

**HB**

**22**





Representative Beth Kerttula

Sponsor Statement

**Sponsor Substitute House Bill 22**

Large Passenger Vessels that Operate in the Marine Waters of Alaska

Sponsor Substitute for House Bill 22 will give Alaskans information about the wastes generated and released by large passenger vessels operating in Alaska. HB 22 builds on Senator Murkowski's federal legislation directed at Alaska cruise ship operations at a time when the cruise ship sector of Alaska's tourism industry continues to grow substantially.

Alaskans have become alarmed by the wastewater pollution violations that led to state and federal fines imposed on cruise ships in the 1990s and by air emission violations in 1999 and 2000. Since late 1999, state and federal agencies, cruise ship companies, and other interested parties have collaborated on the Alaska Cruise Ship Initiative to describe waste handling practices, examine technology, and conduct preliminary sampling of ship discharges and emissions. Inspections and sampling in 2000 identified a number of failing marine sanitation devices and numerous graywater and treated sewage samples with high levels of fecal coliform bacteria.

Federal legislation in late 2000, authored by Senator Murkowski, takes further important steps to limit and clean up waterborne discharges – particularly sewage -- from cruise ships. However, the federal legislation does not establish standards for graywater discharges nor does it address cruise ship air emissions.

House Bill 22 builds on the above-mentioned measures. The bill does not require duplication of efforts by the cruise ship industry. HB 22 calls for:

- annual registration with the state -- so we know how to contact responsible officials of the foreign flag vessels;
- monthly reports of *all* ship waterborne discharges – a requirement that can be readily satisfied because the U.S. Coast Guard will have cruise ships keep these records beginning in the 2001 cruise season;

- sampling of graywater discharges for certain pollutants not currently required under federal law or regulations;
- monthly sampling and reporting of air emissions; and
- an assessment of the data collected after three years to examine what we know about cruise ship waste releases and the risks to our human and marine environments.

HB 22 provides a mechanism so the State of Alaska can begin to understand the composition and disposal of the substantial volumes of wastes generated onboard cruise ships in our state waters. Notwithstanding the cruise line industry assurances of careful shipboard practices and industry cooperation with regulatory agencies, it is imperative that Alaska obtain basic information and examine the waste volumes, composition, and discharge location in order to manage our most valuable tourist asset – our exceptional natural environment.

Thank you for your consideration of House Bill 22.

## SSHB 22 Large Passenger Vessels that Operate in the Marine Waters of Alaska

### Sectional Analysis

**Section 1** adds new sections to AS 46.03, the Environmental Conservation statutes.

**Sec. 46.03.460** requires owner/operator who conducts business in Alaska to register annually each vessel. The in-state contact information becomes paramount when contacting a foreign flag vessel that frequently has international crews and officers.

**Sec. 46.03.465** requires owner/operator to monitor cruise ship pollutants in order to fulfill the reporting requirements of this legislation. Monthly sampling is required of visible emissions from each vessel while in an Alaskan port. The owner/operator must sample and test graywater at least as frequently as required under federal laws and regulations for treated sewage. Graywater will be tested for conventional pollutants, including fecal coliform bacteria and total suspended solids.

**Sec. 46.03.470** requires that records be maintained for three years.

**Sec. 46.03.475** establishes the monthly reporting for all wastewater discharges and air emissions. The location, volume, flow rate, weight and type of pollutant must be documented. Significantly, SSHB 22 does not require the cruise line companies to get a new state permit nor does the bill set new performance standards. Reporting data for each vessel individually facilitates site-specific assessments of potential impacts or risks to the human or marine environment. In keeping with other DEC environmental oversight practices, each report must be certified by a responsible vessel official.

**Sec. 46.03.477** requires the owner/operator to provide to the state a report of any sampling and testing conducted for a federal agency.

**Sec. 46.03.480** establishes civil penalties for failing to register or report. The penalties are based on those imposed on other businesses operating in Alaska or imposed on violations under DEC statutes.

