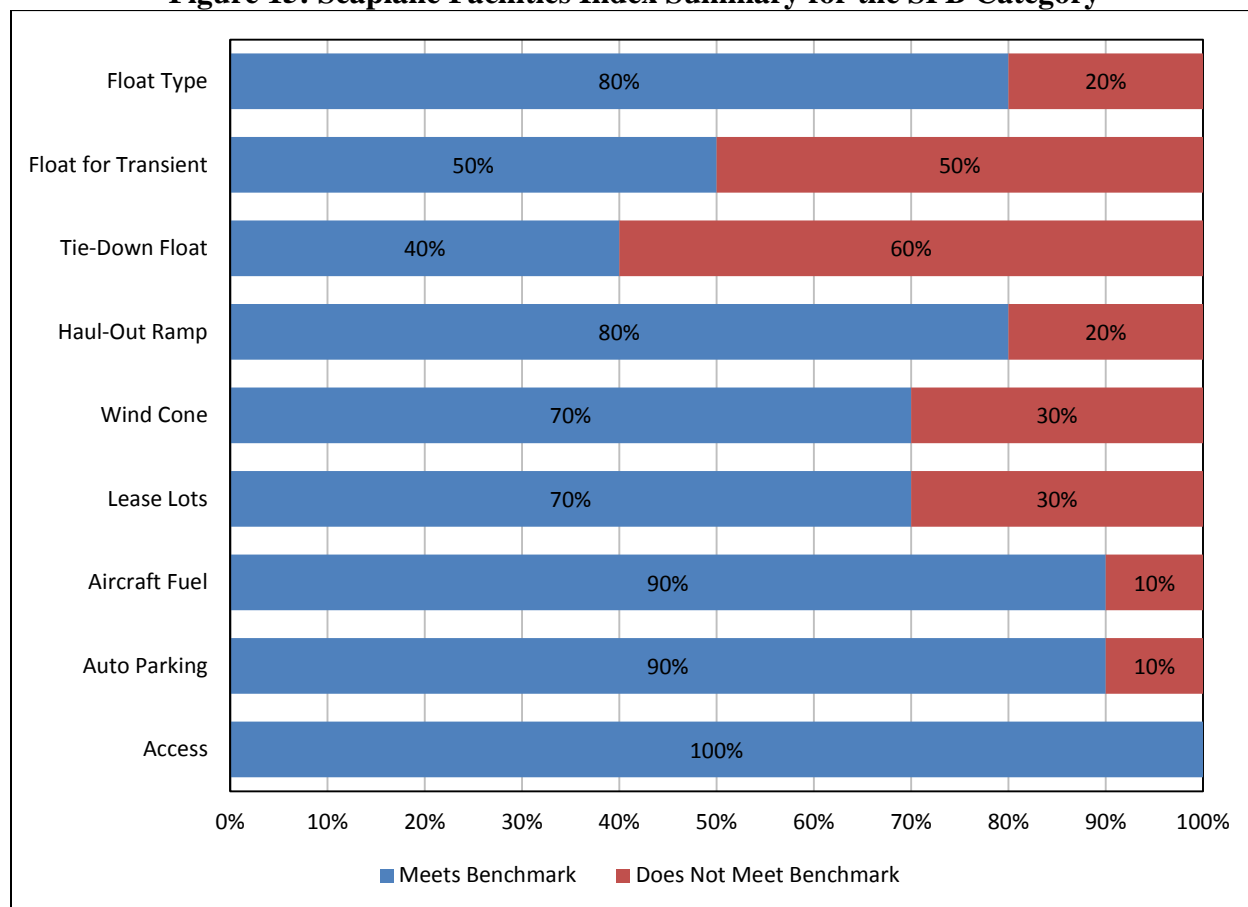


Source: Alaska DOT&PF, CDM Smith, DOWL.

Seaplane Bases (SPB) Facility Index

Figure 15 summarizes the Seaplane Facilities Index for the 10 facilities in the SPB category. All of these facilities met the automobile access benchmark for the access performance measure. Following this performance measure, aircraft fuel and automobile parking benchmarks were met by 90 percent of facilities in the category, while float type and haul-out ramp benchmarks were met by 80 percent of facilities in the category, while float type and haul-out ramp benchmarks were met by 80 percent of SPB facilities. With only 40 percent of the category meeting the benchmark, the tie-down float performance measure performed worst for this facility category.

