



Visitor Industry Management Plan

Petersburg Economic
Development Council
February 2021



FORWARD

Petersburg's visitor industry is an important component of the borough's economy. The industry provides new jobs and economic opportunity for residents and brings a measure of diversity to our local economy.

As with any industry, the visitor industry also presents new challenges and raises concerns, most notably about our sense of community and quality of life. While we can point to examples of what we do not want our community to become, the real challenge is working together to achieve the community we do want.

Toward that end, the Visitor Industry Management Plan identifies potential impacts of the visitor industry on Petersburg and makes recommendations for its management and future growth if the community desires to support expansion of this industry.

The PEDC Board of Directors commends the Visitor Industry Working Group for their collaborative effort over the past year. We also thank the many individuals who contributed to the plan by attending meetings and offering suggestions throughout this lengthy process. The result is an excellent plan that, if implemented, will serve the residents of Petersburg well.

Board of Directors
Petersburg Economic Development Council



ACKNOWLEDGEMENTS

The PEDC thanks the following individuals for their time and participation in the working group:

- Mindy Anderson
- Nancy Berg
- Nick Burns
- Angela Christensen
- Karl Hagerman
- Scott Hursey
- Paul Johnsen
- Mara Lutomski
- Cynthia Mathisen
- Carrie Martinsen
- Brenda Norheim
- Bryan Perry
- Scott Roberge
- Katie Trautman
- Chelsea Tremblay
- Lizzie Walsh
- Glorianne Wollen

Thank you to the following Petersburg Borough Departments for providing information, meeting space, and assistance in development of this plan:

Port and Harbors Department
Finance Department
Police Department
Community & Economic Development Dept.

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PLANNING WITH PURPOSE

The catalyst for formation of the Visitor Industry Working Group was a visit by a representative of an international cruise line in September 2018 regarding the possibility of a port of call by their 900-passenger ship. The community was split on whether visits by a vessel of this size represented an unacceptable impact on the community or an opportunity worth exploring for economic growth and diversification.

Even though the cruise line ultimately decided against adding Petersburg to its port of calls, the Petersburg Economic Development Council Board of Directors convened a group of stakeholders to make recommendations on how to best respond to potential visitor industry growth. The visitor industry has been included in various community planning documents over the years, but this was the first-time community residents and business



PURPOSE STATEMENT

The Visitor Industry Working Group will develop objectives and recommendations to address the goal of maintaining the balance between Petersburg's quality of life and the visitor economy while preserving Petersburg's authenticity and sense of place.

owners assembled specifically to discuss the future of this industry. Although the Working group was established to focus on the visitor industry, much of the discussions within the group related to the cruise ship industry however many of the recommendations are applicable to all aspects of the visitor industry in our community. Another more generalized discussion regarding independent travelers, lodge visitors and conference attendees can be found in Chapter 7 of the *2016 Petersburg Borough Comprehensive Plan Update*.

MEMBERS

The Working group consisted of interested residents, local business owners, and borough staff. A representative group of five members was selected by PEDC; the remaining members were selected by the Working group itself.

The composition of the working group was deliberate in promoting participation from the private sector. The group purposely limited the number of "seats" filled by representatives of nonprofit organizations and local government.

The Working group did not have a formal chair but operated with the goal of finding areas of agreement on practical strategies to address impacts and opportunities.

PLANNING PROCESS

In November 2018, prior to the formation of the Working group, the Petersburg Chamber of Commerce organized a town hall-style discussion focused on the possibility of a 900-

passenger cruise ship making a port call. This public meeting as well as subsequent public comments and discussions provided the initial opportunities to gather community input and identify the key issues for the Working group.

The Working group held its first meeting in January 2019. Once organized, the working group met every three weeks through the winter of 2019, recessed for the summer and resumed meeting through the fall of 2019 and into the early winter of 2020.

Meetings were held by the group as a whole, though usually participants worked in small focus groups. Focus group topics were determined based on research and discussion of the key issues. Each focus group worked independently to identify its major issues, gather facts, and develop a set of strategies to achieve its stated goals. As part of its efforts, the working group reviewed past comprehensive plan documents, community surveys, and other information related to the visitor industry. Each focus group recommendation was then reviewed by the entire working group prior to being incorporated into this document.

Working group meetings were advertised and open to the public, affording opportunity for public comments, ideas, and questions to be raised and vetted.

A draft plan was presented to the Petersburg Economic Development Council Board of Directors, then released for public review and comment in October 2020. The plan was finalized in February 2021.

SNAPSHOT OF PETERSBURG'S VISITOR INDUSTRY

The Alaska Visitor Statistics Program (2016) estimates Petersburg has approximately 14,000 visitors per year or a 1% share of the statewide market.¹ According to the State of Alaska data, Petersburg has the fewest number of annual visitors among the communities/regions surveyed. Petersburg itself has not conducted a visitor survey to determine annual visitation rates; the data provided here are estimates compiled from various sources.

PORT CALLS

Organized cruise ship visits can be traced back to the post-World War II era when the Alaska Steamship Company made stops with its 200+-passenger steamships along the Inside Passage, including Petersburg. Cruise ship volumes in Petersburg began to grow steadily from the late 1980's through 2008.

2019 CRUISE SEASON

Port Calls: 146

Passengers: 10,000

of Days with a Port Call: 79

Ships/Day: 1-4

Average passengers/day: 130

Most passengers in a single day: 450

The years following the Great Recession of 2008 took a heavy toll on the visitor industry, especially small cruise operators. In the last eight years, Petersburg has started to realize a steady increase in cruise ship calls from a low of 65 port calls in 2011 to 146 port calls in 2019².

ALASKA MARINE HIGHWAY SYSTEM

From the late 1990's to the early 2000's, an average of 10-12,000 passengers disembarked in Petersburg per year from the Alaska Marine Highway System (AMHS) ferries and the MV Columbia continues to be the largest passenger ship docking in Petersburg (capacity: 499 passengers). There is no way to distinguish between resident and visiting ferry passengers, but visitors are usually independent travelers who normally stay in Petersburg one or more nights before travelling on to their next destination. However, changes in the AMHS schedule has resulted in a steady decline in ridership over the last 10 years. The number of passengers disembarking in Petersburg dropped 60% since 2009. In 2019, only 3,548 passengers arrived in Petersburg on the ferries.³ It is unlikely this trend will reverse as reduced state budgets are likely to result in less ferry service in the coming years.

AIR TRAVEL

While AMHS traffic has declined, there has been a steady uptick in airport traffic. Airline passenger traffic to Petersburg has increased by nearly 25% since 2008. During the summer months of 2018, nearly 12,000 passengers deplaned in Petersburg.⁴ However, there is no mechanism to distinguish between resident and visitor arrivals and no formal survey has been conducted to differentiate these arrivals.

ECONOMIC IMPACT

In 2018, tour and charter operators reported over \$3.5 million in gross sales with an additional \$1.6 million in gross sales reported from hotels and B&Bs.⁵

The \$5.1 million only represents a small percentage of annual gross sales within the borough, but these direct economic impacts do not account for other direct spending, such as retail shopping and meals, that are often associated with visitor travel. These figures also do not account for indirect spending on local goods and services sold to tour, charter, and lodging operations (groceries, laundry services, seafood, transportation, repair, etc.), and induced spending, which is household spending of the income earned in the visitor industry and supporting sectors (for example, local expenditures of \$750,000 in hotel and lodge employee wages earned in 2019⁶).

For the municipality, the visitor industry remits taxes and fees. Businesses remit 6% in sales tax from purchase of local goods and services, although this is limited by a

MARINE PASSENGER FEE USES

The Working group recommends the following projects as priority uses for 2019 marine passenger fee funds:

- Add Public Restrooms
- Improve Wayfinding
- Install a Marine Pump-out station
- Add Interpretive Signs
- Improve Visitor Walking Map.