**Sec. 46.03.484** exempts vessel merely transiting through state waters in innocent passage.

**Sec. 46.03.485** provides DEC rule-making authority to implement this legislation.

**Sec. 46.03.490** defines several terms by drawing on existing state and federal laws and regulations, most notably the Clean Water Act and recent federal legislation authored by Senator Frank Murkowski.

**Section 2** amends DEC statutes on criminal penalties to incorporate cruise ship wastewater discharge and air emission reporting.

**Section 3** specifies the timeframe for vessel registration (within 3 days) and pollutant sampling, testing and reporting (within 21 days) beginning June 1, 2001.

**Section 4** directs DEC to prepare an assessment report by January 2004, after three seasons of sampling and record keeping. The report shall:

1. characterize the risks posed by the wastewater discharge and air emissions to the human and marine environments;
2. evaluate pollution abatement and control technologies of the cruise line companies; and
3. recommend future action, as appropriate.

**Section 5** establishes an effective date of June 1, 2001 in order to capture as much as possible of the 2001 cruise season.



**Organized Village of Kake**

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**(Federally Recognized Tribal Government serving the Kake, Alaska area)**



March 30, 2001

Rep. Vic Kohring, Chairman  
House Transportation Committee  
State Capitol, Room 24  
Juneau, AK 99801-1182

Sent via fax to 907/465-3818

Dear Representative Kohring:

This letter is in full support of Representative Kertulla's Sponsor Substitute for HB 22, "An Act relating to certain passenger vessels operating in the marine waters of the state; and providing for an effective date." The bill complements Senator Murkowski's legislation that was recently passed plus addresses gray water discharges and air emissions that were not addressed in Senator Murkowski's bill.

Since the decline of the timber industry, Kake's economy is dependent on the local salmon hatchery and seafood processing/cold storage plant. The community is also focusing on attracting smaller tour ships to experience our rural lifestyle and Tlingit culture. All our local industries are dependent having a clean environment and this Right to Know bill will provide access to information about the wastes generated and released by the cruise ships. It provides for an annual registration with the state, so we know who the responsible parties are and how to contact them, monthly reports of all waterborne discharges, sampling of gray water discharge for certain pollutants, monthly sampling and reporting of air emissions and an assessment of all data after 3 years to examine what we have learned about emissions and what it means to our human and marine environments. We support all these proposed activities and in order to make it accessible to rural Alaskan communities, we would like to see such information posted on the internet. Alaskan citizens have the right to know what is being dumped in our waters and released into our air. By enabling Alaskans to have a better knowledge of the impacts of cruise ships on our environment, we will be armed with the information necessary to insure the impacts are not likely to jeopardize the economic benefits of our fishing & recreation industries.

Sincerely,

Casimero A. Aceveda Jr.  
President

cc: Representative Beth Kertula

April 9, 2001

Dear Rep. Kohring:

It is reassuring to the Lower Chatham Conservation Society that progressive action is being taken to keep Alaskan air and water cleaner. We are in full support of SSHB22 and agree that this legislation is an integral component in planning for and maintaining a healthy marine environment.

LCCS's mission is to protect the integrity of the Lower Chatham Ecosystem, locally defined from south Baranof Island, Chatham Strait to west Kuiu Island. Our membership has close ties with the marine environment, as many people are commercial fishermen and subsistence gatherers. Last summer many people saw an unusual orange oily substance in Chatham that has yet to be identified. Of concern to us are the cruise ship discharges that could potentially harm our food sources and beaches. We agree that by requiring the cruise ships to comply with discharge regulations that are imposed on other industries, one may make a safer bet that the people of this state will be provided clean air and water.

If the cruise industry is so mum about its discharge activities, then one has to wonder what they could be hiding. The right to know what are discharged into Alaskan waters should be public knowledge. We can all rest more assured when we know toxic materials are being disposed of at the proper facilities and not being dumped into our waters. Regular monitoring will tell if they are in compliance, knowledge every Alaskan should be privy to.

