



PETERSBURG BOROUGH WATERFRONT MASTER PLAN

February 22, 2016

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Petersburg Borough Waterfront Master Plan

Executive Summary

Objective

The City and Borough of Petersburg has been very successful in developing and maintaining a lively working waterfront that answers to the needs of the community and is attractive to visitors. As a dynamic harbor and maritime region, the Petersburg Borough is seeing evolution of their local populace, industry and economy. In response to these opportunities and changes, the Petersburg Waterfront Master Plan was developed to address emerging issues with waterfront land use on Mitkof Island and throughout Petersburg Borough. These issues primarily include operation, maintenance and improvement of the Petersburg Port & Harbor Department facilities. However, the Waterfront Master Plan also addresses strategies for providing new services and facilities for waterfront activities such as recreation, tourism, and private commercial operations to enhance and augment those currently administered by the Petersburg Harbors and Port Advisory Board.

Project Context

The majority of Petersburg Borough residents live on Mitkof Island and most of the commercial fish landings take place in Petersburg. Therefore, this Master Plan is primarily concerned with waterfront activities on Mitkof Island as shown in Figure 1. In particular, it focuses on the Petersburg Harbors and Wrangell Narrows waterfront. However, it also includes consideration of outlying facilities on Sumner Strait at the south end of the island.

As waterfront uses include transportation, tourism, recreational boating, hunting and fishing, and general outdoor recreation, some of the non-commercial facilities on Mitkof and Kupreanof Islands have been included in this Master Plan. Community interest and available information varies widely on these non-commercial sites and in many cases, long-term planning and development may be better left to the local users and stakeholders. This is particularly true where costly improvements and continued maintenance of a remote facility is likely to only benefit a small group of users.

Petersburg Harbors

Petersburg’s Harbors were primarily developed to serve the regional commercial fishing industry. In addition to the floating docks, it is home to three major fish processors and two small processors, a U.S. Coast Guard (USCG) mooring station, a sea-plane base, a fuel dock, and various public and private marine services.

Issues and Challenges

Resource Constraints: The State and Regional fisheries currently pursued by Petersburg vessels are generally maintained at a sustainable level. However, the annual harvest by species is not likely to grow and new species are unlikely to enter the market.

Harbor Facility Configuration: Since the major Gulf of Alaska fishery resources are healthy and stable at their current levels, and the number of active vessels may actually decline, the future demand for additional berths will likewise remain static. However the vessel size distribution will likely change in coming years with more of the fishery concentrated in larger vessels. Therefore, Petersburg’s challenge

will be to meet the moorage needs of the current fleet while planning for a shift toward larger vessels over time.

Budget Constraints: This combination of reduced State and Federal support, increased borough financial responsibility, and shifting harbor revenue streams significantly impairs the borough’s ability to fund needed repairs to existing harbor facilities, and future capital projects.

Figure 1 – Mitkof Island



Harbor Department Needs

The Harbor Department has compiled a list of projects considered important to Petersburg's continued viability as a commercial fishing community, many of which are related to depreciation and deferred maintenance of harbor assets. Others are a direct result of the recent creation of the borough and potential transfer of State assets to borough control. The following projects have been identified by the Harbor Department as having priority for near-term implementation:

- Bulkhead Loading Dock Improvement (new)
- Scow Bay Haul-out and Wash-down Facility (new)
- Maintenance Dredging (maintenance)
- North Harbor Improvements (new + maintenance)
- Harbor Maintenance Shop (new)
- Middle Harbor Utility Float (maintenance)
- Harbor Office/Shower/Restroom Facility (maintenance)
- South Harbor Gangway Replacement (maintenance)
- Petersburg Borough Waterfront Property Acquisition (new)
- South Harbor Launch Ramp Improvement (new)

Recommendations

The primary goal of the Waterfront Master Plan is to better meet the immediate, near-term and longer-term needs for waterfront and harbor facilities in Petersburg and throughout the borough. The plan must describe facilities that support commercial fishing and other waterfront uses that drive the borough's economy. The Master Plan describes specific tactics that will fulfill the Harbor Department needs and will provide for future growth. These tactics are also designed to fulfill the following goals:

Commercial Fishing and Fish Processing: Over the past decade the demographics of Petersburg have shifted, the commercial fishing and processing industry has changed, and the commercial fishing fleet has consolidated. Improvements to the harbor must reflect these changes and enhance the capability of the commercial fishing fleet.

Waterfront Access and Recreational Uses: While commercial fishing will remain the dominant use and focus of waterfront facilities, the Master Plan recommends that important secondary uses, such as recreational fishing, outdoor excursions, and waterfront access, be integral to overall borough waterfront planning.

Waterfront Development Planning: The Downtown Petersburg waterfront is currently comprised of intermingled State, harbor, and privately-owned properties. Land use in the downtown area should be rationalized to ensure that water-dependent uses are given priority and have sufficient land for expansion and improvement.

Financial Security: Petersburg Harbor has self-identified unfunded depreciation and inadequate long term planning as their primary weaknesses. The Master Plan must anticipate future costs and State budget shortfalls to ensure long-term viability of the harbor.

Petersburg Borough Waterfront Master Plan

1. Objective and Method

The City and Borough of Petersburg has been very successful in developing and maintain a lively working waterfront that answers to the needs of the community and is attractive to visitors. As a dynamic harbor and maritime region, the Petersburg Borough is seeing evolution of their local populace, industry and economy. In response to these opportunities and changes, the Petersburg Waterfront Master Plan was developed to address emerging issues with waterfront land use on Mitkof Island and throughout Petersburg Borough. These issues primarily include operation, maintenance and improvement of the Petersburg Port & Harbor Department facilities. However, the Waterfront Master Plan also addresses strategies for providing new services and facilities for waterfront activities such as recreation, tourism, and private commercial operations to enhance and augment those currently administered by the Petersburg Harbors and Port Advisory Board. General waterfront land use, need for water-dependent set-asides, and public access are also addressed in the context of the Petersburg Borough Comprehensive Plan and the general land use recommendations of that document.

The method used in preparation of this plan includes a process of stakeholder interviews, site evaluation, review and comment, and specific analysis. The Waterfront Master Plan was developed as seven sequential elements:

1. The Project Context is a broad overview of current facilities and their conditions as observed by the planning team and described by waterfront stakeholders. This element represents the base-case and defines the areal extent of the plan. A layout of Petersburg Harbor, shown in Appendix A, illustrates the spatial relationships of each harbor element.
2. A statement of Issues and Challenges was developed to define the drivers-of-change that require action on the part of Petersburg Borough to modify the base-case. Specific issues were investigated including a stable fisheries resource with shifting vessel allocation, harbor facilities berth utilization, waterfront facility conditions, and budget constraints.
3. Goals and Strategies were developed as a program of broad response to current Challenges. These Strategies address public access to the waterfront, development in the downtown waterfront and tourism as well as commercial fishing goals.
4. Implementation Tactics that present specific recommendations for immediate and longer term implementation projects. To the extent possible, a general prioritization as High Priority, Medium Priority and Low Priority has been assigned to these projects. This prioritization must be regarded as a flexible target that should be adjusted as opportunities for funding arises.
5. A rough budgetary Needs Estimate was developed for each of the specific implementation recommendations. The project team used elements of the Conditions Assessment, previous Harbor Department construction cost estimates, outside cost estimates, and general industry cost figures to develop the Needs Estimate. The figures given in these estimates are indexed by paragraph number to the individual projects developed in the Implementation Tactics.
6. The planning team prepared a general study of Financial Considerations that evaluated the current ability of the Harbor Department to sustain the annual cost of operations. It also includes recommendations for future berth lease and rental rates. This Financial Considerations report is attached to the Master Plan in Appendix B.

- The planning team performed a high-level Conditions Assessment of selected waterfront facilities on Mitkof and Kupreanof Islands. This Conditions Assessment includes detailed maintenance and repair recommendations that supplement and expand on the Implementation tactics. This Conditions Assessment is attached to the Master Plan in Appendix C.

2. Project Context

2.1. Mitkof Island

The majority of Petersburg Borough residents live on Mitkof Island and much of the commercial fish landings take place in Petersburg. Therefore, this Master Plan is primarily concerned with waterfront activities on Mitkof Island as shown in Figure 2-1. In particular, it focuses on the Petersburg Harbors and Wrangell Narrows waterfront. However, it also includes consideration of outlying facilities on Sumner Strait at the south end of the island.

Figure 2-1 – Mitkof Island



As waterfront uses include transportation, tourism, recreational boating, hunting and fishing, and general outdoor recreation, some of the non-commercial facilities on Mitkof and Kupreanof Islands have been included in this Master Plan. Community interest and available information varies widely on these non-commercial sites and in many cases, long-term planning and development may be better left to the local users and stakeholders. This is particularly true where costly improvements and continued maintenance of a remote facility is likely to only benefit a small group of users.

2.2. Recreational Waterfront

Recreational waterfront uses in Petersburg Borough, south of Petersburg Harbor and Scow Bay include several facilities for small boat launch or mooring and recreational water access. Papke's Landing serves the Mitkof side of Wrangell Narrows with a boat launch and floating dock. Kupreanof Dock serves at the only access to the independent City of Kupreanof. Tonka Landing on Kupreanof Island includes a multi-use ramp and float. Blind Slough Recreation area includes picnic shelters, tables, grills, and restrooms. Off Sumner Strait, on the south side of Mitkof Island, various small launch ramps are located at Woodpecker Cove, Olson's Log Transfer Facility, Banana Point, and Blaquiere Point. These facilities serve local needs for recreational boating and fishing as well as launch points for kayaking and tourism activities. Banana Point has also been used as an informal ferry landing for transit from Wrangell and Stikine River. The primary issue with the more remote sites is the high cost of maintenance and the comparatively low level of use.

2.2.1 Papke's Landing

Papke's Landing is a State of Alaska-owned public access point approximately 10-miles south of Petersburg Harbor on the Mitkof Highway as shown by Figure 2-1. The Papke's Landing site approximately 0.5-Acres of upland parking with a small launch ramp and a 100-foot float on Wrangell Narrows. The launch ramp, owned by the Alaska State Department of Natural Resources (ADNR), is only usable at high tide and is in poor condition. The float is owned by ADOT&PF. It is located further from the shore and is in poor condition. However, it is usable throughout the full tidal range. A 300-foot pedestrian trestle connects the Papke's Landing float to the shore. This trestle is generally in fair condition (reference Appendix C – Conditions Assessment).

Papke's Landing is an important facility for subsistence and sport fishing and hunting, recreation, and tourism in the area. It is the primary access for residents of the southern portion of Lindenber Peninsula on Kupreanof Island to the Mitkof Island road system and downtown Petersburg amenities, including airport, shopping, medical services, and post office. It is part of the multi-modal transportation system connecting out-of-town visitors with three sport fishing lodges located on Kupreanof Island. Residents of Mitkof Island also use the facility to access private/public recreation cabins and for general boating, sport fishing, access to national forest lands. The dock is at times used by commercial fishermen to tie up during closures rather than run their boats all the way back to Petersburg Harbor.

The facility is in poor condition and in need of repair and ongoing maintenance. Some of the area residents, particularly those who rely on the facility, have donated time and money to make small repairs. Petersburg Borough has recently acquired property at Papke's Landing, but currently does not have a plan for development. The State of Alaska has expressed interest in conveying ownership of the entire facility to the Petersburg Borough. The borough would require sufficient funding to bring the facility to a state of good repair. Any development plan must include a mechanism to pay for ongoing

maintenance and eventual replacement of the facility. Currently, conflicting ownership and jurisdictions impedes a coherent improvement program for the site.