The Working group notes that several recommendations are not “projects and services that benefit the vessels” directly and additional consultation with tour companies and/or CLIA may be appropriate prior to expending funds.

In future years, the Working group recommends the borough consider convening an ad-hoc group to review uses for these funds.

(Priorities are noted with an asterisk (*) where they appear in the body of this document.)

\$1,200 sales tax cap, meaning large expenditures only pay tax on the first \$1,200 of an invoice.

The municipality also collects a 4% transient room tax from hotels and B&Bs on all overnight accommodations. The proceeds amount to an average of \$50,000 per year and are used to support the Chamber of Commerce and Clausen Memorial Museum.

Service fees, such as harbor moorage, water/electric/garbage pick-up, and wastewater pump off services, are collected from tour operators.

Lastly, 2019 was the first season the borough collected a Marine Passenger Fee⁷. These funds are designated for services and infrastructure rendered to and for the benefit of cruise ships and cruise ship passengers visiting the borough's harbors. A \$5.00 per passenger fee was assessed to all vessels carrying 21 or more passengers. In 2019, Petersburg received \$50,300 in marine passenger fees from commercial passenger ships.⁸

RECOMMENDATIONS

Recommendations are divided into six different topics. As mentioned previously, the focus group topics were developed primarily from community input received during town hall and other public meetings held prior to the formation of the working group.

Each focus group's recommendations begin with a statement of a goal and a brief narrative. Specific recommendations and possible strategies follow. Some focus group sections also include a series of "Frequently Asked Questions". These are intended to inform the recommendations, provide context for discussion, and specifically address questions raised both during public meetings and working group discussion.

In some cases, focus groups produced similar or identical recommendations. For purposes of clarity and brevity, these were consolidated in the most appropriate area.

Lastly, the recommendations in this plan should not be taken as a directive rather the Working group encourages a public process as part of any implementation effort.

QUALITY OF LIFE

Sustain a reasonable balance between visitor industry and the quality of life in our community.

MAXIMIZE LOCAL BENEFITS

Maximize benefits of the visitor economy to local residents.

INFRASTRUCTURE & PLANNING

Identify and prioritize infrastructure needs.

COMMUNICATION & PUBLIC EDUCATION

Improve communication between industry and community; provide accurate information.

QUALITY EXPERIENCE FOR VISITORS

Ensure visitors have quality experiences and services.

ENVIRONMENTAL/OUTSIDE AGENCIES

The majority of Petersburg's economic, recreation, and subsistence activities rely on marine resources.

A. QUALITY OF LIFE

GOAL: SUSTAIN A REASONABLE BALANCE BETWEEN VISITOR INDUSTRY AND THE QUALITY OF LIFE IN OUR COMMUNITY.

Protecting the residential quality of life is a prerequisite for the continued vibrancy of the visitor industry and sustaining the many economic benefits it brings. This goal, of maintaining livability in the face of ever-growing visitor industry seen throughout the region, is present in one way or another in every recommendation in this plan. Community residents have witnessed the impacts of increased visitor traffic on the quality of life in nearby communities. The sheer number of visitors has changed the character of neighborhoods, the make-up of downtown business districts, exacerbated traffic, and congestion and generated noise, trash, and pollution. Managing the visitor industry requires ongoing monitoring of the benefits and impacts as well as resident sentiment.

1. CREATE OPPORTUNITIES TO ASSESS COMMUNITY SENTIMENT FOR VISITOR INDUSTRY.

- Include visitor industry-related questions in future community surveys.

2. DEVELOP BASELINE INFORMATION AND MONITOR YEAR-TO-YEAR CHANGES, PARTICULARLY FOR CRUISE SHIPS.

- For example, numbers of port calls per year, visitors per season or visitors per day.

- Number of calls to the Chamber of Commerce's suggestion line per season.

3. CONSIDER ESTABLISHING A BOROUGH POLICY TO "TRIGGER" PUBLIC MEETING OR THE ESTABLISHMENT OF A WORK GROUP OR PUBLIC PROCESS TO EVALUATE IMPACT OF VISITOR LEVELS AND DETERMINE IF CONTINUED GROWTH IS DESIRED. POSSIBLE TRIGGERS:

- Over 246 port calls in a season (15% growth from highest year - 2002).
- 18,000 passengers (20% growth from 2006) or \$90,000 in marine passenger fee revenue in one season.
- Significant increase in demand for EMS services.

4. CONSIDER ESTABLISHING A PLANNING PROCESS FOR INFRASTRUCTURE IMPROVEMENTS ALLOWING FOR LARGER SHIPS TO DOCK (280'-400') OR IMPROVEMENTS TO LITERING FACILITIES.

5. CONSIDER INVITING TOUR OPERATORS TO BECOME PART OF THE COMMUNITY.

- Send letter suggesting donations to the Community Foundation, purchasing memberships to visit Museum, etc.

6. CONSIDER PROVIDING A COPY OF THIS DOCUMENT TO THE VISITOR INDUSTRY/TOUR OPERATORS.

7. EXPLORE WAYS TO MITIGATE PEDESTRIAN CONGESTION IN DOWNTOWN, AS NEEDED.

- Stagger walking tours; allowing free time for exploring downtown

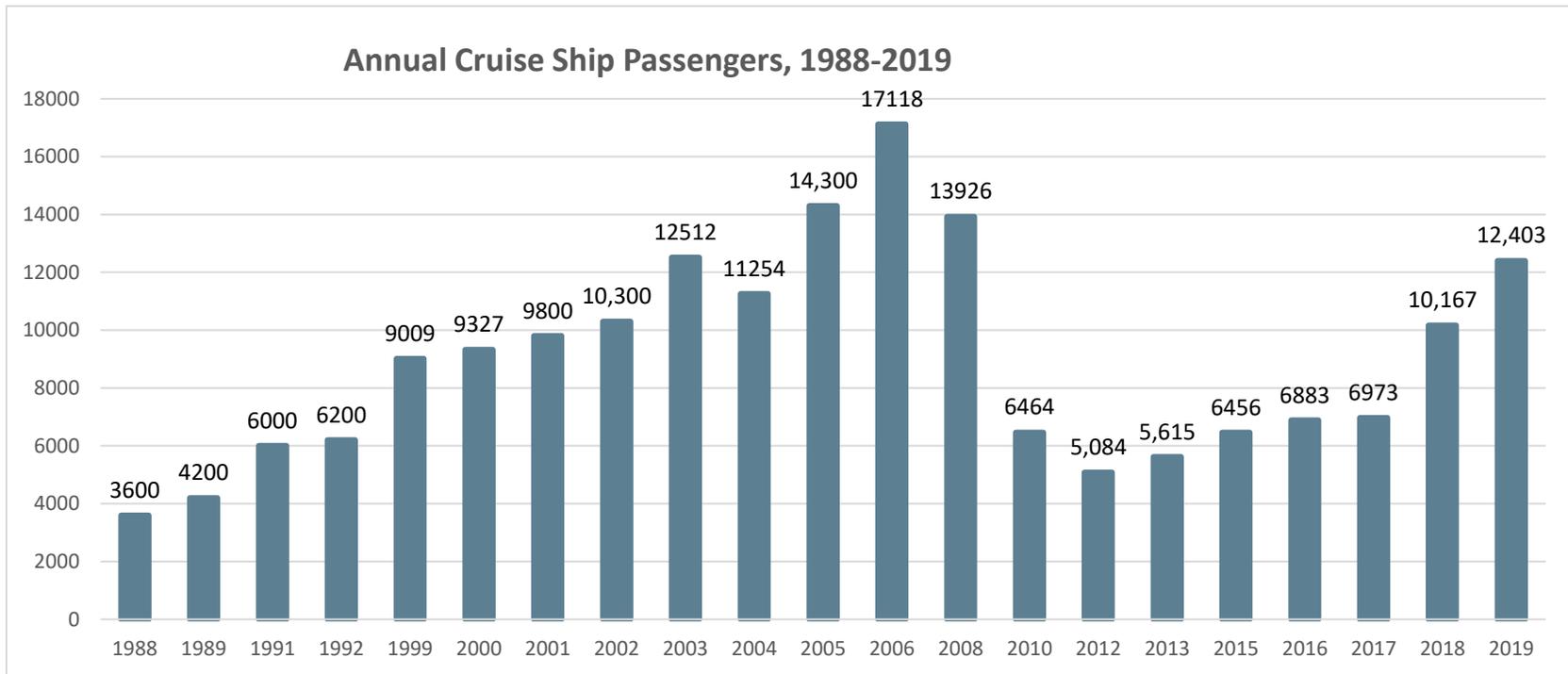
- Develop alternatives to being downtown; consider out the road options.