Progressive indeed is this legislation's intent, not only clean up dirty dumping practices, but to reassess the program's effectiveness by gathering monitoring information over 3 years and forming the basis for a thorough assessment determining whether there are serious risks to our human health and marine environment. This longer-term approach will rest well on the eyes of the public, who will no longer wonder what has become of the cruise ship issue.

It is our hope that by way of public disclosure, state and federal oversight, monitoring and sound enforcement policy that the not-so-invisible effects of toxic discharge be a problem of the past. The benefits of clean water and a healthy ecosystem will benefit everyone, including the cruise industry.

Sincerely,  
Anissa Berry-Frick  
President  
LOWER CHATHAM CONSERVATION SOCIETY

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**Subject: HB 22**

**Date: Mon, 16 Apr 2001 14:18:05 -0800**

**From: "AWRTA - Sarah Leonard, Executive Director" <sleonard@awrta.org>**

**To: Representative\_Beth\_Kerttula@legis.state.ak.us**

April 12, 2001

Representative Beth Kerttula  
Room 430  
Capitol  
Juneau, AK 99801-1182

Dear Representative Kerttula:

I am writing on behalf of the Alaska Wilderness Recreation & Tourism Association (AWRTA) and in support of HB 22 as it relates to our organization's 2001 Cruise Legislative priority. AWRTA's membership includes almost 300 nature-based tourism business owners, partnering organizations and individuals in Alaska and the United States.

The AWRTA Board of Directors recently adopted our 2001 Legislative Priorities including support for cruise legislation:

"AWRTA encourages regulation focusing on safe waters and consistent monitoring of marine wastewater discharges within all of Alaska's coastal region including the Southeast, Inside Passage, Southcentral and Southwest areas. AWRTA supports legislation that includes monitoring and enforcement mechanisms to ensure compliance by all operators to follow state and federal regulations."

AWRTA also encourages and supports a distinction between foreign-owned cruise ships and American-owned tour boats; and a distinction based on the ship's passenger capacity. We believe these distinctions should be considered separately in all cases of State and Federal jurisdiction and regulation. Many small boat operators are encouraging sound practices and teaching visitors and residents alike about Alaska's natural and cultural environments.

AWRTA is a membership-driven trade organization formed to be a collective voice for wilderness-dependent businesses.

We advocate for the sustainability of Alaska's natural and cultural resources, responsible tourism, and tourism planning for communities. Because we support the sustainability of Alaska's resources, including safe and healthy Alaska waters, we support these components of HB 22. Thank you for the opportunity to comment and I look forward to working with you during this legislative session and in the future.

Best Regards,

--  
Sarah Leonard  
Executive Director

\*\*\*\*\*  
The Alaska Wilderness Recreation & Tourism Association (AWRTA)  
The Alaska Institute for Sustainable Recreation & Tourism (AISRT)