2.2.2 Kupreanof Dock

The Kupreanof Float is the gateway to the City of Kupreanof. This state-owned facility is located across the Wrangell Narrows from downtown Petersburg. Built in 1961 and rebuilt in 1979, the facility is composed of a 272-foot pedestrian trestle with a 50' ramp connecting to a 47'-foot landing float. A 95' mooring float is useable throughout the full tidal range by small boats.

The Kupreanof Dock is an important access point for residents of Kupreanof to Petersburg amenities, including airport, shopping, employment, medical services, and post office. The dock is also an important facility for recreation, sport fishing, and access to national forest lands on Kupreanof Island.

The City of Kupreanof has expressed interest in taking over ownership and maintenance responsibility for the facility if the State of Alaska provided sufficient funding to bring the facility to a state of good repair. In 2010, the State of Alaska estimated deferred maintenance for the facility at \$1.065 million. At present, the trestle, ramp, and float are in poor condition and in need of repair and ongoing maintenance.

2.2.3 Banana Point

Banana Point is a State of Alaska-owned public access point located approximately 28 miles from downtown Petersburg. The facility includes approximately 1/2 acre of parking area, restroom, and boat launch ramp with a floating pipe boom breakwater. The existing ramp is approximately 215 feet long and is constructed of 16' wide concrete planks. The ramp extends down to the zero tide line. Boat launching from a trailer is possible only when the tide is well above the zero mark, although the ramp is open and available for use at all hours.

Banana Point is an important facility for subsistence and sport fishing and hunting, recreation, access to national forest lands, and as part of an intermodal transportation system connecting Mitkof Island to the communities of Wrangell and Coffman Cove on Prince of Wales Island. Banana Point also serves as a departure point for tours and charters of the Stikine River.

In 2012, the Petersburg Borough used a \$43,000 grant from the USFS Resource Advisory Committee (9RAC) to improve the facility by resurfacing the driveway and parking areas, and clearing all culverts and ditch lines. General maintenance of the facility is handled by Petersburg Borough, utilizing funding provided by the Alaska Department of Natural Resources (Owner).

2.2.4 Blaquiere Point

Blaquiere Point is a public access point located approximately 32 miles from downtown Petersburg. The facility includes a one acre gravel parking area and boat launch ramp. The existing ramp is approximately 215 feet long and constructed of 16' wide concrete planks. The ramp extends down to the zero tide line. It is usable for trailered boat launching only during times when the tide is well above the zero mark, although the ramp is open for use at all hours.

In 2013, the USFS improved the facility by expanding the boat launch and parking area, adding an outhouse to improve site sanitation, and also installing a picnic area on the grounds. Petersburg Borough owns the site improvements and provides for maintenance of the facility. The land the facility occupies is owned by the Alaska Department of Natural Resources. Blaquiere Point is an important

facility for recreation, subsistence and sport fishing and hunting, and access to national forest lands. Blaquiére provides the closest access from Mitkof Island to the Stikine River.

2.2.5 Olson’s Log Transfer Facility

Olson’s Log Transfer Facility (LTF) is located approximately 24 miles from downtown Petersburg on Mitkof Highway. A gravel-surfaced launch ramp, usable on the upper stages of the tide, is located on the southern side of the LTF. This facility is presently owned by the State of Alaska and leased to the US Forest Service.

2.2.6 Woodpecker Cove

Woodpecker Cove is a State of Alaska-owned public access point located approximately 29 miles from downtown Petersburg. The facility is located approximately 9 miles down a Forest Service logging road. The road is seasonal and not maintained during winter months. A small launch ramp provides recreational boat access to sport and subsistence fishing and hunting activities and access to national forest lands.

2.2.7 Entrance Island

Entrance Island is located in Hobart Bay, approximately 47 miles north of downtown Petersburg. The bay includes a mooring float that has served as safe moorage for commercial and recreational mariners. A ramp connecting the mooring float to the beach deteriorated and was removed. At present, there is only a mooring float.

Hobart Bay was an active logging camp at one time and is now developing as a small cruise ship destination. The bay has minimal infrastructure save an extensive logging road system on Goldbelt Corporation lands. The State of Alaska has expressed interest in conveying ownership of the Entrance Island facility to the Petersburg Borough. The borough would require sufficient funding to bring the facility to a state of good repair. Any development plan must include a mechanism to pay for ongoing maintenance and eventual replacement of the facility.

2.2.8 South Mitkof Ferry Terminal

The South Mitkof Ferry Terminal is a State of Alaska-owned facility located at 27.1 mile of Mitkof Highway. The facility was constructed as part of the ADOT’s move toward “day-boat” service.

The ferry terminal includes a vehicle/pedestrian access trestle, a transfer bridge with float and guide pile system, four mooring/berthing dolphins, and security lighting. Uplands improvements included a parking area, temporary ticket agent terminal (trailer), and security fencing. Mitkof Highway was paved to the terminal as part of this project. Proposed phase 2 improvements were never completed. The facility has a 50-year design life.

Initial use of the terminal was by the IFA’s northern route connecting South Mitkof to Wrangell and Coffman Cove. The route was cancelled due to poor ridership and cost. Initial plans by ADOT had a *Fairweather* class ferry using the terminal but these vessels were never constructed. The South Mitkof terminal presently remains closed and ADOT has not revealed future plans for its use.

2.3 Petersburg Harbors

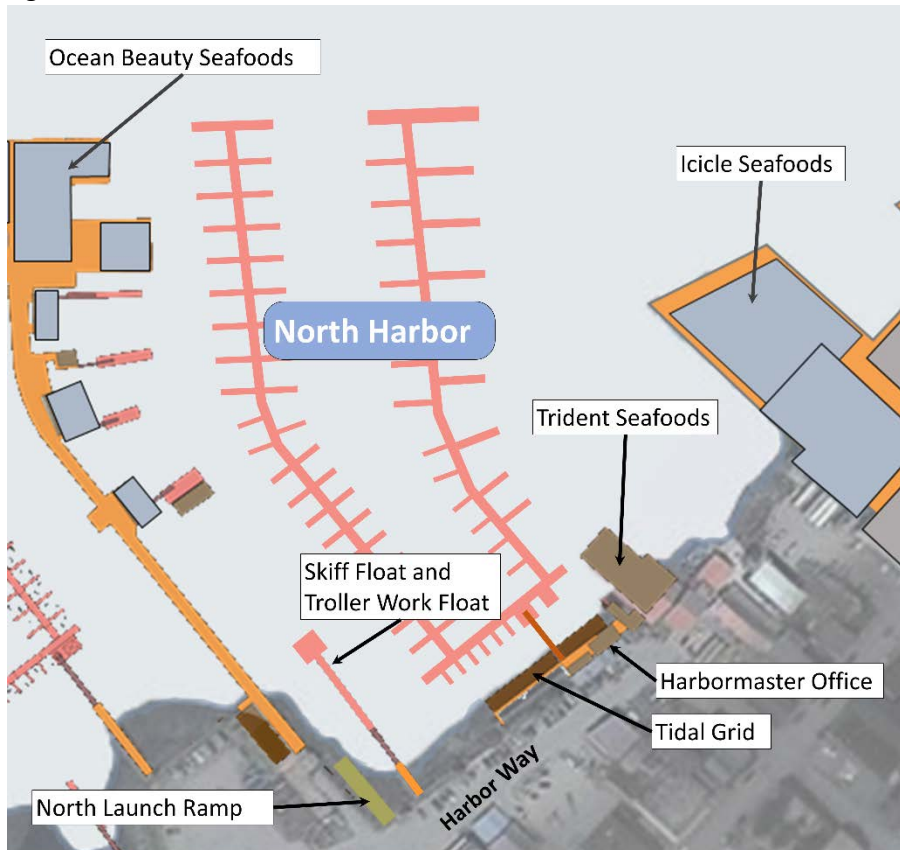
Petersburg’s Harbors were primarily developed to serve the regional commercial fishing industry. In addition to the floating docks, it is home to three major fish processors and two small processors, a U.S.

Coast Guard (USCG) mooring station, a sea-plane base, a fuel dock, and various public and private marine services. The harbor is also home to a substantial recreational fishing fleet that generally uses slips during the summer season and hauls out during the off-season. In recent years, tourism, yachts, and mini-cruise ship calls have become significant contributors to Petersburg Harbors' activity. In addition, commercial activity in downtown Petersburg along Harbor Way and Sing Lee Alley vies with fishing and processing for limited waterfront land.

The Petersburg Harbor Department is a branch of Petersburg Borough. The borough maintains a seven-person Harbors and Port Advisory Board and the harbors are administered by a Harbormaster and up to seven Harbor Officers including several seasonal positions. Petersburg Harbors comprises three contiguous areas along the downtown waterfront: The North Harbor between Icicle Seafoods and Ocean Beauty Seafoods; the Middle Harbor located south of Ocean Beauty Seafoods; and the South Harbor that extends between the Middle Harbor and the new Drive-Down Dock. Land and improvements that are currently operated by Petersburg Harbor include parcels held in fee-simple by the borough and parcels under lease from various entities including the State of Alaska. The Harbor Department has also issued leases for various parcels to private entities such as Petro Marine Services that provide service to the local marine community. Existing facilities and proposed improvements for Petersburg Harbor are illustrated in Appendix A.

2.3.1 North Harbor

Figure 2-2 – North Harbor



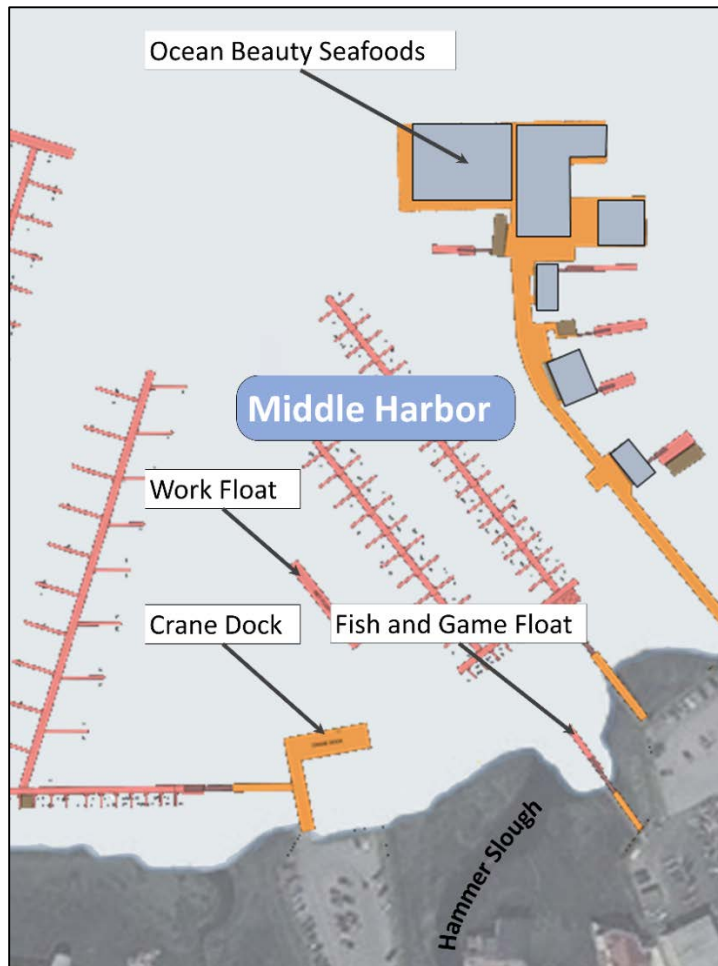
As shown in Figure 2-2, the Petersburg North Harbor is bounded on the north by the Icicle Seafoods' processing plant and on the south by Ocean Beauty Seafoods' processing plant and pier. Within the North Harbor, Trident Seafoods also operates a small processing plant. The North Harbor has two main floats and a connecting float that joins them. These floats support approximately 120 berths ranging in length from 18- to 75-feet. Several longer mooring positions are used for transient vessels along the outside margin of the end floats.