8. ENSURE RECREATION FACILITIES/TRAILS ARE AVAILABLE FOR LOCAL USE

- Identify which trails are better suited for visitors. Consider establishing local permitting system if visitor use is creating an impact.

9. PUBLIC SAFETY ISSUES RELATED TO LARGE-GROUP TOURISM SHOULD BE REFERRED TO APPROPRIATE ORGANIZATIONS OR COMMITTEES.

- Planned response to health issues (norovirus, flu, novel viruses) related to large group travel should be prepared and implemented as needed.
- RVs parking on downtown streets.



Frequently Asked Questions:

How many visitors arrive in Petersburg each summer?

The State of Alaska's Visitor Statistics Program estimated Petersburg has 1% of the state's visitor market with an estimated 14,000 visitors in 2016.⁹

What is community sentiment regarding the visitor industry?

Based on a 2015 community survey, overall support of the visitor industry is strong with 80% of respondents supporting the visitor industry in Petersburg. Residents indicated a strong preference for independent travelers (45%) and small cruise ships and organized tours (41%). In contrast, only 4% of those responding indicated support for large cruise ship type visitors. This is consistent with past surveys conducted in the community.¹⁰

How many cruise ship visitors arrive in Petersburg in during the summer?¹¹

Based on ship capacity and number of port calls, Petersburg could have had as many as 12,400 passengers visiting between May and September of 2019. Since most ships do not operate at full capacity, we estimate approximately 10,000 passengers arrived via commercial passenger ship between May and September¹². The single highest passenger day was in mid-August when four cruise ships with approximately 450 passengers arrived, and the MV Malaspina was docked at the AMHS terminal. For data for previous years, please see the figure, *Annual Cruise Ship Passengers, 1988-2019*.

What is the largest passenger vessel currently visiting Petersburg?

The largest vessel in terms of passenger capacity is the MV Columbia, which was designed to carry 499 passengers. In 2019, the largest commercial passenger vessels were the 264 passenger MV L'Soleal, and the 170 passenger MV American Constellation.

B. COMMUNICATION & PUBLIC EDUCATION

GOAL: IMPROVE COMMUNICATION BETWEEN INDUSTRY AND COMMUNITY AND PROVIDE ACCURATE INFORMATION.

A proactive effort is required to maintain open lines of communication and to ensure accurate information is disseminated and received by tour operators, local concerns are relayed in a timely and consistent manner, and the community's expectations are outlined clearly. The Chamber of Commerce's Visitor Information Center (VIC) can serve as a good source of information for both operators and visitors.

1. ESTABLISH SUGGESTION LINE DURING SUMMER SEASON (SEE JUNEAU BEST PRACTICES)¹³.

- Operated by Visitor Center. Distribute phone number to Police Dept., Harbormaster, etc.
- Email is forwarded to various entities in town. Harbor contacts skippers, as necessary.

2. ENSURE LOCALS HAVE GOOD INFORMATION TO DISSEMINATE.

- Develop a services directory with key phone numbers for the Visitor Information Center and local businesses. Include rental information for kayaks, bikes, cars, water-taxis, camping, RV options.
- Post updated cruise ship schedule on the borough's website or elsewhere so the public can access it. The public should know how many ships are coming per day and per week.

3. WORK TO PROVIDE CLEAR, CONSISTENT INFORMATION TO OPERATORS ON BOROUGH REGULATIONS AND BEST

PRACTICES AND NEW/UPDATED INFORMATION ABOUT COMMUNITY.

- Arrange for ship's naturalist/purser to visit the Visitor Information Center to get info for the summer. Provide incentive for naturalist/purser to visit.
- Provide information on how sales tax vs. marine passenger fee is being applied to operators.
- Develop video about best practices/expectations for cruise visitors; use of harbor.

4. INFORMATION ON REVENUE/EXPENSE TO THE BOROUGH

- Develop Public Service Announcements or advertising about importance of non-local dollars and summer dollars to economy.

5. BE DELIBERATE IN OUR MARKETING EFFORTS

- Develop general message about who we are and what we value.
- When we market Petersburg, be deliberate in effort to attract independent travelers seeking authentic experience.

6. FIND OPPORTUNITIES TO IDENTIFY LOCAL BENEFIT OF INFRASTRUCTURE AND OTHER INVESTMENTS FROM VISITOR DOLLARS

- Identify areas where visitor dollars have benefited residents, For example, many people are not aware \$1 million toward construction of the Commercial Drive Down Dock and \$1.3 million for renovation of the Port (Petro) Dock came from statewide Commercial Passenger Vessel Excise Tax (Cruise ship head tax).
- Present harbor projects to funding agencies as benefiting commercial fishing industry, visitor industry, and recreational users.

C. MAXIMIZE LOCAL BENEFITS

GOAL: MAXIMIZE BENEFITS OF VISITOR ECONOMY TO LOCAL RESIDENTS.

The visitor economy presents opportunities for economic growth and diversification. While the most visible signs of the industry are often the visitors shopping on Main Street or walking tours. Local businesses also provide many support services to the industry such as acting as local agent, providing laundry services, supplying fresh foods and flowers, and transporting passengers, crews, and gear. Maximizing the local benefits requires consistent and ongoing marketing about our community and catering to a different customer base, specifically out-of-town visitors. Also, it is important for tour operators to recognize that a strong local economy creates a more positive experience for their customers.

1. TO MAXIMIZE LOCAL BENEFITS, COMMUNITY NEEDS CONSISTENT MARKETING AND BETTER COLLABORATION, COMMUNICATION, AND COORDINATION.

- Improve communication, collaboration, and coordination between existing businesses and to inform entrepreneurs about new opportunities e.g. need for provisioners for film crews working in remote areas; promote area to film industry low-cost, million-dollar views.
- Need dedicated personnel to promote conferences, be on-the-ground coordinator, etc.
- Consider using a combination of funds: PEDC, increase Transient Room Tax by 1%, etc. to help pay for personnel.

2. ACTIVELY WORK TO ATTRACT INDEPENDENT TRAVELERS AND TOUR COMPANIES WHO USE LOCAL VENDORS.

- Independent travelers provide greater economic benefits than short-term visitors.
- Providing support services to tour companies can supplement existing businesses.
- Be deliberate in marketing efforts to attract independent traveler.
- Prioritize attracting tour companies who use local vendors.
- Continue advocacy to Legislature on importance of AMHS and impact of cuts to ferry on visitor industry (Most of our independent travelers arrive on the ferry).

3. EXPLORE WAYS TO PROMOTE OFF-SEASON VISITS.

- Create a turn-key small convention packet/program for 20-50 conference attendees.
- Consider creating opportunities for art/writing retreat, training opportunities, cooking, and cultural classes.

