

**REPORT TO THE NATURAL RESOURCES COMMITTEE ON
SMALL COMMERCIAL PASSENGER VESSEL WASTEWATER
MANAGEMENT**



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Background and Purpose

This report summarizes the current legal requirements for sanitary waste discharges from small commercial passenger vessels, reviews waste disposal survey results of the industry, identifies existing data gaps and makes recommendations regarding further study or regulation.

In April 2004, the Legislature enacted "An Act to Protect Maine's Coastal Waters" PL 2003, Chapter 650 requires the Maine Department of Environmental Protection (Department) to submit a report "concerning whether small commercial passenger vessels, or a subset of small commercial passenger vessels, should be required to seek authorization to discharge graywater." Small commercial passenger vessels are those that carry less than 500 overnight passengers.

Beginning January 1, 2006 unlicensed discharges of graywater or combined blackwater and graywater will be prohibited pursuant to 38 M.R.S.A. §423-D. All large commercial passenger vessels (greater than 500 overnight passengers) that wish to discharge wastewater will be required to meet strict discharge standards imposed through a general permit. Small commercial passenger vessels are exempt from this requirement.

In order to determine the appropriateness of extending graywater licensing requirements to small commercial passenger vessels (SCPV), the Department gathered data on the size of the industry, the approximate volume of wastewater produced, current regulatory requirements and current wastewater management practices.

Previous submissions to the Joint Standing Committee on Natural Resources pursuant or directly related to commercial passenger vessels include:

"Discharges from Vessels; A legislative report required by Resolve 2003, ch. 79". Maine Department of Environmental Protection. November 1, 2003.

"Air Emissions from Marine Vessels; Report to the Joint Standing Committee on Natural Resources". Maine Department of Environmental Protection. January 15, 2005.

"Report to the Natural Resources Committee on the Feasibility for a Statewide No Discharge Area for Maine's Coastal Waters". Maine Department of Environmental Protection. March 1, 2005. Document # DEPLW0631

Recommendations

- **Do not require small commercial passenger vessel graywater licensing at this time.**
- **Work closely with the US Coast Guard to perform joint sewage system inspections on a subset of small commercial passenger vessels to gather vessel specific waste management information.**
- **Work with the industry to ensure there is adequate pumpout station infrastructure to meet their needs.**
- **Work with the industry to implement voluntary restrictions on graywater discharges in designated No Discharge Areas.**

Regulatory Framework

Graywater

The discharge of graywater from vessels is unregulated by the Federal government at this time.

Maine and Alaska are the only two states in the nation to regulate the discharge of graywater. In Maine, pursuant to 38 M.R.S.A. §423-D large commercial passenger vessels are prohibited from discharging graywater or a combination of blackwater and graywater unless authorized to do so under a general permit issued December 27, 2005, requiring they meet discharge standards equivalent to the standards applied to municipal sewage treatment plants. Discharges from SCPVs are exempted from the graywater licensing requirements at this time.

Black water

All vessels equipped with toilets are required to install a marine sanitation device (MSD). The MSD requirements do not apply to graywater, and do not apply beyond the 3-mile limit, where it is legal to discharge raw sewage at this time under federal law. Vessels greater than 65 feet must install a type II MSD that can produce a fecal coliform bacteria count not greater than 200 per 100 milliliters and yield a total suspended solids level of less than 150 mg/l. Vessels under 65 feet may install a type I MSD which treats the effluent to yield a fecal coliform bacterial count of less than 1000 per 100 milliliters, and no visible floating solids. Any size vessel may alternatively employ a holding tank, which is also known as a Type III MSD.

No Discharge Areas

Pursuant to the Clean Water Act, 312(f)(3), a state may completely prohibit the discharge of both treated and untreated sewage from all vessels with installed heads, into some or all waters. To create a no-discharge area (NDA), the state must apply to the regional EPA administrator under one of three categories.

Only discharges of sewage (blackwater) are regulated within a NDA. Discharges of graywater are exempt from the prohibition except the graywater discharges from Large Commercial Passenger Vessels in NDAs is prohibited under Maine Law.

Small Commercial Passenger Vessel Survey

In the fall of 2004 the Department began compiling a list of businesses that may own or operate SCPVs. The businesses ranged from sport fisherman to scenic day excursion boats, historic windjammers and modern small cruise ships. Sources for the database were the Secretary of State, tourist publications, regional magazines and the yellow pages. The Department identified 113 companies that potentially operate one or more SCPVs

In order to gather information about the industry and its wastewater management, the Department developed an anonymous survey that was distributed in October 2005. The survey contained 11 questions on the vessels and wastewater. The companies were provided with a self addressed postage paid envelope to return the completed survey. Of the 113 surveys mailed, 8 were returned as undeliverable, and 26 completed surveys were received (25%). The Department feels that the respondents are representative of the industry as a whole.