In addition to the processing plants and berths, the North Harbor has a 136-foot skiff float for borough residents arriving by small vessel from Kupreanof Island and other outer communities. It also has a tidal grid of staked timbers for maintenance of commercial vessels up to 42-feet in length; measuring approximately 200-feet in length and primarily used for cleaning boat hulls below waterline. It is anticipated that enforcement of increasingly stringent environmental regulations may limit its future use. The North Harbor Launch Ramp, a timber ramp at the south side of the North Harbor (parallel the Ocean Beauty pier) requires periodic maintenance. It is too short to launch boats at low tide and there is no adjacent dedicated trailer parking.

Prior to 2013, the last major renovation of North Harbor was performed in 1965, when more than 1,700 lineal feet of log float was removed and replaced with more than 17,000 square feet of polystyrene floats. In 2013, the existing headwalk float, both mainwalk floats, all stall (i.e. "finger") floats and the transient float were removed, along with all existing timber pile. Also demolished was an existing steel gangway, 215 lineal feet of existing timber deck, and 37 lineal feet of existing catwalk adjacent to the harbor office, as well as four existing boat grid sleepers and their associated support piles. The entire slip area was dredged and a new approach dock, gangway and float system was installed in a layout that increases the average north dock berth length.

2.3.2 Middle Harbor

Figure 2-3 – Middle Harbor



The Petersburg Middle Harbor is bounded on the north by the Ocean Beauty Seafoods’ processing plant and on the south by Petersburg Harbor crane dock as shown by Figure 2-3. The Middle Harbor has two mainwalks joined by the connecting float. These floats support approximately 137 berths ranging in length from 18- to 32-feet. In addition to the processing plant and berths, the Middle Harbor has a 150-foot work float for maintenance of nets and gear. An 84-foot boarding float, owned by a private entity, is under lease to the Alaska Department of Fish and Game (ADF&G). At the south end of Middle Harbor, the Petersburg Harbor Department maintains a 120-foot public crane dock for fishing boat gear change. Hammer Slough, a tidal drainage through the center of Petersburg, empties into Petersburg Harbor between the Fish and Game float and the Crane Dock.

Prior to 2005, the last major renovation of Middle Harbor was c.1975, when the skiff float in the adjacent North Harbor was extended to relieve a grounding issue at low tides, and the area around the existing floats in Middle Harbor, proper was dredged to improve accessibility to the eastern (roughly) half of the mainwalk floats and headwalk float.

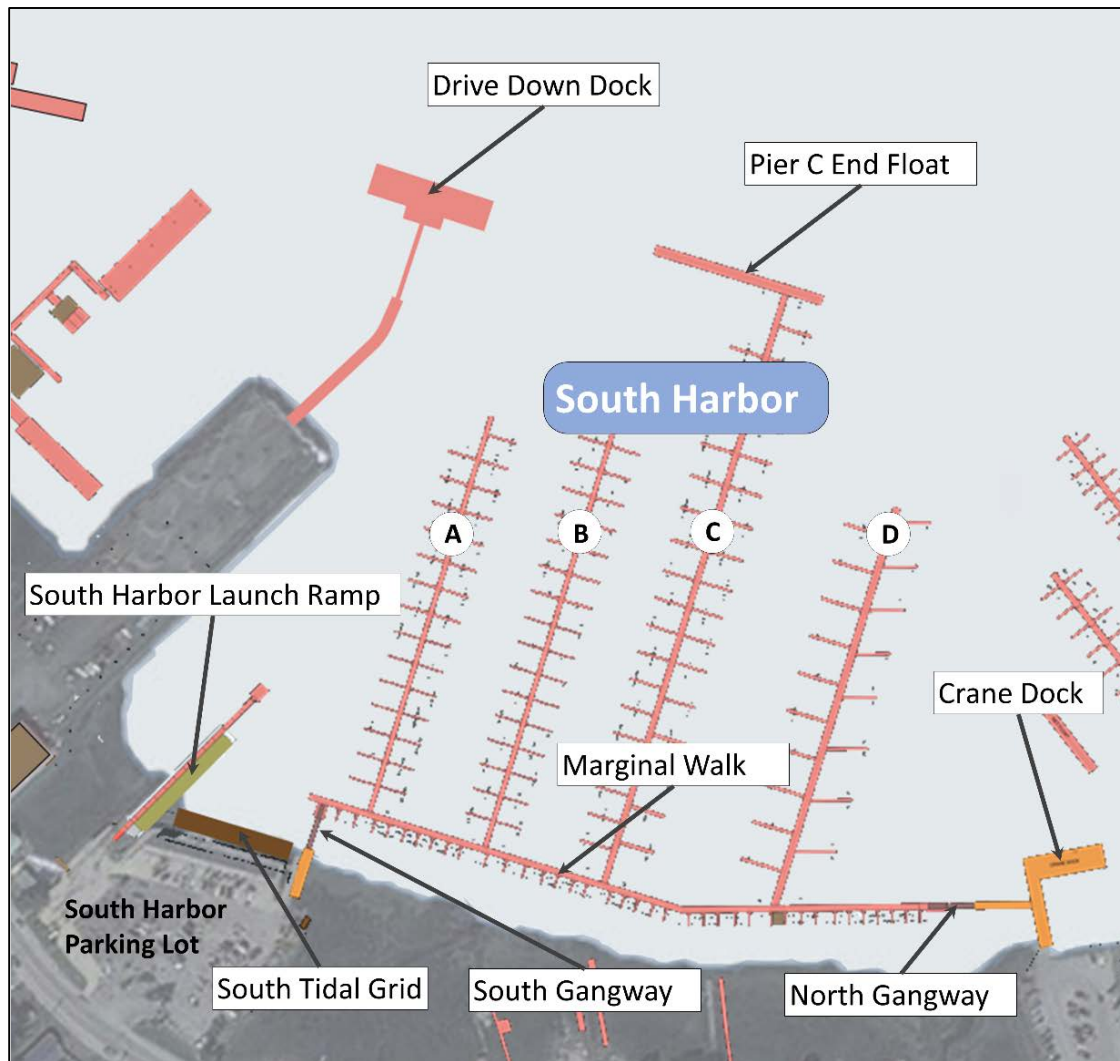
In 2005, the existing headwalk float, both mainwalk floats, and all stall (i.e. “finger”) floats were removed, along with all existing pile. Also demolished were an existing gangway, and the seaward 17 LF

of existing timber approach dock, and associated support piles. A new gangway and float system was installed in a layout similar to that which had been demolished.

In 2012 the bulkhead at the landward end of the existing timber approach trestle suffered a partial failure. Field-expedient repairs to the bulkhead, to prevent continued loss of backfill, were executed by the Harbor Department. In 2015 the seaward 60 LF section of the 10' wide mainwalk float no. 1 was demolished and replaced in kind, due to damage incurred from a vessel strike. The remaining existing element of construction of immediate concern is the timber approach trestle. It is expected that at some point this structure will need to be either upgraded, or replaced altogether.

2.3.3 South Harbor

Figure 2-4 – South Harbor



The Petersburg South Harbor is bounded on the north by the Petersburg Harbor crane dock and on the south by the new Petersburg Harbor drive down dock as shown by Figure 2-4. The South Harbor includes Floats A, B, C, and D with a connecting float joining them. These floats support approximately 242 berths ranging in length from 40- to 100-feet. Several longer mooring positions for transient vessels and small cruise ships are available on the Pier C end-float. On the land side of the South Harbor Connecting Float,

74 berths (20-foot fingers) have been constructed for skiffs and small boats on the order of 18-feet in length.

The South Harbor connecting float has two access gangways, one extending from the crane dock and one that connects to the South Harbor parking lot. Both gangways are elevated to allow small boats that berth along the back of the connecting float for egress at high tide. At the south end of the South Harbor, the Harbor Department maintains a single-lane concrete launch ramp and boarding float. This ramp is usable in all but the most extreme tidal conditions. There is limited trailer parking adjacent to the South Harbor Launch Ramp. The South Harbor also has a 195-foot steel tidal grid located parallel to the parking lot that is designed to take larger vessels, up to 100-feet in length.

South Harbor improvements constructed in 1984 include the current 12' x 84' access ramp approach and 7'-5" x 65' steel access ramps, mainwalk Floats A and Float D, extension of mainwalk Float B and Float C, with additional finger floats, 200 feet of new medium size vessel repair grid, and upland harbor improvements. In 1999, mainwalk Float A, B and C were replaced and additional finger floats added along each extension. The existing transient float was also installed at the end of mainwalk Float C.

Approximately 850 LF of existing timber approach trestle and a timber dock, and approximately 400 LF of an existing fuel dock approach trestle were demolished in 2001. Dredging occurred over an area of roughly six acres, at dredge depths ranging from less than seven feet to more than ten feet of material and a new approach dock was constructed for the fuel dock trestle. The western (channel side) half of South Harbor Floats A, B, and C were re-constructed with new steel piles and heavy glue-laminated timbers in 2003. In 2014, a new end float was added to the existing South Launch to provide space for recreational boaters to clean fish and load gear.

Many of the older existing vessel finger floats have begun to lose freeboard, and some are experiencing significant rotational twist about their longitudinal axis. It is anticipated that replacement of these finger floats may become necessary in the near term. Remaining areas of concern include existing finger floats, mainwalk Float D, and the bearing of the existing gangway onto the existing gangway landing float. On the land side of the South Harbor connecting float, the small berths are currently restricted by sedimentation and will require dredging to remain operational throughout the full tidal range. This dredging is also necessary to prevent the connecting float from grounding at low tide and damaging the connections to the main floats.

At 65-feet in length, the north and south access ramps are too short to allow them to effectively operate for the normal Petersburg Harbor tidal range of 16-feet. Additionally, the north access ramp is used by cruise passengers and it is not compliant with the Americans with Disabilities Act (ADA). Therefore, modifications to the access ramps, including their replacement with 80-foot aluminum gangways will be necessary for ADA compliance.

2.4 Scow Bay

Figure 2-5 – Scow Bay



Scow Bay is an industrial district and small residential neighborhood located approximately 2.3-miles south of Petersburg South Harbor along the Mitkof Highway as shown by Figure 2-5. The Scow Bay site is a borough property that consists of two upland lots (Lot 1 and Lot 2) totaling 5.30-Acres, plus an Alaska Tideland Survey (ATS) plot of 10.57-acres with 600 lineal feet of shoreline facing Wrangell Narrows. Scow Bay Lot 1 is presently used by the Alaska Department of Transportation and Public Facilities (ADOT&PF) for maintenance and storage of roadway materials. The Petersburg Volunteer Fire Department's Scow Bay station and training tower occupies a portion of Lot 2. The ATS plot includes a 102-foot long by 32-foot wide concrete plank haul-out ramp (former seaplane ramp) and a 250-foot rubble mound finger jetty. The haul-out ramp is owned by the borough. However the Scow Bay site is controlled by the Harbor Department. Recently, the Harbor Department has added electrical pedestals for contractors/boat owners and the Petersburg Economic Development Council funded \$30,000 in concrete repair work to the ramp.