Figure 15: Seaplane Facilities Index Summary for the SPB Category



Source: Alaska DOT&PF, CDM Smith, DOWL.

Table 5 details all Seaplane Facility Index performance measures and benchmarks for the SPB category. Both Lake Hood, which adjoins Ted Stevens Anchorage International Airport, and the seaplane facility at Fairbanks International Airport meet every benchmark and have an Index of 100 percent. In total, eight of the 10 facilities in the SPB category have an Index over 50 percent. The average Index for the category is 74 percent.

Table 5: Seaplane Facilities Index Details for the SPB Category

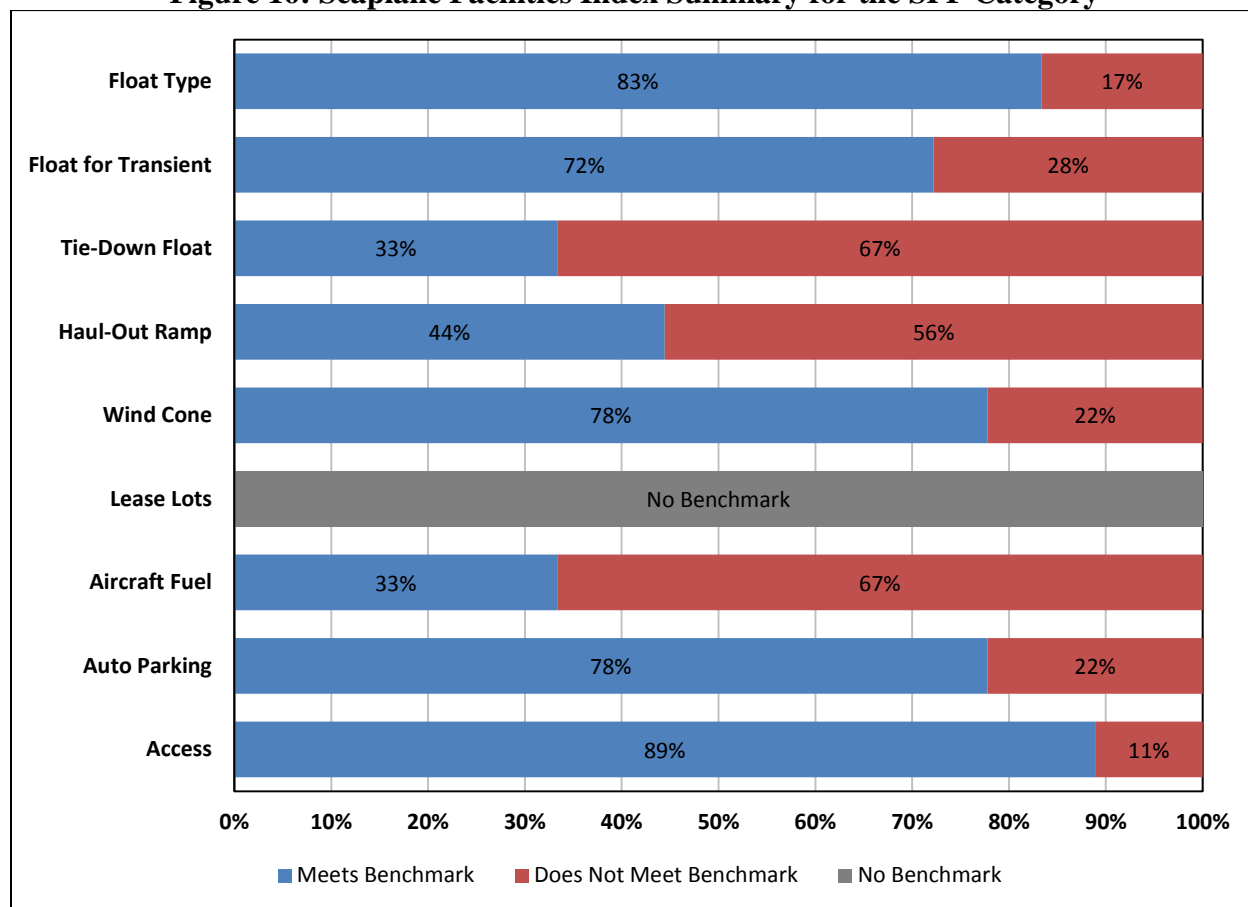
FAA ID	Associated City	Facility Name	Owner	Float Type	Float for Transient	Tie-Down Float	Haul-Out Ramp	Wind Cone	Lease Lots	Fuel	Auto Parking	Access	Total
Seaplane Base (SPB)				20%	10%	15%	10%	10%	5%	15%	5%	10%	100%
LHD	Anchorage	Lake Hood	Alaska DOT&PF	20%	10%	15%	10%	10%	5%	15%	5%	10%	100%
ANI	Aniak	Aniak	Alaska DOT&PF	0%	0%	0%	10%	10%	0%	15%	5%	10%	50%
L95	Big Lake	Jones Landing	Alaska DNR	0%	0%	15%	0%	10%	0%	0%	0%	10%	35%
FAI	Fairbanks	Fairbanks International	Alaska DOT&PF	20%	10%	15%	10%	10%	5%	15%	5%	10%	100%
ILI	Iliamna	Iliamna	Alaska DOT&PF	20%	10%	0%	10%	10%	5%	15%	5%	10%	85%
9C0	Ketchikan	Peninsula Point Pullout	Alaska DOT&PF	20%	0%	0%	10%	0%	5%	15%	5%	10%	65%
AKN	King Salmon	King Salmon	Alaska DOT&PF	20%	0%	0%	10%	10%	5%	15%	5%	10%	75%
63A	Petersburg	Lloyd R. Roundtree Seaplane Facility	Alaska DOT&PF	20%	10%	15%	0%	0%	5%	15%	5%	10%	80%
5L6	Wasilla	Wasilla Lake Seaplane Base	Alaska DNR	20%	10%	0%	10%	0%	0%	15%	5%	10%	70%
2X2	Willow	Willow SPB	Alaska DOT&PF	20%	0%	0%	10%	10%	5%	15%	5%	10%	75%
Seaplane Base (SPB) Average:													74%