The first section of the survey gathered information regarding the type and capacity of the vessel(s), and the nature of their business operations. The second section requested information on wastewater generation, management and discharge.

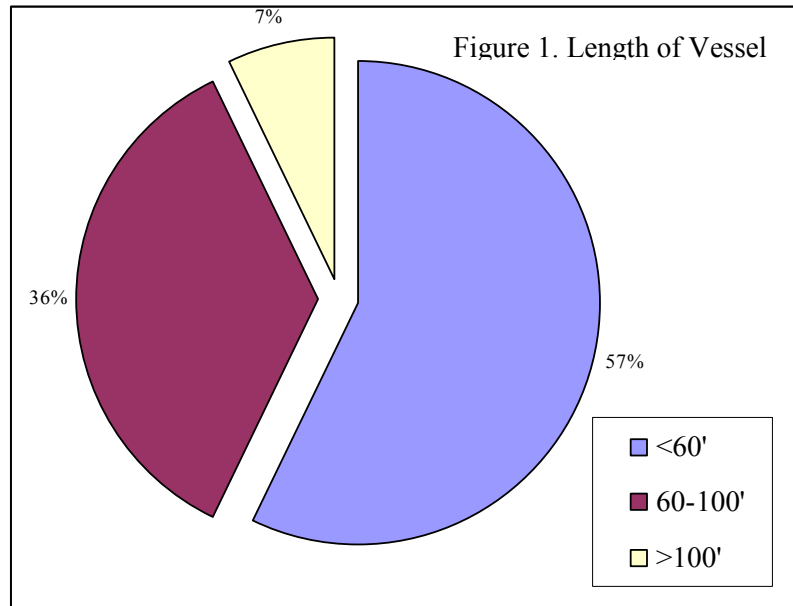
Survey Results

The vast majority (93%) of the vessels were less than 100 feet in length, with the highest number in the under 60 foot category, see Figure 1. Vessels with passenger capacity, with the 30-60 passenger constituted 28% and those with capacity of over 60 passengers made up 32% of the population.

Most (52%) of the vessels were 10-30 years old, indicating that most of them had been built after the MSD requirements came into effect in 1976. These vessels were probably built with adequate treatment or holding capacity on board. However, 31% were over 30 years old and must have been retrofitted sometime in the past.

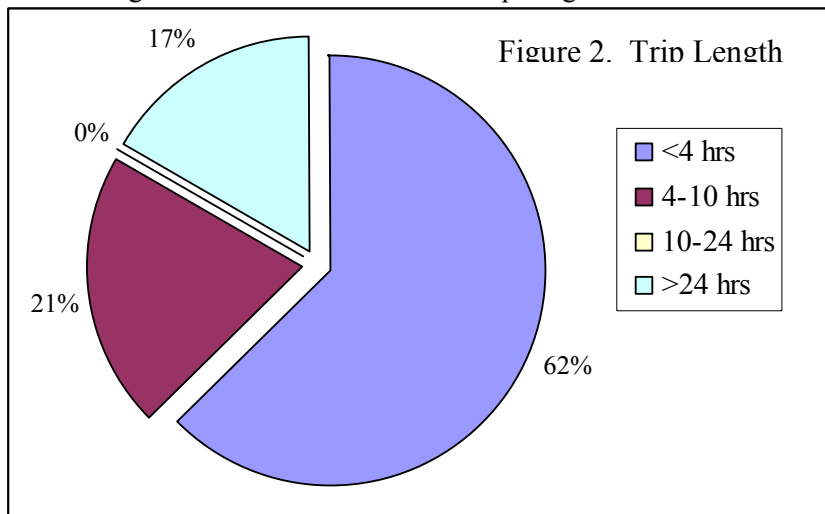
Over 77% had separated graywater and blackwater systems, although about 10% had holding tanks for the gray water in addition to the blackwater holding or treatment systems. Over 70% of the vessels

use type III MSDs (holding tanks) and of those 41% had holding tank volumes over 70 gallons and 38% had holding tank volumes of 30-70 gallons. A number of survey respondents had small enough vessels that they only had a porta-pottie on board, no installed toilets. Only one vessel reported using a type II MSD. All reported using their MSD as opposed to bypassing it.



The majority (62%) of the companies ran short excursion trips of less than 4 hours (see Figure 2). This finding is significant because most graywater is generated during food preparation and showering etc. on those vessels with overnight accommodations. Short trip lengths also reduce the need for large holding tank capacity.