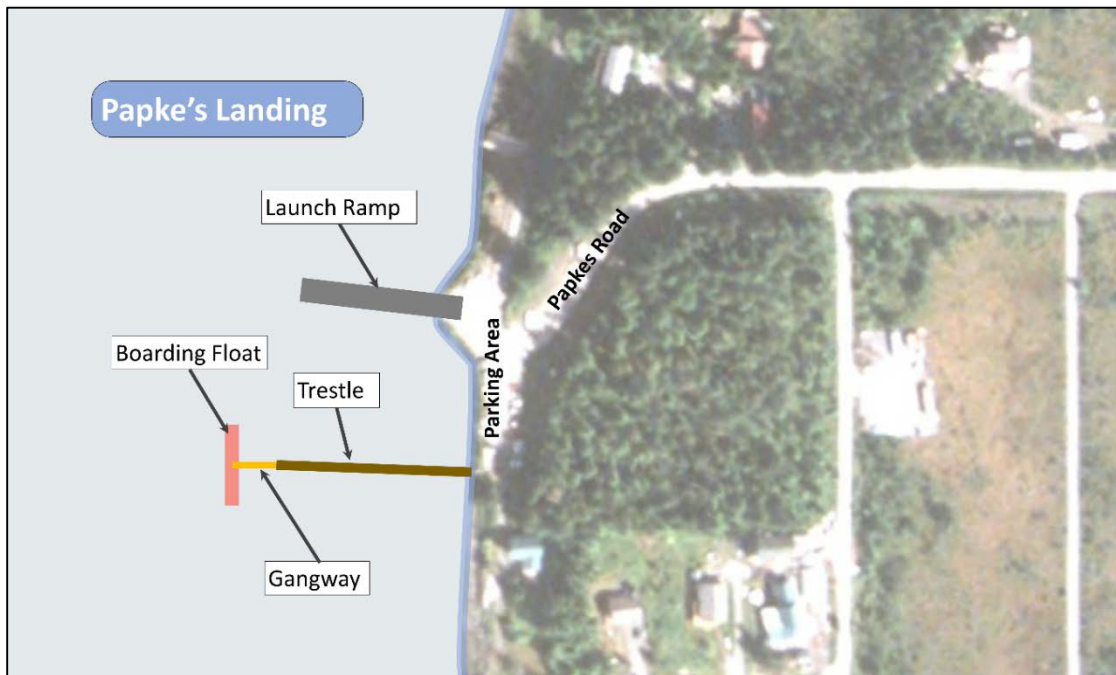
The Scow Bay haul-out ramp was constructed at a shallow slope, approximately 9-percent (i.e., 5-degrees) gradient, to accommodate seaplane recovery. This slope is suitable for operation of a hydraulic trailer type of boat lift. Three such units are operating at Scow Bay. Petersburg Marine has a 30-ton capacity unit and a 50-ton capacity unit. The Petersburg Marine 50-ton hydraulic trailer is not legal for highway use (Petersburg Marine is allowed to cross Mitkof Highway to access the adjacent industrial park). Rocky's Marine Inc. recently took delivery of a new 20-ton hydraulic trailer that is highway legal and can be used to deliver boats anywhere on Mitkof Island.

The existing Scow Bay ramp has a slope that is too shallow for launch and recovery by conventional boat trailers. Existing trailer boat ramps in Petersburg Borough range from 7 degrees to 9 degrees. Current small boat launch ramp standards for trailered boats recommend a slope of no less than 12-percent (i.e., 7 degree) gradient for efficient launch and recovery. Therefore, Scow Bay is not presently used for recreational boating.

Approximately 3.5-Acres of the Scow Bay site covering both lots has been leveled and graded. The surface is a combination of pavement and gravel. The Haul-out Ramp needs maintenance and is not suitable for trailer boats. It is also too short for use during throughout the tidal cycle. The upland area, west of Mitkof Highway supports the Scow Bay Volunteer Fire Department station and training tower. It also supports an Alaska DOT storage yard and maintenance facility. Conflicting use of the uplands and multiple owners/jurisdictions constrains the efficient development of haul-out facilities at Scow Bay.

2.5 Papke's Landing

Figure 2-6 – Papke's Landing



Papke's Landing is a State of Alaska-owned public access point approximately 10-miles south of Petersburg Harbor on the Mitkof Highway as shown by Figure 2-6. The Papke's Landing site has approximately 0.5-Acres of upland parking with a small launch ramp and a 100-foot float on Wrangell Narrows. The launch ramp, owned by the Alaska State Department of Natural Resources (ADNR), is only usable at high tide and is in poor condition. The float is owned by ADOT&PF. It is located further from the shore and is usable throughout the full tidal range. A 300-foot pedestrian trestle connects the Papke's Landing float to the shore. A recent conditions assessment (see Appendix C – Conditions Assessment) found the trestle to be in fair usable condition, but the float to be in poor condition, requiring repair or replacement. Petersburg Borough has recently acquired property at Papke's landing, but currently does not have a plan for development. This is an important facility for sport fishing, recreation, and tourism; however, conflicting ownership and jurisdictions impedes a coherent improvement program for the site.

3. Issues and Challenges

3.1 Managed Sustainability

The fisheries currently pursued by Petersburg vessels are successfully maintained at a highly sustainable level. A key tool for managing this resources has been to limit the harvest based on estimated fish populations. Therefore, the overall Southeast Alaska annual catch is likely to remain at its current level within naturally occurring species fluctuations. This consistent resource supply means that any increase in catch or landings by one community will generally result in a decrease by another—a zero-sum game—and fishing communities must necessarily compete for vessels and landings. As Petersburg Harbor Department depends on return of the Raw Fish Landing Tax for about \$400,000 of their operating income, successfully competing for local landings is key to maintaining the current harbor.

As competition for this resource increases, the larger boats have been more successful at crabbing in the winter or fishing the Gulf during the spring and fall. The result is that larger, more efficient boats are harvesting a greater percentage of the available resource and a shift of permit holders to the largest seine vessel limit of 58-feet in length. The observation has also been made that limit boats are “bulking up” (i.e., getting larger without increasing in length), in order to fish a broader variety of fisheries and to maximize their efficiency in achieving the maximum Total Allowable Catch.

3.2 Harbor Facility Configuration

Petersburg has a well-equipped commercial fishing harbor convenient to the processors and to most of the amenities that vessel operators need. Petersburg Harbor compares very closely with that of Wrangell; the nearest competing commercial fishing community. A distribution plot of berth count by length, shown in Figure 3-1 illustrates this similarity.

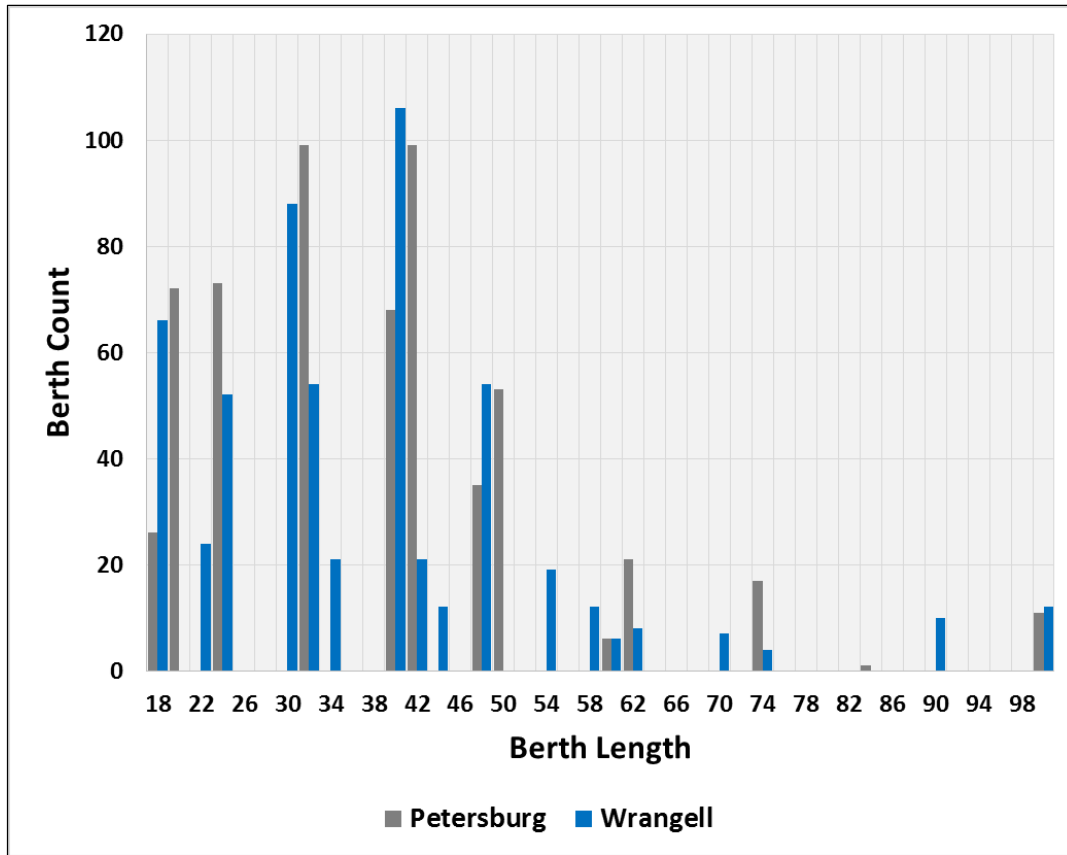
This chart shows that both communities have a very similar distribution of berth sizes and counts. It also supports the understanding that both communities compete for vessels of the same size and type. Petersburg has about 580 berths in operation compared to Wrangell’s 576 berths¹; and Petersburg has an average² berth length of 38.1-feet as compared to Wrangell’s 37.8-feet. Relevant difference between the two communities are:

- a) Petersburg has three active processors that handle 126 million pounds of product, as compared with two in Wrangell that handle only 5.8 million pounds
- b) Wrangell is more exposed to open water and requires breakwaters for wave protection, which increases Wrangell’s cost of harbor development and limits their harbors’ expansion.
- c) Wrangell has a larger boatyard and vessel haul-out facility than Petersburg.

¹ With some approximation made for side-tie berths in both communities.