Source: Alaska DOT&PF, CDM Smith, DOWL.

Seaplane Floats (SPF) Facility Index

Figure 16 summarizes the Seaplane Facilities Index for the 18 facilities in the SPF category. In this category, the most seaplane facilities met benchmarks for the access (89 percent) and float type (83 percent) performance measures. The wind cone and automobile parking benchmarks were each met by 78 percent of facilities in the category. With only 33 percent of SPF facilities meeting benchmarks, the tie-down float and aircraft fuel performance measures had the lowest performance.

Figure 16: Seaplane Facilities Index Summary for the SPF Category



Source: Alaska DOT&PF, CDM Smith, DOWL.

Table 6 details all Seaplane Facility Index performance measures and benchmarks for the SPF category. Only the seaplane facility at Ketchikan International Airport meets all benchmarks for a 100 percent Index. However, 12 of the 18 SPF facilities have an Index over 50 percent, with the full category average coming to 63 percent.

Table 6: Seaplane Facilities Index Details for the SPF Category

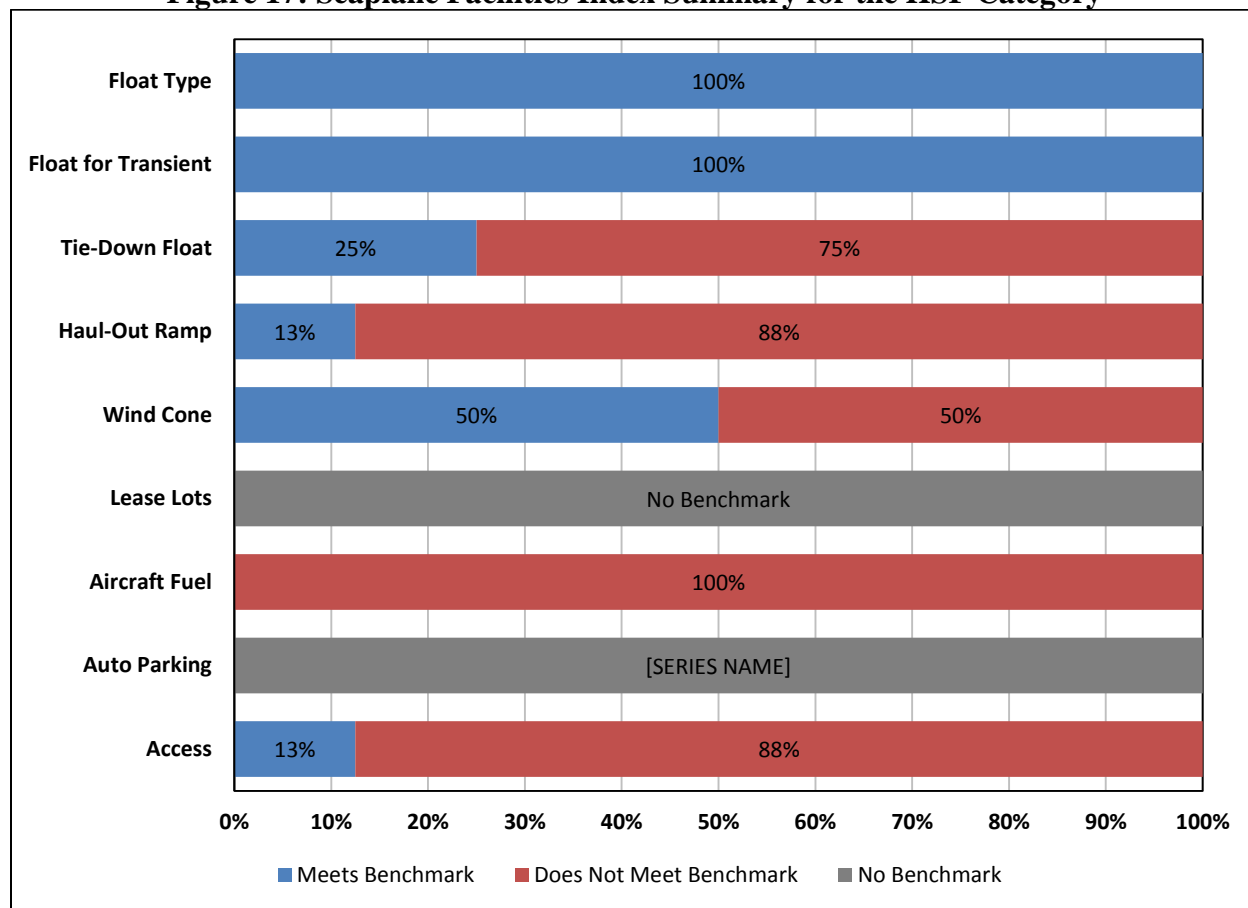
FAA ID	Associated City	Facility Name	Owner	Float Type	Float for Transient	Tie-Down Float	Haul-Out Ramp	Wind Cone	Fuel	Auto Parking	Access	Total
Seaplane Float (SPF)				20%	15%	15%	10%	10%	15%	5%	10%	100%
AGN	Angoon	Angoon Seaplane Base	Alaska DOT&PF	20%	15%	0%	0%	10%	0%	5%	10%	60%