4. ENCOURAGE LOCAL OWNERSHIP OF DOWNTOWN BUSINESSES.

- Evaluate pro's/con's of restricting formula businesses in the downtown area. The impetus for this suggestion is the desire to maintain local ownership and management of businesses and local "flavor" and to avoid having non-locally owned or managed seasonal businesses that would operate only during the cruise ship season.
 - Would require crafting a sound ordinance detailing the public purpose.
 - Concern was expressed about drafting an ordinance restricting the type of businesses allowed on main street could have unintended consequences such as restricting already

established businesses such as IGA and ACE Hardware.

- Focus on the value of maintaining the unique character of the business district and protecting economic vitality of the community through diversity of businesses.
- Example of definition: "Formula Business" is any business with 10 or more outlets anywhere in the world; and with standardized services, such as merchandise, trademark, logo, uniforms, décor, etc.
- Lack of available rental space for new businesses is a concern.
 - Borough ordinances limit transient business (e.g. food trucks) operations to private land. Consider creating area for mobile food trucks/carts.
 - Zoning restricts business development in residential areas.

5. EXPAND VARIETY AND CAPACITY OF SMALL-SCALE EXCURSIONS.

- Important to recognize changing demographics of travelers.
 - Shorter trips, less expensive.
 - Value learning experiences as part of travel.
- Current level of visitor traffic is insufficient to support full-time operators.
- Contact small and large tour operators to determine what their customers wants and needs in terms of excursions and/or activities. Respond to tour operators with list of excursions and activities available in Petersburg.
- Expand options for artisan excursions - photography, art workshops, cooking, cultural.

6. EXPLORE NEW WAYS TO SUPPORT ENTREPRENEURS/JOB OPPORTUNITIES FOR LONG-TERM VIABILITY OF OUR COMMUNITY.

- Develop and distribute "how-to start a visitor-based business" packet.
- Showcase career options in industry.
- Provide information on who the community could contact for employment information?
- Offer new training opportunities on how to monetize craft and artwork via online sales and marketing.
- Consider creating shared workspace for artists, online entrepreneurs, and millennials.
Encourage "outside the box" thinking that appeals to next generation of business leaders.

FREQUENTLY ASKED QUESTIONS

How important is the summer season to the local economy?

In 2018, nearly half (48%) of all gross sales in the borough occurred during the four-month span from June to September, while the remainder of the year accounted for 52% of sales.

What is the local economic impact of the visitor industry?

In 2018, tour and charter operators reported over \$3.5 million in gross sales with an additional \$1.6 million in gross sales reported from hotels and B&Bs. For a total of \$5.1 million.

The \$5.1 million only represents a small percentage of annual gross sales within the borough, but these direct economic impacts do not account for other direct spending, such as

retail shopping and meals that are often associated with visitor travel.

These figures also do not account for indirect spending on local goods and services sold to tour, charter, and lodging operations (groceries, laundry services, seafood, transportation, repair, etc.), nor induced spending, which is household spending of the income earned in the visitor industry and supporting sectors (for example, local expenditures of \$750,000 in hotel and lodge employee wages earned in 2019¹⁴).

When measured against the community's main industry, commercial fishing, the visitor industry figures are not comparable in size or impact. In 2018, \$45 million of seafood was landed in Petersburg¹⁵.

How much did Petersburg receive in Marine Passenger Fees?

In 2019, Petersburg received \$50,300 in marine passenger fees from commercial passenger ships. ¹⁶

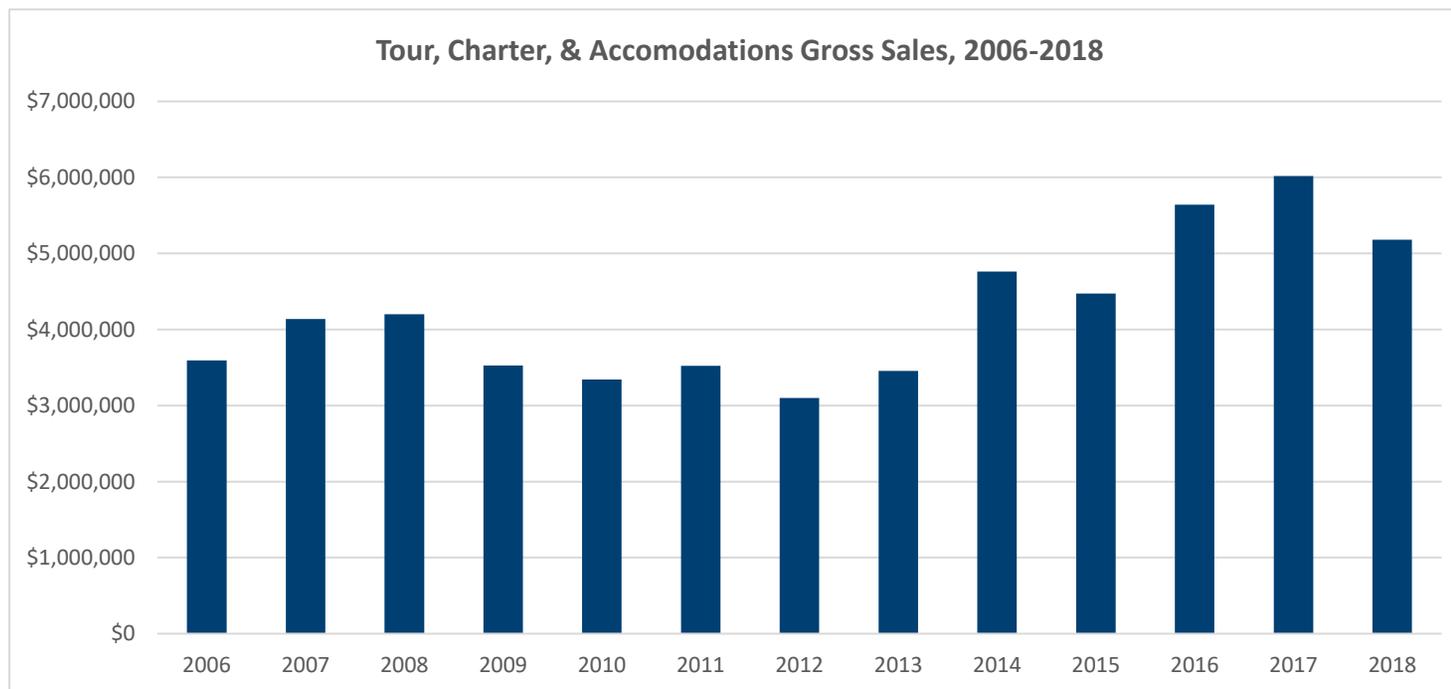
What local shore-based services do tour companies use?

Responses to an informal survey showed tour companies purchase these types of goods and/or services from local vendors in the last year: Cruise agent, charter flight, groceries, hardware, garbage pick-up, fuel, boat repair/maintenance, transportation, storage, emergency medical services, tour guide, florist, seafood processor/retail, hall/space rental, cultural performance, sportfishing charter, and laundry services.

What type of shore-based activities would companies like to offer their guests?

In response to an informal survey, four different tour

companies indicated interest in offering guests: cultural performances, historic tours, volunteer opportunities, commercial fishing/harbor tours, edible plants tour, and Native art or folk art class.



D. QUALITY EXPERIENCE FOR VISITORS

GOAL: ENSURE VISITORS HAVE QUALITY EXPERIENCE AND SERVICE.