² Weighted by number of berths in each size category

Figure 3-1 – Berth Distribution by Community



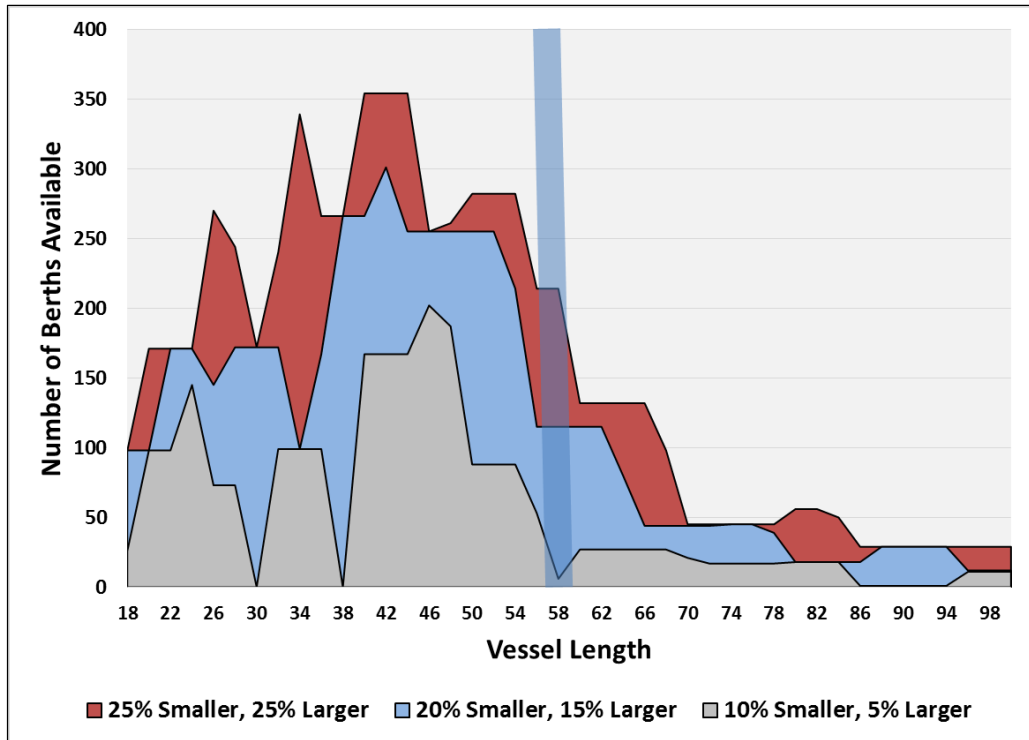
Data Source: Petersburg Harbor Department, Wrangell City and Borough

Since the fishery is unlikely to expand and the number of active vessels may actually decline, the future demand for additional berths will likewise remain static. However the vessel size distribution will likely change in coming years with more of the fishery concentrated in larger vessels. Therefore, Petersburg’s challenge will be to meet the moorage needs of the current fleet while planning for a shift toward larger vessels over time. Figure 3-1 also illustrates that available slips are concentrated in the 30-foot to 42-foot range with a corresponding shortage of berths in the key 58-foot to 62-foot range.

Currently, any mismatch between vessel length and available berth length is met by utilizing a larger berth or by overage (i.e., allowing the vessel to “overhang” a smaller berth). The State of Alaska policy is that a vessel must not be more than 10 feet longer or shorter than its berth length: a policy that offers considerable flexibility in assigning berths. However for smaller berths, a 10-foot mismatch can cause problems, particularly where a larger vessel overhangs into a fairway, constraining berthing and maneuvering by other vessels. Petersburg Harbor generally applies the 10-foot policy to vessels 58-feet and longer, resulting in approximately 21-percent overhang when a 58-foot vessel is berthed in a 48-foot space. Similarly, it results in a 17-percent underutilization, or “underhang” of a 68-foot berth.

To evaluate the sensitivity of harbor berthing to overhang and underhang, a series of scenarios were developed using various percentages of allowable vessel mismatch within the existing Petersburg Harbor berth inventory. Figure 3-2 illustrates three scenarios where the vessels are allowed to be smaller or larger than the berth by a given percentage.

Figure 3-2 – Berth Availability



Data Source: Petersburg Harbor District

The shaded areas show that the number of berths available to each vessel increases with increasing vessel mismatch to berth length. For the limit seiner length (i.e., 58 feet, the vertical blue band), this figure shows a critical shortage of berths if the vessel is only permitted to berth with 10-percent overhang and 5-percent underhang. As these constraints are relaxed, the number of berths available increases. At 15-percent overhang and 20-percent underhang, there are over 100 berths available. At 25-percent overhang and 25-percent underhang, there are over 200 berths in the harbor that could accommodate 58-foot seiners.

This analysis shows that as commercial vessels “bulk up” toward the 58-foot limit, there has been a growing tendency to allow vessels to overhang or underhang their allotted berths. It also suggests that there may be a shortage of berths in the 30-foot to 38-foot range. Presently, the Harbor Department is actively managing berth allocation and the issue of vessel mismatch has not caused significant problems. In addition, new harbor construction has increased the number of larger berths. Future planning should consider continuing this trend, particularly when finger floats are replaced in the South Harbor.

3.3 Facility Conditions

The waterfront facilities of Petersburg Borough have been constructed and reconstructed over a period of many years. They range in age from nearly new to over thirty years old. With a few exceptions, the facilities are in good serviceable condition. However, there is a backlog of deferred maintenance and some areas of the facility could become unusable within five to ten years. A detailed assessment of selected waterfront facilities was performed in October 2014 and is attached to this report in Appendix B.

3.3.1 North Harbor

In 2013, the existing floats, along with all existing timber pile along with the gangway and existing timber deck and catwalk adjacent to the harbor office were removed. A new approach dock, gangway and float system was installed in a layout that increases the average north dock berth length. The remaining existing elements of construction of immediate concern are the tidal grid, the gangway and skiff float, a repurposed troller float located at the end of the skiff float, and an existing timber launch ramp adjacent to the skiff float.

3.3.1.1 *Timber Boat Grid and Catwalk*

It is expected that the northern group of timber boat grid sleepers and associated pile will eventually be replaced by an upgraded boat grid. Our understanding at this time is that this grid sees fairly consistent use by harbor patrons. The southern group of timber boat grid sleepers, along with the existing timber catwalk above them, on the other hand, will likely not be replaced upon demolition.

3.3.1.2 *Approach Dock, Gangway, Skiff Float and Troller Float*

It is expected that the existing approach dock, gangway, skiff float and troller float will eventually be replaced. The current condition of this system is fair, and it is expected that it will not be serviceable beyond another 10-15 years.

3.3.1.3 *Timber Launch Ramp*

The existing timber launch ramp deck and support piles are badly deteriorated and it will not be serviceable beyond another 5 years without significant repairs or maintenance.

3.3.2 Middle Harbor

In 2005, the existing Middle Harbor floats were removed and replaced, along with all existing piles and the existing gangway. This facility is generally in good conditions with the exception of the timber approach trestle. It is expected that at some point this structure will need to be either upgraded, or replaced altogether within the next twenty years.

3.3.3 South Harbor

The existing South Harbor has undergone renovation and repair over the past ten to fifteen years. Presently, areas of concern include a few of the finger floats, mainwalk Float D, and the existing gangways.

3.3.3.1 *Vessel Stall Floats*

Many of the older existing finger floats have begun to lose freeboard, and some are experiencing significant rotational twist about their longitudinal axis. It is anticipated that replacement of these stall floats may become necessary in the near term.

3.3.3.2 *Mainwalk Float D*

The current condition of mainwalk float "D" is fair to poor, and it is expected that it will not be serviceable beyond another 15 years. This portion of the South Harbor is over thirty years old and will need to be replaced entirely.

3.3.3.3 *Gangway Issues*

The seaward end of the existing gangway has experienced long-term issues with binding in its lateral restraint system. In addition, it is possible that this issue has been the cause of damage observed at the boundaries of the existing gangway landing float with other adjacent floats. Additionally, the existing

gangways are too short for the Petersburg Harbor tidal range and are not compliant with the Americans with Disabilities Act (ADA).

3.3.3.4 Utility/Net Float

The current condition of the utility float is poor, and it's expected that it will not be serviceable for its current usage beyond the next 5 years. The float has suffered apparent damage and decay to the timber sills that support the flotation billets.

3.3.3.5 Papke's Landing

Presently a State of Alaska asset, managed by the Alaska Department of Transportation and Public Facilities (ADOT&PF), Papke's Landing is a long approach, gangway and floating dock facility serving small transient watercraft. The timber approach and existing gangway are in good condition. However, the timber float is in poor condition, and it appears to be at or near its useful life. Without repair or replacement, it is not expected to be safely useable beyond the next 5 years.

3.3.3.6 Kupreanof Landing

Presently a State of Alaska asset, managed by the Alaska Department of Transportation and Public Facilities (ADOT&PF), Kupreanof Landing is a long approach, gangway and floating dock facility serving small transient watercraft. The timber approach is in fair condition, with several issues requiring attention. Given the age, condition, and location of the structure, an in kind replacement may be a better long term solution than repairing only the damaged portions.

The timber float is in fair to poor condition, and it appears to be nearing its useful life. It is recommended that the float be replaced with a heavy duty concrete, timber, or steel pontoon unit. Without repair or replacement, it is not expected to be safely useable beyond the next 5 years.

3.4 Budget Constraints

In 2006, the Petersburg Harbors were transferred from ADOT&PF ownership to the borough (then City of Petersburg). This transfer resulted in a significant unfunded deferred maintenance budget not covered by harbor revenues. Since 2006, many harbor repairs and upgrades have been completed, but the backlog of deferred maintenance and facility depreciation continues to increase. Berth lease rates have recently been adjusted upward and harbor berth revenue has increased by an aggregate 2.8-percent annually. The rate increase most significantly impacts larger vessels, and additional moorage rate adjustments are under consideration.

The Harbor Department also collects port charges for various services. These charges are less than 14-percent of the total, but revenue from port charges increased by 4.4-percent annually since 2006. Combined harbor operating revenues from berth leases and port charges have grown by 2.9-percent annually. If outside capital funding and fish tax recovery are added, the total operating revenue can be shown to have grown by 4.4-percent annually. Despite this, the Harbor Department operates at a loss: a loss that does not appear in the cash balance, but that is apparent when depreciation of harbor assets is included. By deferring maintenance items, Petersburg's harbors achieve a positive cash flow but continue to accrue and increase their present negative balance of unfunded depreciation.

In 2013, Petersburg incorporated as a 3,829 square mile borough that includes many of the smaller communities and State-owned properties on Mitkof Island, Kupreanof Island and the adjoining areas. Future facilities transferred from the State to the borough will require increasing the backlog of deferred

maintenance. Although capital projects can still be funded through State and Federal matching grants, Alaska State revenues are in a period of significant decline and serious budget cuts mean that outside capital funding will be reduced for outlying areas such as Petersburg Borough.

Borough residents are generally rely on local resources, harbor revenues, and State matching funds to fund Harbor capital projects. However, harbor revenues have not been sufficient to keep up with capital maintenance and construction along the Petersburg waterfront. Additionally, the trend for some may be to make use of viable haul out storage options and only using Petersburg Harbor's transient moorage berths during the fishing season.

This combination of reduced State and Federal support, increased borough financial responsibility, and shifting harbor revenue streams significantly impairs the borough's ability to fund needed repairs to existing harbor facilities, and future capital projects.

4. Goals and Strategies

The primary goal of the Waterfront Master Plan is to better meet the immediate, near-term and longer-term needs for waterfront and harbor facilities in Petersburg and throughout the borough. The plan must describe facilities that support commercial fishing and other waterfront uses that drive the borough's economy.

4.1. Commercial Fishing and Fish Processing

Over the past decade the demographics of Petersburg have shifted, the commercial fishing and processing industry has changed, and the commercial fishing fleet has consolidated. Improvements to the harbor must reflect these changes and enhance the efficiencies and support of the commercial fishing fleet:

- a. Developing facilities that respond to the trends and opportunities in the industry. In general, this means a shifting towards larger vessels as opposed to expanding the number of berths.
- b. Making necessary improvements in the North, Middle and South Harbors to improve functionality and optimize capacity (e.g., replacing and/or upgrading components of the South Harbor; working to relieve parking congestion in the North Harbor.)
- c. Working to sustain existing and to support new on-shore fish processing facilities in Petersburg (e.g., by providing convenient space for bunkhouse expansion.)
- d. Developing Scow Bay as an area to expand harbor services, accommodate new fish processing capacity, and develop boat repair and maintenance facilities.
- e. The Alaska Marine Lines (AML) container transshipment terminal in Scow Bay represents an important shipping asset for the borough and a critical component of the fish processing industry. Long-term plans for container service to Petersburg should be incorporated into the overall borough Comprehensive Plan.