KCC	Coffman Cove	Coffman Cove Seaplane Base	Alaska DOT&PF	20%	15%	15%	0%	10%	0%	5%	10%	75%
CKU	Cordova	Cordova Municipal	Alaska DOT&PF	20%	15%	0%	10%	10%	15%	5%	10%	85%
0Z3	Dillingham	Shannons Pond Seaplane Base	Alaska DNR	20%	0%	15%	10%	10%	15%	5%	10%	85%
EXI	Excursion Inlet	Excursion Inlet Seaplane Base	Alaska DOT&PF	20%	15%	0%	0%	10%	0%	0%	0%	45%
HYL	Hollis	Hollis Clark Bay Seaplane Base	Alaska DOT&PF	20%	15%	15%	0%	10%	0%	5%	10%	75%
5BL	Homer	Homer-Beluga Lake Seaplane Base	Alaska DOT&PF	20%	15%	0%	10%	10%	15%	5%	10%	85%
OOH	Hoonah	Hoonah Seaplane Base	Alaska DOT&PF	20%	15%	15%	0%	10%	15%	5%	10%	90%
HYG	Hydaburg	Hydaburg Seaplane Base	Alaska DOT&PF	20%	15%	0%	0%	10%	0%	0%	10%	55%
KTN	Ketchikan	Ketchikan International	Alaska DOT&PF	20%	15%	15%	10%	10%	15%	5%	10%	100%
MTM	Metlakatla	Metlakatla Seaplane Base	Alaska DOT&PF	20%	15%	0%	0%	10%	0%	5%	10%	60%
5NK	Naknek	Naknek	Alaska DOT&PF	0%	0%	0%	10%	10%	15%	5%	10%	50%
99Z	Palmer	Finger Lake Seaplane Base	Alaska DNR	20%	15%	0%	10%	0%	0%	5%	10%	60%
2D3	Palmer	Gooding Lake	Alaska DNR	0%	0%	0%	10%	0%	0%	0%	10%	20%
RSH	Russian Mission	Russian Mission	Alaska DOT&PF	0%	0%	0%	0%	10%	0%	5%	10%	25%
TKE	Tenakee Springs	Tenakee Seaplane Base	Alaska DOT&PF	20%	15%	15%	0%	10%	0%	0%	0%	60%
29A	Wasilla	Island Lake	Alaska DNR	20%	0%	0%	10%	0%	0%	5%	10%	45%
4A3	Wasilla	Lake Lucille	Alaska DNR	20%	15%	0%	0%	0%	0%	5%	10%	50%
Seaplane Float (SPF) Average:												63%