EFFECTIVE TOURISM MANAGEMENT INCLUDES A KNOWLEDGEABLE AND WELL-INFORMED VISITOR. PROVIDING HIGH-QUALITY AND EASILY ACCESSIBLE INFORMATION ON HOW TO GET AROUND AND EXPERIENCE THE AREA IS ESSENTIAL TO ENSURE A REWARDING VISITOR EXPERIENCE. TRANSPORTATION, PARKING, VISITOR INFORMATION AND ORIENTATION WERE ALL SEEN AS CRITICAL TO CREATING A POSITIVE VISITOR EXPERIENCE AS WELL AS MITIGATING THE IMPACT ON THE COMMUNITY. MORE EFFECTIVE SIGNAGE WILL ALSO ENHANCE A VISITOR'S UNDERSTANDING OF HOW TO GET AROUND PETERSBURG.

1. IMPROVE WAYFINDING/SIGNAGE*

- Develop better walking maps* – pocket-sized, postcard size, show distances. Answer the question: How far is it to....? Have walking maps available at retail locations.
- Improve Crosswalk signage.
- Install signs at the Drive-down dock and other entry points “<<=Town is this Way!”.
- Install wayfinding signs for Hungry Pt Trail, Banana Point Boat Launch, and other out-the-road attractions.
- Signage for bus pick-up/drop-off points for passengers.
- Create and identify safe, appropriate photo spots for high-use areas. (Totem Park, Hammer Slough).
- Create safe pathway to read interpretive sign on Hammer Slough at Sing Lee Alley bridge.

2. MAINTAIN CHARACTER AND ATTRACTIVENESS OF TOWN

- Conduct “windshield survey” from visitor perspective. How do we look?
- Identify top 5 things to clean up/improve.

- Reinstate “free dump week” in the spring.

3. EXPLORE WAYS TO GATHER FEEDBACK FROM VISITORS IN A CONSISTENT MANNER ON YEAR-TO YEAR BASIS.

- PSG Guest Books exist at the Clausen Museum, Visitor's Center, encourage visitors to share experiences, collate periodically for ideas or feedback. Identify more possible guest book locations in town? Downtown store, either Cannery Park, Buschmann Park, etc.).
- Interview Pursers/Naturalists to get feedback from guests.
- Develop Visitor Center survey.

4. INVENTORY OF HOW PEOPLE ACCESS INFORMATION ABOUT PETERSBURG. TAKE ADVANTAGE OF EXISTING SOURCES OF INFORMATION VISITORS ARE ALREADY USING TO GUIDE THEM TOWARD GOOD EXPERIENCES.

5. ENCOURAGE MIX OF ONSHORE VENDORS/EXCURSIONS

- Expand existing small-scale excursions, i.e. cannery tours, hatchery tours, fishing/crabbing/shrimping for a day,
- Include what visitors asked about in “end of the season” wrap up meeting.
- Meet & greet with operators to determine what they want and need.

6. BEST PRACTICE GUIDELINES FOR TOWN/HARBOR TOURS.

- Hold pre-season meeting on best practices for land-based excursions.

7. IMPROVE COLLABORATION WITH HARBOR/OTHER TOWN GROUPS FOR LOCAL TOURS.

- Contact Harbor master for unique offerings (off-loadings, orca sightings) on tour days.
- Explore opportunities with other groups who may be able to offer unique tours.

E. INFRASTRUCTURE & PLANNING

GOAL: IDENTIFY AND PRIORITIZE INFRASTRUCTURE NEEDS.

Petersburg has limited infrastructure to accommodate the visitor industry, particularly larger groups of visitors arriving via cruise ships. The existing infrastructure is designed to accommodate a small resident population and existing marine infrastructure is used at capacity during the summer season and must be shared with a dynamic commercial fishing fleet. Focus on maximizing the benefits and minimizing user conflict of our existing marine infrastructure, finding cost-effective alternatives to existing infrastructure, and providing infrastructure that benefits both the local populace and visitor population were deemed the priorities. Cost estimates have been added where available.

1. IMPROVE ACCESS/PROVIDE ADDITIONAL PUBLIC RESTROOMS*

- Install "Public Rest Room" signs outside all buildings with public restrooms. Identify ADA restrooms, where appropriate.
- Add location of restrooms to all walking and event maps.
- Allow access to municipal building and police station restrooms during Little Norway Festival and Fourth of July.
- Purchase additional mobile seasonal restrooms that can be used anywhere and anytime there is a community event. (Cost estimate: \$40-50,000)

2. IDENTIFY CURRENT INFRASTRUCTURE NEEDS BENEFITING BOTH LOCAL AND VISITOR POPULATIONS

- Supply shore-side power at Drive Down Dock.

- Install Marine Pump-out station* (Could be used as marketing tool) (Cost estimate: \$50-85,000, depending on location).
- Install ADA-compliant ramp at northern end of South Harbor (Cost estimate: \$1.7m with reconfigured approach).
- Install mooring dolphin at Port Dock (Cost estimate: \$371,000).
- Create multi-use covered area at Drive-down dock for activities include visitor staging, vendor stalls, and farmer's market. Area can be used to overhaul fishing gear during off-season.
- Improve general accessibility (ADA) throughout town.

3. MAXIMIZE OUR EXISTING INFRASTRUCTURE AND MINIMIZE CONFLICTS

- Parking areas around harbors are congested. Create staging area for shuttles.
- Consider repurposing shuttles for multiple uses and minimize the number of vehicles entering harbor area.
- Harbormaster's office continues to coordinate port call schedules with local fleet needs. (i.e. End of July/August are good times for cruise visits as harbor activity slowed down. Saturdays/Sundays also better).
- Establish "change fee" for tour ships changing scheduled port location.

4. CONSIDER OPTIONS FOR NEW INFRASTRUCTURE TO REDUCE CONGESTION IN HARBOR AND TO MAINTAIN CURRENT LEVEL OF VISITOR TRAFFIC FROM CRUISE SHIPS (current trend in small cruise ships is slightly larger than we can accommodate within our harbor with LOA of 250' – 450' and passenger capacities ranging from 100 to 560.)

- Install a “Day Float” to facilitate liter operations. Possible locations: Outlook Park, Commercial Property at Frederick Pt, Banana Pt.
- Request use of existing ferry terminals for MV Columbia-size (400') tour ships, both Downtown and South Mitkof locations.
- See #3 under Quality of Life.

5. IMPROVE RECREATIONAL INFRASTRUCTURE

- Consider installing kayak floats and paddle board racks, bike racks.
- Establish private-public partnership (similar to canned salmon label trash cans) for new benches.

Frequently Asked Question

What size ships can navigate the Wrangell Narrows?

The MV Le Soleal (466' LOA; 59' wide; 16.4' draft) and the AMHS Ferry MV Columbia, (418' LOA; 85' wide; loaded draft 17'-6 1/8") are the largest vessels to navigate the Wrangell Narrows.

What size ships can tie up at each berthing location within the harbor?

There are four locations within the Petersburg harbors where tour ships are moored and where ships may disembark passengers during litering operations:

***Port Dock:** Vessel up to 280 ft.

Drive Down Float: Vessel up to 220 ft.