4.2. Waterfront Access and Recreational Uses

While commercial fishing will remain the dominant use and focus of waterfront facilities, the Master Plan recommends that important secondary uses, such as recreational fishing, outdoor excursions, and waterfront access, be integral to overall borough waterfront planning.

- a. Improving Scow Bay boat launch and haul-out capabilities for smaller commercial boats, for recreational use, and for commercial tourism activities. At least one wide lane at a 12-percent (i.e.,

7 degree) gradient should be provided to accommodate a hydraulic trailer. This lane could also be used for recreational launch, noting that this represents the minimum recommended slope.

- b. Improving the harbor's ability to accommodate visiting yachts and small cruise ships.
- c. Working within the borough to sustain and improve recreational boat launch facilities in locations south of Petersburg's downtown harbors.

4.3. Waterfront Development Planning

The Downtown Petersburg waterfront is currently comprised of intermingled State, harbor and privately-owned properties. Land use in the downtown area should be rationalized to ensure that water-dependent uses are given priority and have sufficient land for expansion and improvement:

- a. Identifying opportunities to shift non-water-dependent public uses to other more suitable locations, thereby freeing up waterfront land for uses that directly benefit from their location.
- b. Changing zoning policies to be more strategic about the use of waterfront land for water-dependent uses; focusing on commercial fishing, but also including tourism and high-value residential uses.
- c. Managing waterfront uses to minimize conflicts between commercial fishing and other uses.
- d. Rationalizing, expanding and improving parking along the entire waterfront to balance harbor tenants' needs with downtown commercial use and visitor/public access.
- e. Maintaining a good working relationship between the Borough, the Petersburg Economic Development Commission, the ADF&G and USCG.

4.4. Financial Security

Petersburg Harbor has self-identified unfunded depreciation and inadequate long term planning as their primary weaknesses. The Master Plan must anticipate future costs and State budget shortfalls to ensure long-term viability of the harbor:

- a. Considering concessions and Public-Private Partnership (P3) arrangements to develop project financing without increasing borough debt. Private concessions could also be considered for some of the harbor facilities.
- b. Adjusting fees to better cover costs without adding undue financial burden to harbor tenants.
- c. Creating service areas to develop outlying facilities (e.g., Scow Bay, Papke's Landing) as extended elements of the local waterfront community. These service areas could have their own budgeting and funding that is independent of the Harbor Department.

5. Implementation Tactics

Given the challenges outlined in Section 3 and the goals and strategies developed in Section 4, a specific list of projects and development tactics necessary to implement the strategies has been prepared for the Petersburg waterfront. These tactics are based on public response, interview with harbor and waterfront users, Harbor Department recommendations, and the Condition Assessment recently performed.

To the extent possible, a priority has been assigned to each of the major projects. Those projects that are necessary to maintain harbor functions or that will result in an immediate improvement to waterfront industry and recreation are assigned a High Priority. Projects that will be good to have in the near term or that could be developed through a public-private partnership are given a Medium Priority. Long term projects, projects that will require significant outside funding, and projects that may not

currently be feasible are assigned a Low Priority. The priority assignments are only recommendations and are subject to funding available and changing needs throughout the Borough. Therefore, priorities are likely to shift as needs, opportunities and funding develops. A general location for all of the projects is shown on the map in Figure 2-1. The individual projects within Petersburg Harbor are shown in Appendix A.

5.1 General Harbor Improvements

5.1.1 Drive-Down Marine Facility Improvement

Phase 3 of the Drive-Down Marine Facility consists of approximately 300-feet of vertical bulkhead berthing along the east side of the new drive-down staging area. This project will serve as a loading area for commercial fishing gear as well as for deep water mooring of tour ships and larger vessels when needed. Phase 3 has been partially funded, but the Harbor Department currently lacks sufficient funding to complete the project. A reduced project may be possible within the current budget limitations.

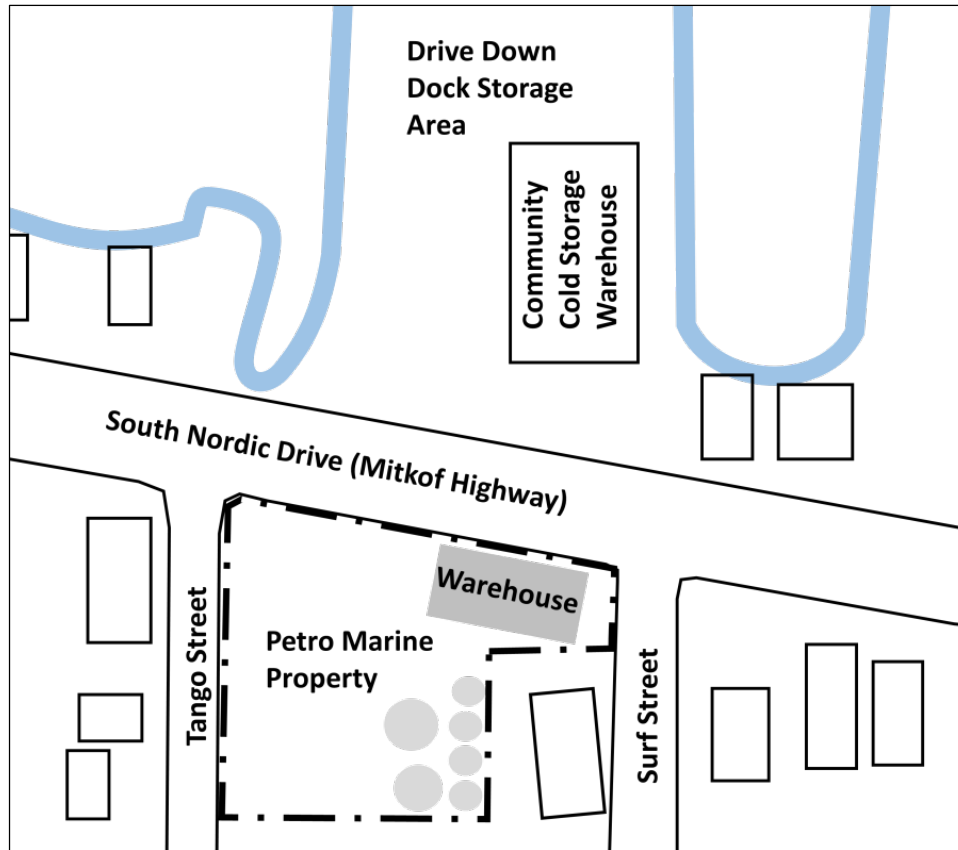
As a High Priority, the Harbor Department should develop a plan to build a portion of the Drive-down Dock, Phase 3 bulkhead to provide additional vessel loading and work area. This plan should make maximum use of the available funds, and should be expandable to the full project when additional funds are identified. Bait houses that are presently stored near the Petersburg Port Dock (i.e., fuel float pier.) could be moved to the Drive-down Dock fill area mounted/demounted from the new Phase 3 bulkhead. This would free the bait house storage yard for expanded ship-repair and future USCG needs.

5.1.2 Harbor Maintenance Shop

The current maintenance work area is located in small room within the harbor office building. This area also serves as supply room and storage area for all aspects of harbor services and offers no outside workspace for maintenance projects. Maintenance equipment is currently stored in shipping containers in the Middle Harbor parking lot and port storage areas. This combination reduces available tenant parking and provides neither secure equipment storage nor work areas. Petro Marine Services Inc. has presented a proposal that Petersburg Borough consider a trade of a portion of the borough-owned waterfront property Petro Marine currently leases (i.e., a gas station and storage building) for property Petro Marine currently owns property along South Nordic Drive (i.e., a small warehouse building and storage lot) across from the South Harbor and Petersburg Drive-Down Facility. Relocation and consolidation of harbor maintenance equipment, supplies and activities to this site would relieve some pressure on the North Harbor parking area and would significantly improve the Harbor Department's maintenance capabilities.

As a High Priority, the Harbor District should acquire the Petro Marine Services property and warehouse. All maintenance activity should be moved from the Harbor Department's offices and the equipment currently stored in various AML container vans in both the Middle Harbor parking lot and port storage areas. This will generate additional parking for the North and Middle Harbors and will improve harbor maintenance capabilities. The Petro Marine Services property also includes an open area directly across from the new Drive-Down Dock that could be leased for gear storage. This would help reduce the visual impact of gear stored along the waterfront.

Figure 5-1 – Petro Marine Services Property Acquisition



5.1.3 Covered Work Area

As a Low Priority project and as funds permit, construction of a covered work area for nets and equipment has been recommended for the filled staging area adjacent the Drive-down Dock. This work area could also serve as a congregation or muster point for cruise ship lightering passengers arriving at the Drive-down Dock float or at the future bulkhead berth area.

5.1.4 Coast Guard Petersburg Moorings

The USCG's Petersburg Moorings Facility is located at the foot of the Petersburg Harbor Public Dock. The USCG maintains several small vessels either in the water or on trailers for routine patrol and emergency response. Additionally, they berth a 110-foot Island Class Cutter at the facility. The Coast Guard has plans to upgrade to a larger 154-foot class Fast Response Cutter. If the bait houses can be moved to the Drive Down Dock area, then additional uplands could be available for Coast Guard expansion.

As a Medium Priority project, and as space becomes available, future plans should include accommodations for the larger 154-foot class vessel and additional upland support.

5.1.5 Harbor Security Boathouse

As a Low Priority project and as funds permit, construction of a dedicated boathouse for the Harbor Department's security boat would enhance emergency response time and reduce vessel maintenance costs.

5.2 North Harbor Improvements

5.2.1 Skiff Float and Troller Float

The skiff float is in fair serviceable condition but is not likely to remain useable for longer than another ten years. The 50-foot access gangway is too short for the Petersburg tidal range and is too steep and slippery at low tide for safe pedestrian access. The troller float installed at the end of the skiff float is in good serviceable condition and depending on usage and maintenance, it can be expected that the troller float has 15 or more years of remaining useful life.

As a Medium Priority the skiff float should be replaced with new timber or concrete float units and a new 80' long ADA compliant gangway should be installed. At a minimum, safety appurtenances such as fire extinguishers, life rings, and safety ladders should be installed. It may be possible to effectively increase the water depth at the float by moving it out approximately 30', at the same time a new longer gangway is installed. Despite the relatively good condition of the troller float, it may be desirable to replace it when the skiff float is replaced.

5.2.2 Tidal Grid

The North Harbor Tidal Grids are in fair to good condition, with some rotted support piling. The timber retaining wall adjacent to the grid is generally in fair to poor condition. The wall section south of the Harbor Master's office has deteriorated. The retaining wall to the North of the Harbor Master's office is being undermined and the lower board should be replaced.

As a High Priority the North Harbor retaining wall should be replaced. As a Medium Priority the southern section of the North Harbor Tidal Grid should be repaired.

5.2.3 North Launch Ramp

The North Launch Ramp is a timber structure nearing the end of its useful life span. The higher elevations of the ramp are in fair condition, while the lower half is in poor condition. The timber bearing piles are a cause for concern. Many of their tops are heavily split and some the connection hardware is damaged. At this time, the launch ramp should not be used by large vehicles.