Source: Alaska DOT&PF, CDM Smith, DOWL.

Harbor Float (HSF) Facility Index

Figure 17 summarizes the Seaplane Facilities Index for the eight facilities in the HSF category. Benchmarks for float type and float space for transient aircraft are met by all facilities in this category. However, none of these eight facilities meets the benchmark for aircraft fuel, and only 13 percent meet benchmarks for haul-out ramp and access.

Figure 17: Seaplane Facilities Index Summary for the HSF Category



Source: Alaska DOT&PF, CDM Smith, DOWL.

Table 7 details all Seaplane Facility Index performance measures and benchmarks for the HSF category. Only two of these eight facilities, Hyder Seaplane Base and North Whale Seaplane Base, have an Index over 50 percent, both with 70 percent. The remaining six HSF facilities have a Seaplane Facility Index of 30 percent or 40 percent, bringing the category average to 43 percent, lowest among the five seaplane facility categories.

Table 7: Seaplane Facilities Index Details for the HSF Category

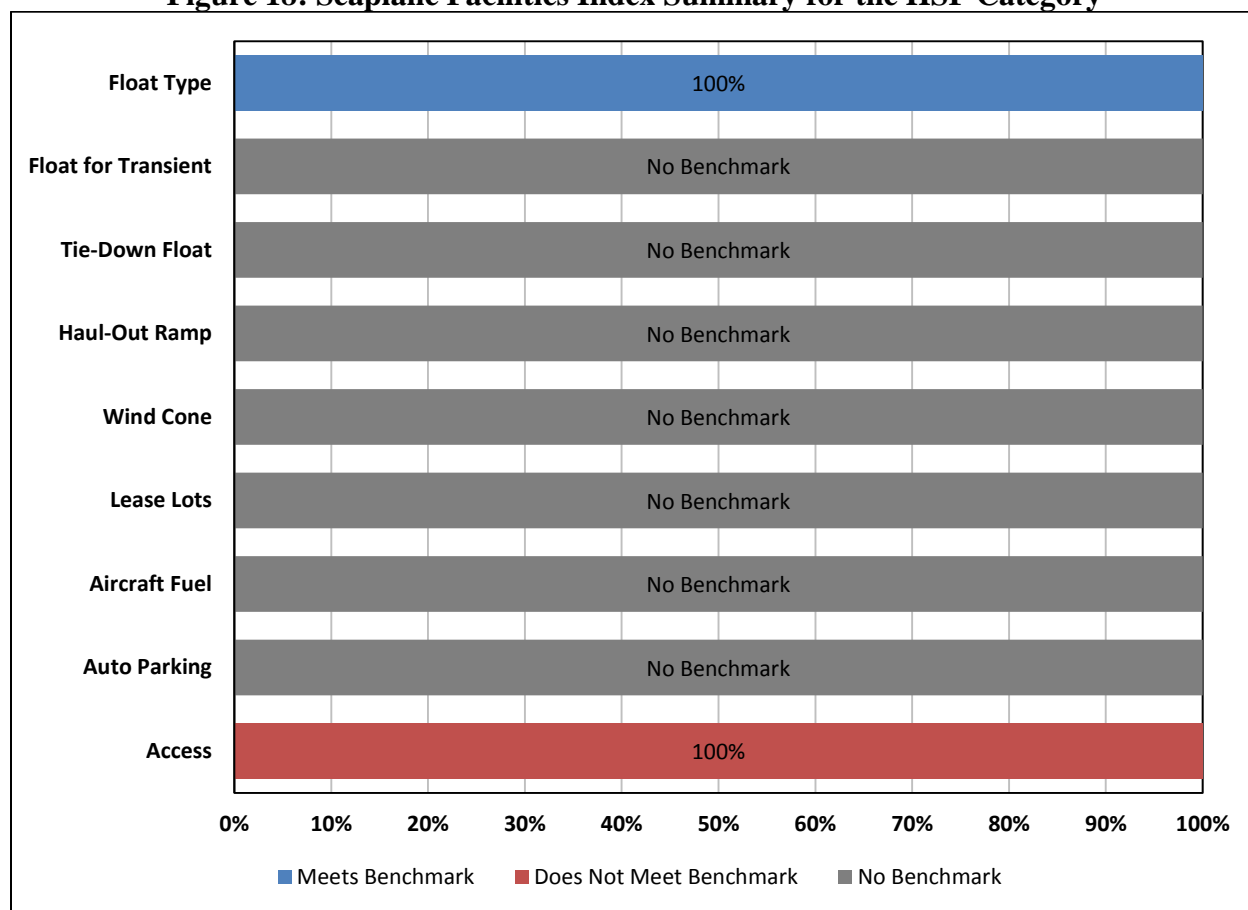
FAA ID	Associated City	Facility Name	Owner	Float Type	Float for Transient	Tie-Down Float	Haul-Out Ramp	Wind Cone	Fuel	Access	Total
Harbor Float (HSF)				20%	10%	15%	15%	10%	15%	15%	100%
BNF	Baranof	Warm Spring Bay Seaplane Base	Alaska DOT&PF	20%	10%	0%	0%	10%	0%	0%	40%