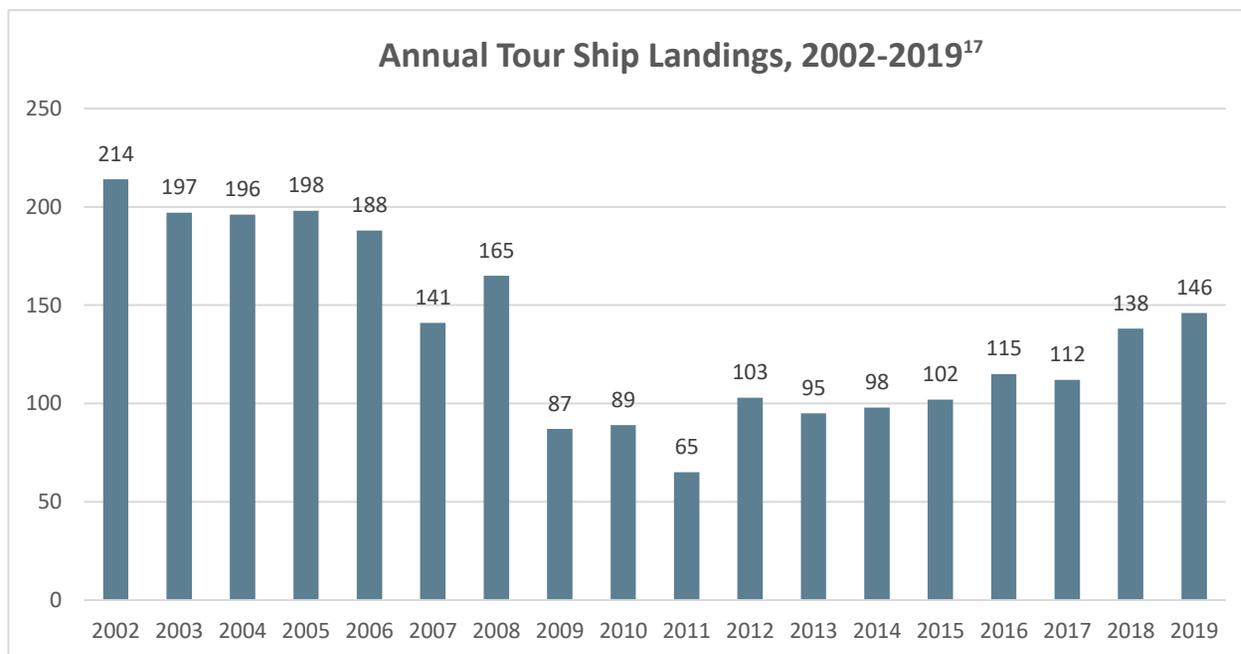
End of C Float: Vessel up to 280 ft.

***South Harbor Loading Zone:** vessels up to 165 ft. & 2 (50 ft.) liters at a time If SOLAS; if not SOLAS, 4 liters at one time.

(*Areas authorized by US Department of Homeland Security for moorage of SOLAS vessels (vessels that come and go from foreign ports) and their liters.)

How many port calls does Petersburg receive per year?

Port calls to Petersburg have ranged from a high of 214 (2002) to a low of 65 (2011). In 2019, Petersburg received 146 port calls from tour ships, including ships using liters.¹⁷ Due to the global pandemic in 2020, there were no port calls from commercial passenger ships in 2020. Port calls for 2021 are uncertain at this time.



F. ENVIRONMENTAL/OUTSIDE AGENCIES

GOAL: ADDRESS ENVIRONMENTAL CONCERNS AND RELATED ISSUES

MOST OF PETERSBURG'S ECONOMIC, RECREATION, AND SUBSISTENCE ACTIVITIES RELY ON MARINE RESOURCES, THEREFORE THE ENVIRONMENTAL IMPACT OF TOURISM, PARTICULARLY CRUISE SHIP VESSEL DISCHARGES, IS OF GREAT CONCERN TO THE LOCAL POPULATION.

THE PETERSBURG BOROUGH HAS LIMITED AUTHORITY TO AFFECT VESSEL DISCHARGES AS THESE ARE REGULATED BY FEDERAL AND STATE AGENCIES. PETERSBURG ALSO HAS LIMITED CAPACITY TO OVERSEE WHETHER STATE AND FEDERAL REGULATIONS ARE BEING ENFORCED WITHIN THE BOROUGH. THE WORK GROUP MADE SIGNIFICANT PROGRESS IN UNDERSTANDING THE CURRENT STATE OF ENVIRONMENTAL REGULATION AND PROPOSES ADOPTION OF BEST MANAGEMENT PRACTICES (BMP) FOR VESSELS VISITING THE BOROUGH. THE BMP'S INCLUDE RECOMMENDATIONS REGARDING VESSEL DISCHARGE AS WELL AS AN OVERVIEW OF THE "RULES OF THE ROAD" SURROUNDING WATERS AND PETERSBURG'S HARBORS.

1. ADOPT BEST PRACTICES FOR VESSELS OPERATING IN PETERSBURG BOROUGH (SEE APPENDIX I FOR DRAFT)

- Environmental Best Management Practices encompassing identified concerns. Items to be considered:
 - No discharges of grey or treated black water for passenger ships (50 passengers and above) while in port or anchored in the Sandy Beach area. For all other vessels, no discharge of black water in the same areas.
 - Any untreated sewage should be discharged at least 3 miles from shore. (all vessels).

- Minimize the running of generators in port by using shore power where available.
- For large cruise ships – only low sulfur fuel should be used while operating in the Petersburg port area.
- Petersburg recommendations should be sent to ADEC. The BMP's could be incorporated into ADEC approved best management practices plan for small vessels on a voluntary basis. (Per communication with Alaska Department of Environmental Conservation on 3/6/2019).
- Post summary of BMP's on harbor ramps and other signs/locations around the harbor. Make these public signs affirmative statements about the importance of protecting marine environment.
- Recommendations will change if Petersburg installs sewage pump out stations in the future.
- Consider adding best practices for moving through harbor.

2. ENFORCEMENT OF "RULES OF THE ROAD" IN NARROWS (SEE APPENDIX I)

- Include "Rules of the Road" information in Best Practices document and signage. Items to be included:
 - Emphasize the maximum speed of 7 knots in Wrangell Narrows between Wrangell Narrows Channel Light 58 and Wrangell Narrows Lighted Buoy 60¹⁸.
 - Identify "No wake" zones along PFI/Harbor.
 - Develop navigation chart showing areas where local fishing activity occurs to assist vessels to navigate through Frederick Sound/Narrows. Identify some best practices when transiting through active fishing areas.
 - Recommend fishing lodges with inexperienced skiff operators post and explain regulations

concerning the rights of large vessels in Wrangell Narrows.

- US Coast Guard enforces navigation rules.

3. IDENTIFY WHERE CURRENT REGULATIONS FALL SHORT OF PROTECTING MARINE WATERS OF THE BOROUGH

- Some large cruise ships with open loop scrubbers take the sulfur out of the engine exhaust and discharge the diluted acid (from the sulfur in the fuel – sulfurous acid) overboard.
 - Primarily large-ships are using high sulfur fuel (IFO 380 and IFO 180)).
 - Small cruise ships and ferries use only low sulfur fuel.
- Monitor and Advocate for reinstatement of Ocean Rangers Program.
- Monitor and advise community of opportunities to comment on federal laws/regulations governing incidental vessel discharge, especially regarding use of high-sulfur fuels and exhaust gas cleaning systems.

4. MONITOR DEVELOPMENT ACTIVITIES AT HOBART BAY, ESPECIALLY IF LARGE CRUISE SHIPS BEGIN VISITING THE BAY.

- Potential impact to local Charter operators/Resident Recreation/Fishing.

Who regulates vessel discharge?

While in Alaska waters, passenger vessels with more than 49 passengers are subject to Alaska State pollution regulations that are more restrictive than federal regulations. All other vessels are regulated by federal pollution regulations. See *Appendix II for details on current regulations of incidental vessel discharge.*

Does the borough have a marine pump out?

The Petersburg Borough has a pump truck that can be brought to the commercial drive down dock. The truck has a 1,600-gallon capacity. The cost of pump off is not included in moorage and vessels are charged an hourly rate for the operator, tank, and truck plus \$0.04/gallon for disposal.

Can the Petersburg Borough establish a black water “No-Discharge Zone” for borough waters?

The Petersburg Borough may petition the State of Alaska to petition the federal government to establish a No-Discharge Zone (NDZ) for borough waters to prohibit black water discharge. An NDZ would prohibit incidental discharge from all vessels, including commercial fishing and recreational vessels.

Who do you call if you suspect violation?