As a High Priority, close and demolish the North Harbor Launch Ramp before it undergoes a structural failure. This will relieve some congestion on Harbor Way and add two new parking spaces. It will also reduce the Harbor Department annual maintenance budget.

5.2.4 North Harbor Parking

The current parking lot serving the North Harbor is shared by Middle Harbor users. Public parking along Harbor Way near the North Harbor access ramp also serves as parking for many downtown merchants and employees. Shared parking results in a significant lack of vehicle parking for the 134 stall holders and tenants and customers of the North Harbor. A sheet pile bulkhead behind the existing North Harbor has been proposed to increase the number of available stalls. However, the project cost may not be supported by the benefits. Another option would be to realign Harbor Way to increase the on-street parking. This option was found to be impractical with existing traffic patterns and uses on Harbor Way.

As a Medium Priority, work develop a bulkhead and on-street parking solution for increasing the parking available to the North Harbor. This development will require significant funding and should be coordinated with bulkhead repairs recommended by the Conditions Assessment in Appendix C.

5.2.5 Harbor Office/Shower/Restroom Facility

The Harbor Office was built in 1980 and is in need of heating, electrical upgrade, and other efficiencies. The 2011-12 City Building Maintenance Report concluded that there were numerous issues with the building and advised budgeting money towards these concerns. Existing shower and restroom facilities located in building adjacent to the Harbor Office have been in place since building was constructed in 1980 and require significant repair or replacement.

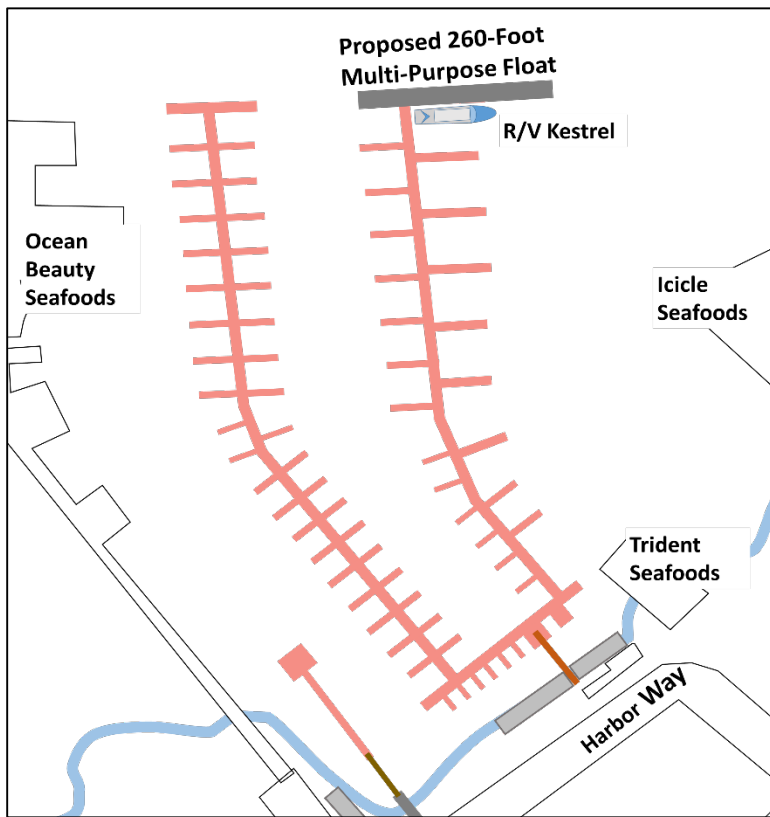
As a Medium Priority, and a funds permit, repair and upgrade the Harbor Office building and shower and restroom facilities.

5.2.6 Multi-Purpose Float

Diversification of the Petersburg economy depends on developing other sources of employment and external revenue. One recommendation is to increase Petersburg’s capacity for small cruise vessels and visiting yachts.

As a Medium Priority, and a funds permit, construct a new “Multi-purpose Float” as a 260-foot addition at the end of the North Harbor Main Float. It should also be capable of berthing two large yachts or small cruise ships up to 250-feet in length. The Multi-purpose Float could include a moveable gate to provide DHS and the Federal Customs and Border Protection (CBP) security with a designated, secure portion of float when needed. The float will also function as a home port for the ADFG 102-foot M.V. Kestrel when it is in Petersburg.

Figure 5-3 – Multi-Purpose Float and Improvements



5.3 Middle Harbor Repairs and Improvements

5.3.1 Middle Harbor Gangway Approach

The existing Middle Harbor gangway is in good condition. However, the timber gangway approach is in fair condition overall and will require repairs to some pile caps and the diagonal pile bracing, or replacement with a steel pile supported structure. The timber deck, handrail, and stringers appear to be in good condition.

As a Medium Priority, remove the access ramp and demolish the existing approach pier. Reconstruct the approach and re-use existing access ramp. Provide fire and fall safety improvements to the floats and approach pier.

5.4 South Harbor Repairs and Improvements

5.4.1 South Harbor Gangway Replacement

Many of the cruise ships calling Petersburg tie at the 240-foot Transient Float at South Harbor Float C. The existing South Harbor gangways are only 65-feet in length and do not comply with current ADA guidelines. These gangways are especially difficult for users to negotiate at low tides. The steep slope is exacerbated by the elevated shore-side landing necessary to permit small boat access to the “400 Series” berths located behind the South Harbor connecting float.

As a Medium Priority, the South Harbor will require a pair of new 80-foot long ADA-compliant aluminum pedestrian gangways to replace the current steel gangways if cruise ships are to continue using the Transient Float. When the gangways are eventually replaced, the north landing will likely need to be modified to accommodate an ADA compliant gangway.

5.4.2 South Harbor Floats

The older portions of the existing float system are in overall fair condition. The facility receives regular maintenance and care which may extend the useful life. It can be expected that the thru rods, wales, and the concrete modules themselves will eventually require replacement as a single or phased construction project.

As a Medium Priority, replace the older fingers and main walkways at South Harbor. Replace the north berths of Float C (i.e., numbers 601 to 619) with 58-foot berths, and densify if possible. Replace Float D with 58-foot berths on the south side, holding the fairway at 120-feet; and construct the maximum practicable side-tie transient berth length on the north side (i.e., likely between 80- and 120-feet.)

5.4.3 South Harbor Utility Float

The existing 12-foot wide by 160-foot long Utility Float (Seiner Float) was designed to accommodate two seiners during gear overhaul or repair. The float serves as the chief location for much of the harbor’s commercial fishing gear maintenance work during the annual fishing season, but it is now 30 years old and in need of replacement. The main problem with the Utility Float is that it no longer has sufficient buoyancy to support the gear from two seiners simultaneously.

As a High Priority, it is recommended that the existing float be replaced within the next 5 years. A heavy duty timber or concrete float with a high live load capacity is recommended at this location. Installation of sacrificial anodes on the guide piling is recommended if they are to be reused for the replacement float.

5.4.4 South Harbor Launch Ramp Improvement

Presently there are two launch ramps in downtown Petersburg: a single-lane ramp at each of the North and South Harbors. With over 500 launch ramp permit stickers sold annually, there is a large demand for the ability to launch trailerable recreational boats (i.e., up to 32-feet in length). The North Harbor Launch Ramp is only usable at high tide and may be closed in the near future. Therefore waiting times for boat launch and recovery at the South Harbor launch ramp can be excessive, particularly during peak recreational fishing periods.

The Harbor Department wishes to expand the South Harbor Launch Ramp to provide more capacity. This activity is considered Low Priority, as the property necessary for expansion is not presently available. South Harbor parking would also require expansion to accommodate this increased trailer parking activity.

5.4.5 Maintenance Dredging

The South Harbor basin was originally dredged in the early 1980s in preparation of the South Harbor construction, completed in 1984. Since capital dredging was completed, natural sloughing and accretion has filled behind the South Harbor connecting float and rendered approximately 74 small berths unusable at low tide. Significant sediment has also accreted between the South Harbor and the Middle Harbor at the seiner's Work Float and the ADF&G Float near the entrance to Hammer Slough.

As a Medium Priority, and as funds become available, the Harbor Department must dredge behind the connecting float to prevent damage to the float and its connections to the Main Floats as well as increase usability of the 400 series slips.

5.5 Waterfront Property Acquisition and Development

5.5.1 Harbor Way Properties

Parking for the North and Middle Harbors is constrained by other uses along Harbor Way. Some of the properties fronting Harbor Way are either presently available or may become available in the future. As a Medium Priority and as funding permits, the Harbor Department should consider acquiring this land to expand parking and increase waterfront access (see section 5.2.4).

5.5.2 Crane Dock Parking

Several properties along Sing Lee Alley, between the South Harbor Crane Dock parking area and Mill Slough could be attractive for future expansion of the Crane Dock parking area, or for other maritime uses. These properties are presently utilized for residences or small businesses, but could be considered for future acquisition. As a Low Priority and as funding permits, the Harbor Department should consider options for acquiring property near the South Harbor Crane Dock to support future marine uses.

5.5.3 South Harbor Launch Ramp

Presently, the South Harbor launch ramp cannot be expanded due to privately held property immediately south of the ramp. Acquisition of two properties between the South Harbor Launch Ramp and the Community Cold Storage would be necessary for expansion of the launch ramp. As a Medium Priority the Harbor Department should acquire this land and expand the South Harbor launch ramp by one additional lane (see section 5.4.4).