ELV	Elfin Cove	Elfin Cove Seaplane Base	Alaska DOT&PF	20%	10%	0%	0%	0%	0%	0%	30%
4Z7	Hyder	Hyder Seaplane Base	Alaska DOT&PF	20%	10%	15%	15%	10%	0%	0%	70%
KXA	Kasaan	Kasaan Seaplane Base	Alaska DOT&PF	20%	10%	0%	0%	10%	0%	0%	40%
96Z	North Whale Pass	North Whale Seaplane Base	Alaska DOT&PF	20%	10%	15%	0%	10%	0%	15%	70%
KPB	Point Baker	Point Baker Seaplane Base	Alaska DOT&PF	20%	10%	0%	0%	0%	0%	0%	30%
AHP	Port Alexander	Port Alexander Seaplane Base	Alaska DOT&PF	20%	10%	0%	0%	0%	0%	0%	30%
19P	Port Protection	Port Protection Seaplane Base	Alaska DOT&PF	20%	10%	0%	0%	0%	0%	0%	30%
Harbor Float (HSF) Average:											43%

Source: Alaska DOT&PF, CDM Smith, DOWL.

Refuge (RSF) Facility Index

The RSF category includes only two seaplane facilities: Entrance Island and Elfin Cove Seaplane Base. **Figure 18** summarizes the Seaplane Facilities Index for these two facilities. Both of these RSF facilities meet the benchmark of having a float for mooring, while neither of them meet the benchmark for having at least ATV access. Both facilities are only accessible by pedestrians.

Figure 18: Seaplane Facilities Index Summary for the HSF Category



Source: Alaska DOT&PF, CDM Smith, DOWL.

Table 8 details all Seaplane Facility Index performance measures and benchmarks for the two facilities in the RSF category. Both facilities have an Index of 50 percent, as does the category as a whole.