- Oil Spill – (any visible amount) or hazardous substance
 - State ADEC 907-465-5340 (normal hours) 1-800-478-9300 (after hours)
 - USCG hotline 1-800-424-8802
- Under Alaska law, any release of oil to water must be reported as soon as the person has knowledge of the discharge.

Any other discharge (excessive smoke, garbage, sewage, food waste, etc)

FREQUENTLY ASKED QUESTIONS

- Call (907.465.5278) or email (dec.wq.cruise@alaska.gov) the DEC Cruise Ship Program with date, time, ship name, your location, any other info. A photo may be helpful.
- Denise Wiltse (Air Quality), 907-465-5278 denise.wiltse@alaska.gov
- Albert Faure, 907-465-5279 albert.faure@alaska.gov
- Johnny Zutz, 907-465-5317 johnny.zutz@alaska.gov
- Sara Mutter, 907-465-5317 sara.mutter@alaska.gov

Who pays for the DEC's cruise ship program?

ADEC receives \$1 per passenger for the administration of the cruise ship environmental programs. This is separate from the \$4 per passenger fee paid by the large cruise ships for the Ocean Ranger program.

Where can I get more information about the state's cruise ship program?

For more complete information concerning Alaska environmental compliance of cruise ships - go to: <http://dec.alaska.gov/water/cruise-ships/>

APPENDICES

APPENDIX I: DRAFT PETERSBURG BOROUGH VESSEL BEST MANAGEMENT PRACTICE

I. VESSEL INCIDENTAL DISCHARGE

- No discharges of grey or treated black water for passenger ships (50 passengers and above) while in port or anchored in the Sandy Beach area. For all other vessels, no discharge of black water in the same area.
- Any untreated sewage should be discharged at least 3 miles from shore. (all vessels)
- Vessels may contact the Wastewater Department to arrange for pump off at 907-772-3787. (Vessels must be able to enter and tie up in the harbor for this service.)
- Who do you call if you suspect violation?
 - Oil Spill – (any visible amount) or hazardous substance
 - State ADEC 907-465-5340 normal hours 1-800-478-9300 after hours
 - USCG hotline 1-800-424-8802
 - Under Alaska law, any release of oil to water must be reported as soon as the person has knowledge of the discharge.
 - Any other discharge (excessive smoke, garbage, sewage, food waste, etc)
 - Call (907.465.5278) or email (dec.wq.cruise@alaska.gov) the DEC Cruise Ship Program with date, time, ship name, your location, any other info. A photo may be helpful.
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 - Johnny Zutz, 907-465-5317 johnny.zutz@alaska.gov
 - Sara Mutter, 907-465-5317 sara.mutter@alaska.gov

II. OTHER ENVIRONMENTAL CONCERNS

- Use of generators should be minimized while in port by using shore power where available.
- Only low-sulfur fuel should be used while in the Petersburg port area.

III. RULES OF THE ROAD

Petersburg's Harbor is located on the northern end of the Wrangell Narrows. Navigating this channel can be a challenge for vessel operators unfamiliar with the area. These rules of the road are basic guidelines for safe vessel operations within the narrows.

APPROACHING WRANGELL NARROWS FROM THE NORTH:

Vessels approaching the Wrangell Narrows northern entrance (Buoy 'WN') are advised to consult the local fishing activity chart to assist navigating through this area. See attached chart (NOTE: Chart to be developed.)

WRANGELL NARROWS:

The following speed limit in Wrangell Narrows is excerpted from the Federal Register 33 CFR162.255 – Wrangell Narrows, Alaska

(b) Speed Restrictions. No vessel shall exceed a speed of seven (7) knots in the vicinity of Petersburg, between Wrangell Narrows Channel Light 58 and Wrangell Narrows Lighted Buoy 60.

USCG NAVIGATION RULES - INTERNATIONAL and INLAND (COMDTINSTM16672.2D).¹⁹

The following is excerpted from the Navigation Rules.

1. Must maintain a guard on VHF Radio Channel 16. The radio operator must be able to communicate in the English language.
2. The basic vessel separation scheme is for all vessels to stay in the right half of the channel. Crossing of the channel should be done at the right angles to the mainstream traffic.
3. Vessels shall not anchor in the traffic separation channel.
4. A vessel not using the traffic separation channel shall avoid it by as wide a margin as possible.
5. In a head-on situation, unless otherwise agreed, vessels shall pass port-to-port.
6. In a crossing situation, the vessel, which has the other on her starboard, shall keep out of the way and shall, if the circumstances admit, avoid crossing ahead of the other vessel.

GENERAL NAVIGATION RULES for NARROW CHANNELS²⁰

1. A vessel proceeding along the course of a narrow channel or fairway shall keep as near to the outer limit of the channel or fairway which lies on her starboard side as is safe and practicable.
2. A power-driven vessel operating in narrow channels or fairways and proceeding downbound with a following current shall have the right-of-way over an upbound vessel, shall propose the manner and place of passage, and shall initiate the maneuvering, as appropriate. The vessel proceeding upbound against the current shall hold as necessary to permit safe passing.
3. A vessel of less than 20 meters in length or a sailing vessel shall not impede the passage of a vessel that can safely navigate only within a narrow channel or fairway.

4. A vessel engaged in fishing shall not impede the passage of any other vessel navigating within a narrow channel or fairway.
5. A vessel must not cross a narrow channel or fairway if such crossing impedes the passage of a vessel which can safely navigate only within such channel or fairway. The latter vessel must use the signal prescribed if in doubt as to the intention of the crossing vessel.
6. In a narrow channel or fairway when overtaking, the power-driven vessel intending to overtake another power-driven vessel shall indicate her intention by sounding the appropriate signal and take steps to permit safe passing. The power-driven vessel being overtaken, if in agreement, shall sound the same signal and may, if specifically agreed to, take steps to permit safe passing. If in doubt she shall sound the signal.
7. This Rule does not relieve the overtaking vessel of her obligation under Rule 13 (§83.13).
8. A vessel nearing a bend or an area of a narrow channel or fairway where other vessels may be obscured by an intervening obstruction shall navigate with particular alertness and caution and shall sound the appropriate signal prescribed.
9. Any vessel shall, if the circumstances of the case admit, avoid anchoring in a narrow channel.
10. A seaplane on the water shall, in general, keep well clear of all vessels and avoid impeding their navigation. In circumstances, however, where risk of collision exists, she shall comply with §§83.04 through 83.19. Seaplanes must follow the same rules of the road as a vessel. **Special circumstances.** Federal Aviation Regulations Sec. 91.115: When aircraft, or an aircraft and a vessel, approach so as to involve risk of collision, each aircraft or vessel shall proceed with careful regard to existing circumstances, including the limitations of the respective craft.

APPENDIX II: FREQUENTLY ASKED QUESTIONS ON REGULATION OF INCIDENTAL VESSEL DISCHARGE

What is graywater?

Under Alaska law, “graywater” means galley, dishwasher, bath, and laundry wastewater.

What is “black water”?

“Black water” or “sewage” means human body wastes and the wastes from toilets and other receptacles intended to receive or retain human body waste.

What is “treated sewage”?

Treated sewage means sewage that meets all applicable effluent limitation standards and processing requirements of 33 U.S.C. 1251 — 1376 (Federal Water Pollution Control Act), as amended, the federal cruise ship legislation, and regulations adopted under 33 U.S.C. 1251 — 1376 or under the federal cruise ship legislation.

What is the fecal coliform standard in Alaska waters?

The fecal coliform standard is 200 colonies per 100 ml for approved Type II Marine Sanitation Devices. The Alaska marine water quality standards (AMWQS) is a daily maximum of 43 colonies per 100 ml. This AMWQS is used due to the collection of shellfish for raw consumption. This more stringent AMWQS is used by the Cruise Ship Program as it is assumed that the use of this standard would provide adequate protection to all other uses of all marine waters. Traditionally blackwater has had the highest median fecal coliform results, although very high results have also been found in graywater.