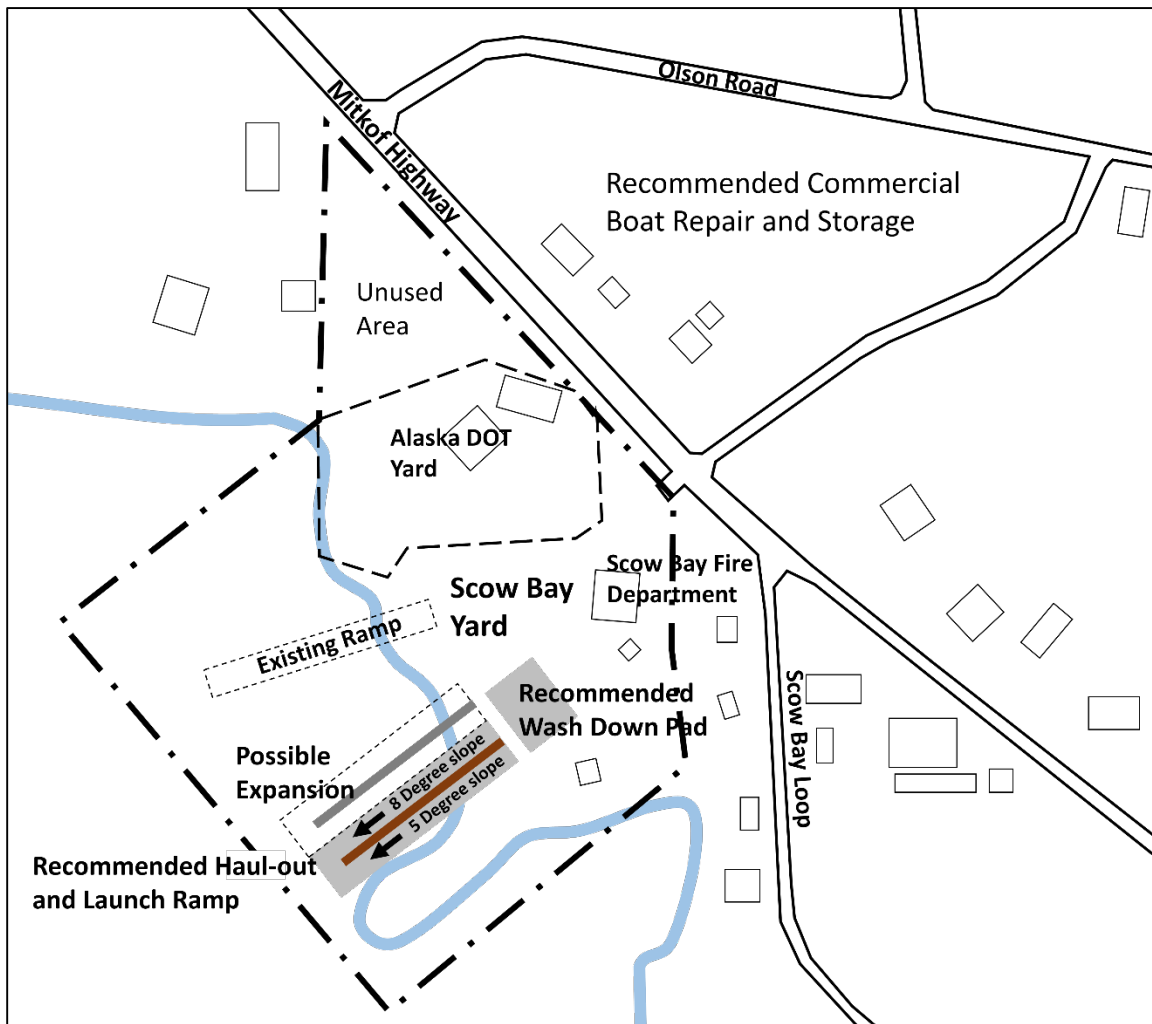
5.5.4 Petro Marine Property

A former warehouse and storage tank facility belonging to Petro Marine Service is located south of Nordic Drive, across from the Drive-down Dock staging area. The storage building would allow relocation of Harbor Maintenance and storage from the North Harbor. This property could also provide gear storage and long-term parking. As a High Priority, the Harbor Department should consider acquiring this site for Harbor Maintenance (see section 5.1.2).

5.5.5 Scow Bay Haul-out and Wash-down Facility

Currently, Petersburg Harbor users perform wash-down and below water repair of their vessels at two public tidal grids operated by the Harbor Department. Enforcement of existing Federal environmental regulations may curtail some of the currently-allowable maintenance operations at these tidal grids in the future. Therefore, the Harbor Department supports the development of a marine haul-out with a wash-down pad at borough-owned waterfront property in Scow Bay. This public facility could be operated in conjunction with a privately-owned vessel haul-out and storage facility at Scow Bay.

Figure 5-4 – Scow Bay Development



As a High Priority, the Borough should acquire the ADOT&PF Maintenance Yard adjacent to Scow Bay through land trade, purchase or long-term lease. Create a development plan for Scow Bay that not only includes existing private boat haul-out and launch operations, but also incorporates the ADOT&PF lot.

As a Medium Priority, the Harbor Department should construct a new ramp at Scow Bay. The turnaround area is planned for use as a small vessel work yard. This would include construction of a new ramp, a wash-down pad, and other improvements. The new ramp should be designed primarily to accommodate a hydraulic trailer, but should consider secondary need of launching trailerable boats.

5.6 Other Borough Waterfront Initiatives

As a High Priority repair and improve Kupreanof Landing float and access pier

As a High Priority work with AML to ensure that their barge container facility remains a viable link to Seattle-area markets and suppliers.

As a High Priority work with existing, emerging and potential commercial seafood processing interests to increase overall processing capacity in Petersburg.

As a Medium Priority, build a new launch ramp and paved parking at Papke's Landing.

As a Low Priority and as funding permits, improve launch ramps and paved parking at Banana Point and Blaquiere Point.

As a Low Priority and as funding permits, coordinate with the ADOT&PF's Alaska Marine Highway System (AMHS) on the possible repurposing and constructive future use of the South Mitkof Ferry Terminal.

6. Needs Assessment and Budget Estimates

6.1. Financial Considerations Summary

Petersburg Borough is preparing a Waterfront Master Plan to guide future funding and development needs of the community. The financial assessment of this Master Plan, as found in Appendix B, addresses considerations for managing existing port and harbor facilities as well as any new facilities arising from this planning initiative. It analyzes Petersburg's port and harbor facilities using a life cycle cost analysis approach and provides recommendations for ensuring financial sustainability. A high level summary of the financial findings and recommendations follows:

Petersburg is doing a good job of covering its costs with a combination of port and harbor revenues as well as a share of the fish taxes received from the borough. Analysis of the Financial Considerations finds that the existing port and harbor facilities in Petersburg are funded at approximately 90-percent of their full costs, from construction to operations and maintenance to replacement, based on a 50-year replacement cycle for major capital assets. This estimate assumes that the Harbor Department continues to receive \$400,000 per annum of Raw Fish Tax from the total that is returned to the Borough.

In addition to the Raw Fish Tax return, an across-the-board increase of 12-percent would “balance” the port and harbors budget. An overall rate increase of 12-percent is needed to bring revenues in line with costs, although annual inflation adjustments will be needed to maintain this financial position. It is recommended that the Harbor Department establish a policy of automatic, annual, inflation-based rate increases to ensure that revenues keep up with changes in the cost of operating and maintaining their facilities.

The Borough needs to save for the repair and replacement the vital facilities; existing and new alike. A gradual annual rate increase of an additional two-percent over the next decade would provide additional revenues to establish a Harbor Facility Capital Repair/Replacement Fund. Port and harbor facilities for the most part generate sufficient revenues to replace major facilities every 50 years. However, it would be prudent to implement an additional rate increase to ensure financial stability and strength and to grow a replacement fund for port and harbor facilities. Spreading this increase over time would reduce the burden placed on users. Implementing an annual rate increase of the inflation rate plus two-percent over the next would provide additional revenues to allow the Port and Harbor Department to grow a replacement fund balance to a recommended balance of \$4.0 million (in 2015 dollars) over the long term. This replacement fund would cover a substantial portion of the cost of large capital projects, with the assumption that the remainder of these capital costs would be covered secured other sources.

Facilities and acquisitions to support the Waterfront Master Plan will require more than \$10 million in funding, which could come from a mix of public investment and partnerships with the private sector. In addition to the existing port and harbor facilities, the Waterfront Master Plan recommends a number of new facilities and acquisitions that are expected to require more than \$10 million. These facilities could be developed with a mixture of public investment and public-private partnerships (P3). As new facilities are constructed, the Harbor Department should conduct a life cycle cost analysis for each facility to ensure that appropriate rates are put in place for revenues to cover life-cycle costs.

Additional details of the economic evaluation and a study of future harbor rates is included in Appendix B - Petersburg Borough Waterfront Master Plan: Financial Considerations.

6.2. Waterfront Needs Estimate

The waterfront needs described by the development and improvement tactics in Section 5 will require a significant investment for construction, operation and maintenance. For each of the specific items identified an approximate cost has been developed. These costs are for planning purposes only. They are not based on bid figures and should not be used for budgeting or bidding. More detailed costs for repair of harbor facilities is given in Appendix C.

6.2.1. Petersburg Harbor Needs Estimate

General Harbor Department Improvements			
Ref.	Project	Cost	Notes
5.1.1	Drive Down Phase III (50-percent project)	\$2,900,000	Phase III Drive Down Budget
5.1.2 5.5.4	Acquire Petro Marine Property	\$976,000	.61 acres at average waterfront property listing of \$1.6m acre
5.1.2	Harbor Department Maintenance Shop	\$118,000	\$30/sqft refurbish exist. bldg.
5.2.5	Harbor Office Upgrades	\$125,000	\$50/sqft to refurbish interior with minor exterior repairs
5.4.5	Maintenance Dredging (Mid. & So. Harbor)	\$724,000	\$20/cuyd dredge and dispose
5.5.3	Acquire properties at South Launch Ramp	\$900,000	.56 acres at avg. waterfront listing of \$1.6m acre
5.4.4	Construct second lane at South Launch Ramp	\$1,580,000	Based on Scow Bay estimate
5.2.6	Construct new North Harbor multi-purpose float	\$1,370,000	Derived From Drive Down Float Costs
5.1.5	Emergency Response Boathouse	\$200,000	Rough Estimate
5.1.6	Covered Work Area	\$200,000	Rough Estimate
	TOTAL	\$9,093,000	

North Harbor Repairs and Improvements			
Ref.	Project	Cost	Notes
5.2.1	Replace Skiff Float and Troller Float	\$1,400,000	From Condition Assessment
5.2.2	Renovate one North Harbor Tidal Grid	\$561,000	From Condition Assessment
5.2.3	Demolish Existing North Launch Ramp	\$50,000	From Condition Assessment
5.2.6	North Harbor Multi-Purpose Float	\$480,000	Derived From Drive Down Float Costs
	TOTAL	\$2,491,000	

Middle Harbor Repairs and Improvements			
Ref.	Project	Cost	Notes
5.3.1	Repair Middle Harbor Access Pier	\$450,000	From Condition Assessment
5.3.1	Improve Pier and Float safety equipment	\$240,000	From Condition Assessment
	TOTAL	\$690,000	

South Harbor Repairs and Improvements			
Ref.	Project	Cost	Notes
5.4.2	Float repairs and replacement	\$12,960,000	From Condition Assessment
5.4.1	Gangway Replacement	\$300,000	From Condition Assessment
5.4.3	Utility Float Replacement	\$313,000	From Condition Assessment
5.4.4	Launch Ramp Improvement	379,000	From Scow Bay Estimate
	TOTAL	\$13,952,000	

6.2.2. Outlying Borough Waterfront Needs Estimate

Petersburg Borough Waterfront Needs			
Ref.	Project	Cost	Notes
5.5.5	Relocate AKDOT facility at Scow Bay and acquire existing site	\$810,000	2.74 acres at average Scow Bay listing of \$54k/acre plus repl. cost of existing buildings
5.6.1	Construct Scow Bay replacement ramp facility and new public launch ramp	\$4,900,000	Based on Scow Bay estimate plus additional lane
5.6.2	Improve launch ramp at Papke's Landing	\$1,580,000	Based on Scow Bay estimate
5.6.2	Improve launch ramps at Banana Point and Blaquiere Point	\$3,160,000	Based on Scow Bay estimate
5.6.1	Renovate Kupreanof Landing Pier	\$1,400,000	From Condition Assessment
	TOTAL	\$11,850,000	

6.3. Private Commercial Initiatives

Petersburg Borough and the Harbor Department maintain a variety of assets that could be developed to provide additional facilities for residents and visitors. However, in many cases development and operating costs exceed the available budget. One possible option may be through a public-private partnership (P3) which could be used for the development of Scow Bay.

The borough could consider granting a concession for commercial use of Scow Bay in return for the concessionaire constructing, operating and maintaining certain public facilities. These facilities could include a launch ramp, a public Wash-down Facility, and short term trailer parking. The remainder of the site could be devoted to a private commercial boat haul-out, storage and maintenance facility. If the adjacent ADOT&PF maintenance yard were to be obtained by the borough, it would enhance the attractiveness of this concession.

This type of financing option, where a desired public facility is provided by a private entity in return for exclusive use of a borough-owned property could provide needed waterfront enhancements at a relatively low public cost. Such a model could extend to boat repair facilities, harbor amenities, and visitor attractions.

Appendices

Appendix A – Petersburg Harbor General Layout

Appendix B – Financial Considerations

Appendix C – Conditions Assessment