Table 8: Seaplane Facilities Index Details for the RSF Category

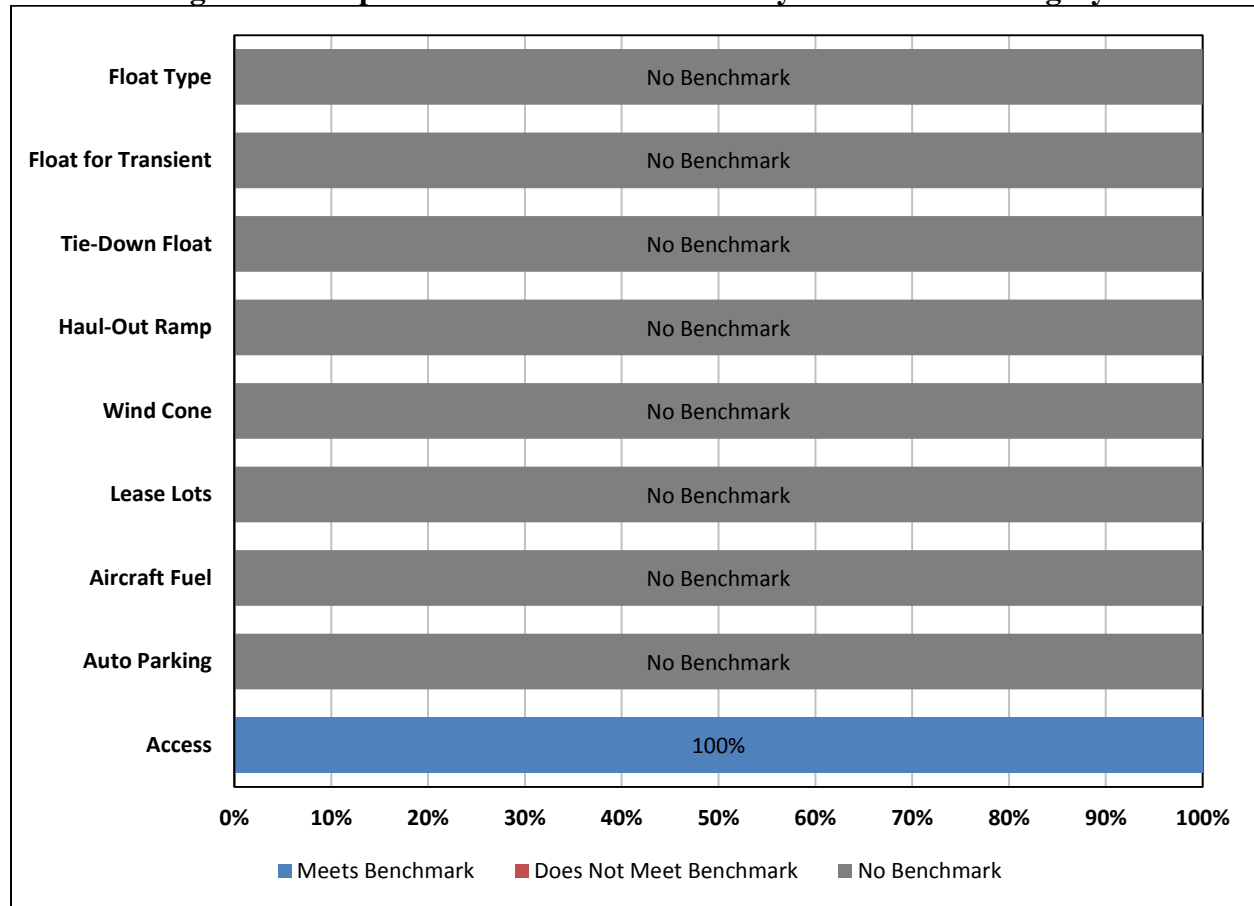
FAA ID	Associated City	Facility Name	Owner	Float Type	Access	Total
Refuge Float (RSF)				50%	50%	100%
2Z1	Entrance Island	Entrance Island	Alaska DOT&PF	50%	0%	50%
FNR	Funter Bay	Funter Bay Seaplane Base	Alaska DOT&PF	50%	0%	50%
Refuge Float (RSF) Average:						50%

Source: Alaska DOT&PF, CDM Smith, DOWL.

Other Seaplane Operating Area (OOA) Facility Index

Figure 19 summarizes the Seaplane Facilities Index for the 17 facilities in the OOA category. The only performance measure that applies to OOA facilities is access, with the benchmark of being accessible by pedestrians on foot. It was determined that all 17 of these facilities are accessible by pedestrians.

Figure 19: Seaplane Facilities Index Summary for the OOA Category



Source: Alaska DOT&PF, CDM Smith, DOWL.