Who regulates vessel discharge?

While in Alaska waters, passenger vessels with more than 49 passengers are subject to Alaska State pollution regulations that are more restrictive than federal regulations. All other vessels are regulated by federal pollution regulations.

Large Passenger Ships Operating in Alaska Waters (Over 250 lower passenger berths, i.e. Viking, Le Soleal, Hurtigruten, Celebrity, Royal Caribbean, etc.)

- No discharges into waters of Alaska except ships that have advanced wastewater treatment and permits to discharge issued by Alaska Dept. of Environmental Conservation. Permits are conditional on periodic testing of discharges.
- Ocean Rangers (US marine engineers) ride the large vessels to observe ship operations that could result in a discharge from a ship. The Ocean Ranger program was defunded by the Dunleavy Administration for the 2020 cruise season, however the law requiring Ocean Rangers still exists.
- Must burn either ultra-low sulfur fuel OR high-sulfur fuel with scrubbers in operation

- Exhaust gas cleaning systems (scrubbers) are designed to extract sulfur oxides (SOX) from the exhaust. These systems are regulated by the US Environmental Protection Agency (EPA), which issues an EPA Vessel General Permit for use of scrubbers (State agencies do not have any authority over these scrubbers).
- Scrubbers have been linked to a "foam-like" substance on the water surface. Scrubber system discharge a mixture of gases and a very large amount of water to dilute the outflow to the required allowable pH.

Small Passenger Ships Operating in Alaska Waters (50-250 lower passenger berths, i.e. AMHS Ferries, MV Sea Bird)

- For small cruise ships, no treatment of the grey water is required. In general, the ships are required to correctly operate the black water sewage treatment systems that they have onboard. If the required testing shows the treatment is not within acceptable limits, ADEC will require corrective action and retesting. (ADEC is currently recommending chlorine treatment of collected grey water prior to discharge based on high fecal coliform test results.)
- Individual ships must submit for approval a Best Management Practices Plan (BMPP) to Alaska Department of Environmental Conservation. (18AAC69.046)
 - Small cruise ships with an approved BMPP that will be discharging near shore need to limit discharge in areas listed as important to fish spawning and other protected waters including:
 - Anadromous Waters – list maintained by Alaska dept of Fish and Game
 - See adfg.maps.arcgis.com
 - Herring Spawning areas (Farragut Bay)
 - Refuges, Sanctuaries, Critical Habitat Areas & Wildlife ranges as determined by Alaska Dept of Fish and Game. (Closest to Petersburg is Stan Price State Wildlife Sanctuary)

Other Vessels Types

- Other Vessel Types that call in Petersburg are all subject to the basic requirements of section 312 of the Federal Water Pollution Control Act (FWPCA). All vessels with permanently installed toilet facilities must have an operable Coast Guard certified Marine Sanitation Device (MSD) or holding tank. The three types of MSD units are described below: (Buckets and port-a-potties are NOT considered permanently installed toilet facilities.) See chart describing MSD Types on p 28..

MSD Types

Type I	Flow-through treatment devices that commonly use maceration and disinfection for the treatment of sewage	May be installed only on vessels less than or equal to 65 feet in length	<p>Must produce an effluent with:</p> <ul style="list-style-type: none"> • No visible floating solids • A fecal coliform bacterial count not greater than 1000 per 100 milliliters
Type II	Flow-through treatment devices that may employ biological treatment and disinfection (some Type II MSDs may use maceration and disinfection)	May be installed on vessels of any length	<p>Must produce an effluent with:</p> <ul style="list-style-type: none"> • A fecal coliform bacterial count not greater than 200 per 100 milliliters • No more than 150 milligrams of total suspended solids per liter
Type III	Typically a holding tank where sewage is stored until it can be discharged shore-side or at sea (beyond three miles from shore)	May be installed on vessels of any length	No performance standard; must "be designed to prevent the overboard discharge of treated or untreated sewage or any waste derived from sewage." 33 CFR 159.53(c) (PDF)(2 pp, 163 K) .

Details and more specific information are available for the below vessels online:

- **Small Passenger Vessel requirements (Inspected – more than 6 passengers)**
<https://pdfs.semanticscholar.org/bff8/ff8ae4d85f5fc0f929614bcce4219ff39fbc.pdf>
- **Small Passenger Vessel requirements (Uninspected – up to 6 passengers)**
https://homeport.uscg.mil/Lists/Content/Attachments/1600/UPV_JobAid2011.pdf

- **Uninspected Fishing Vessels** https://www.dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/CG-CVC/CVC3/publications/Safety_Digest-2008.pdf
- **Recreational Vessels** <https://www.uscgboating.org/images/420.PDF>
- **Tugboats** <https://www.dco.uscg.mil/Portals/9/TVNCOE/Documents/ToolBag/UTVGUIDEBOOK.pdf?ver=2017-08-10-103518-853>
- **Foreign Vessels 400 gross tons and above or certified for more than 15 persons** <https://maddenmaritime.files.wordpress.com/2015/08/marpol-practical-guide.pdf>
MARPOL 73/78 (the "International Convention for the Prevention of Pollution From Ships") is a treaty regulating pollution from ships. Annex IV of the Convention covers sewage pollution from ships. In the U.S., the Convention is implemented through the Act to Prevent Pollution from Ships (APPS). Under the provisions of the Convention, the United States (USCG) can take direct enforcement action under U.S. laws against foreign-flagged ships when pollution discharge incidents occur within U.S. jurisdiction. The Annex requires ships to be equipped with either an approved sewage treatment plant or an approved sewage comminuting and disinfecting system or a sewage holding tank.

Most vessels operating around Petersburg have DEC-approved Best Management Practices Plans. Below is a summary of discharges under the approved Best Management Practices Plans.

- **Columbia, Kennicott, Malaspina, Matanuska** - Continuous discharge systems (approx. 1.25 gals/hour/per person) of wastewater after being macerated and treated with hypochlorite. Effluent is a mixture of sea water (flushing) and fresh water from sinks/showers.
- **National Geographic Venture, National Geographic Quest** - All Black and Grey water drain to a 17,000-gallon holding tank which has a capacity to hold all wastewater for approximately 18 hours. (Petersburg's port call is 9 hours). Ship has a vacuum flush system that uses one pint of fresh water per flush. Water from the holding tank is processed and only discharged when the vessel is underway steadily above 7 knots. Wastewater goes through maceration, oxygenated bioreactor processing, then is exposed to ultraviolet light prior to discharge.
- **National Geographic Sea Bird, National Geographic Sea Lion** - Black and grey water drain to small holding tanks which allow minimal discharges of effluent while in port. While steadily underway above 7 knots all the wastewater onboard is processed and discharged. Wastewater is macerated and treated with hypochlorite prior to discharge. It is estimated that during the "port stop in Petersburg: 4 to 6 hours. Black Water discharge is 500 gallons and Grey Water discharge is 200 gallons."
- **Silver Explorer** – No discharges of wastewater if vessel is traveling less than six knots or located less than one nautical mile from the nearest land. Vessel has large capacity tanks that allow holding of all wastewater for about 3.5 days. Ship has a vacuum flushing system for reduced black water volume. Black water is treated by breaking down solids biologically and disinfection by chlorination. (hyper Chlorite NaOCl solution). Grey water is treated by dosing a chlorine solution directly into the holding tanks prior to discharge.

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¹⁸ Inland Waterways Navigation, Wrangell Narrows, Alaska; use, administration, and navigation. (b) Speed restrictions, 33 CFR § 162.255. <https://www.gpo.gov/fdsys/pkg/cfr-2013-title33-vol2/pdf/cfr-2013-title33-vol2-sec162-240.pdf>

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