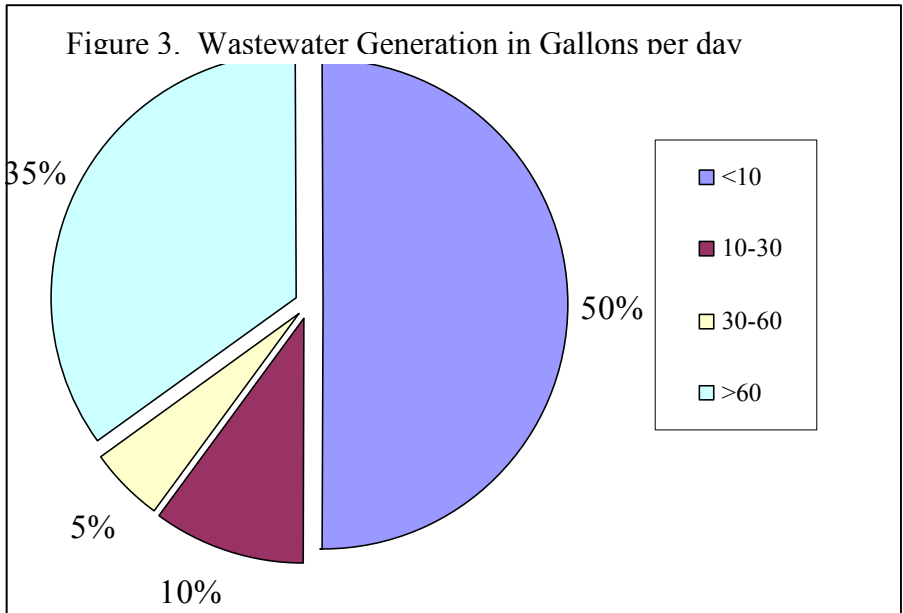
However, the short trip length also brings into question the ability to discharge those holding tanks legally (over 3 miles offshore) when it would take over a good portion of that time to get beyond the 3 mile boundary. When asked how where the wastewater was discharged, 45% indicated that they discharge over 3 miles offshore, while 42% indicated they had their tank pumped out at a landside pumpout station.



The day excursion boats also carry more passengers on average.

The overnight vessels constituted only 15% of the population and carried on average roughly 24 passengers. Based on the hull type and age of these vessels, these survey respondents are in the windjammer fleet.

In order to help determine the potential impact of the potential SCPV discharges, the Department asked questions in the survey about the volume of wastewater generated and the amount of freshwater used.



Half of the companies reported generating less than 10 gallons of wastewater per day, while 35% reported generating over 60 gallons per day. Based on the survey information, the average wastewater generation was 70 gallons per day. If extrapolated to the whole fleet of roughly 130 vessels, the total statewide wastewater generation from small commercial passenger vessels would be roughly 10,000 gallons per day, at locations along the coast.

Verification

To verify survey findings staff contacted the US Coast Guard (USCG) for vessel inspection information. After some discussion, the Department concluded that there was no overall fleet statistics kept by the USCG. Further, information regarding MSD type and holding tank volumes (if applicable) were not routinely gathered. Only basic ship information was available from a ship's safety inspection report that is held at the regional office responsible for the inspections. Because data similar to the survey data is not normally collected during safety inspections, independent verification of the survey results was not possible.

Conclusions

Based on the results of the survey, most of the SCPVs in Maine are short trip excursion vessels that would generate little graywater routinely. Most of the vessels had separated graywater and blackwater systems. Because these vessels do not overnight in other locations, they can manage their wastewater routinely.

Of the overnight SCPVs, most were equipped with type III MSDs and a separate graywater discharge, although a few did have existing treatment or holding systems on the graywater waste streams. For those that do have graywater holding capacity, their capacity may be adequate to hold while in harbor. The Department should pursue voluntary agreements with vessels to hold their graywater while in harbor, but particularly in No Discharge Areas.

Most survey respondents claimed to legally dispose of their wastewater in by either using pumpout stations or discharging greater than 3 miles offshore. The Department questions the ability of these vessels to routinely discharge legally due to the short length of most of the trips or due to the normal cruise track of vessels of a certain type. The Department and USCG should investigate the veracity and feasibility of these claims by reviewing individual ship wastewater management and sail plans. The Department, USCG and ship owners/operators should work together to ensure that the wastewater is being managed appropriately.

The total estimated volume of wastewater generated by SCPVs statewide is very small and does not warrant additional regulation at this time.