Table 9 details performance measure and benchmark for all RSF facilities. As stated, all 17 of these facilities were determined to be accessible by pedestrians, giving all of them an Index of 100, and as a result an Index of 100 percent for the category.

Table 9: Seaplane Facilities Index Details for the OOA Category

FAA ID	Associated City	Facility Name	Owner	Access	Total
Other Seaplane Operating Area (OOA)				100%	100%
2A4	Bettles	VOR Lake Waterlane	Alaska DOT&PF	100%	100%
D71	Big Lake	Beaver Lake	Alaska DNR	100%	100%
6A7	Big Lake	Brocker Lake	Alaska DNR	100%	100%
AK5	Kasilof	Encelewski Lake	Alaska DNR	100%	100%
78Z	Nancy Lake	Nancy Lake	Alaska DNR	100%	100%
PKA	Napaskiak	Napaskiak	Alaska DOT&PF	100%	100%
SXP	Nunam Iqua	Sheldon Point	Alaska DOT&PF	100%	100%
16A	Nunapitchuk	Nunapitchuk	Alaska DOT&PF	100%	100%
SHX	Shageluk	Shageluk	Alaska DOT&PF	100%	100%
7KA	Tatitlek	Tatitlek	Alaska DOT&PF	100%	100%
58A	Tolsona Lake	Tolsona Lake	Alaska DFG	100%	100%
L93	Valdez	Robe Lake	Alaska DNR	100%	100%
D75	Wasilla	Blodgett Lake	Alaska DNR	100%	100%
3H3	Wasilla	Cottonwood Lake Seaplane Base	Alaska DNR	100%	100%
3A3	Wasilla	Seymour Lake Seaplane Base	Alaska DNR	100%	100%
T66	Wasilla	Visnaw Lake Seaplane Base	Alaska DNR	100%	100%
MFN	Willow	Minuteman Lake	Alaska DNR	100%	100%
Other Seaplane Operating Area (OOA) Average:					100%

Source: Alaska DOT&PF, CDM Smith, DOWL.

SUMMARY

The goal of the Seaplane Facility Plan is to “Preserve a safe seaplane facility system.” To achieve this goal, the system of 55 state-owned seaplane facilities in Alaska was divided up into the following five categories:

- Seaplane Base (SPB): 10 facilities. Eight are owned by Alaska DOT&PF, while the remaining two are owned by Alaska DNR.
- Seaplane Float (SPF): 18 facilities. Thirteen are owned by Alaska DOT&PF, while the remaining five are owned by Alaska DNR.
- Harbor Float (HSF): eight facilities, all owned by Alaska DOT&PF.

- Refuge (RSF): two facilities, both owned by Alaska DOT&PF.
- Other Seaplane Operating Area (OOA): 17 facilities. Six of are owned by Alaska DOT&PF, 10 by Alaska DNR, and one by Alaska DFG.

A detailed inventory of these 55 seaplane facilities was then conducted to gather relevant information on facilities and services available at each site. Performance measures and benchmarks were established so that this system of facilities could be assessed for both current performance and so that progress and development could be tracked over time. The result of this analysis is the Seaplane Facility Index, a measure of how well each facility serves the market defined by its category, as well as a measure of each category as a whole and the full system of 55 state-owned facilities. The results of the Index are as follows:

- Seaplane Base (SPB): average Seaplane Facility Index of 74 percent. Alaska DOT&PF-owned SPB facilities had an average Index of 79 percent. SPB facilities owned by other state agencies had an average Index of 53 percent.
- Seaplane Float (SPF): average Seaplane Facility Index of 63 percent. Alaska DOT&PF-owned SPF facilities had an average Index of 67 percent. SPF facilities owned by other state agencies had an average Index of 52 percent.
- Harbor Float (HSF): average Seaplane Facility Index of 43 percent, all at Alaska DOT&PF-owned facilities.
- Refuge (RSF): average Seaplane Facility Index of 50 percent, all at Alaska DOT&PF-owned facilities.
- Other Seaplane Operating Area (OOA): average Seaplane Facility Index of 100 percent.
- Full system of 55 state-owned seaplane facilities: average Seaplane Facility Index of 73 percent. At Alaska DOT&PF-owned facilities, this average Index is 69 percent, while the average Index at facilities owned by other state agencies is 81 percent.