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# Watching their waste

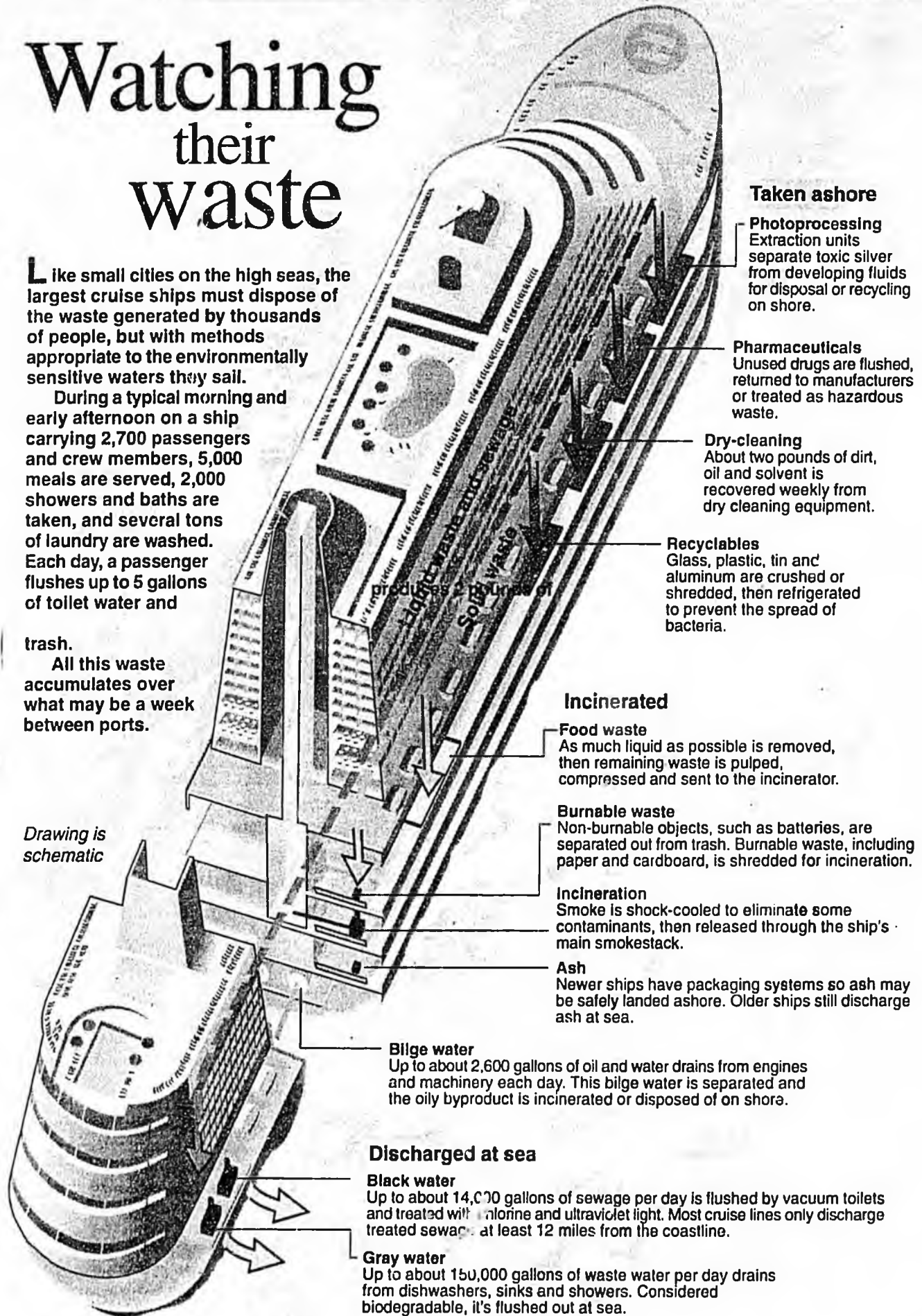
Like small cities on the high seas, the largest cruise ships must dispose of the waste generated by thousands of people, but with methods appropriate to the environmentally sensitive waters they sail.

During a typical morning and early afternoon on a ship carrying 2,700 passengers and crew members, 5,000 meals are served, 2,000 showers and baths are taken, and several tons of laundry are washed. Each day, a passenger flushes up to 5 gallons of toilet water and

trash.

All this waste accumulates over what may be a week between ports.

*Drawing is schematic*



## Taken ashore

**Photoprocessing**  
Extraction units separate toxic silver from developing fluids for disposal or recycling on shore.

**Pharmaceuticals**  
Unused drugs are flushed, returned to manufacturers or treated as hazardous waste.

**Dry-cleaning**  
About two pounds of dirt, oil and solvent is recovered weekly from dry cleaning equipment.

**Recyclables**  
Glass, plastic, tin and aluminum are crushed or shredded, then refrigerated to prevent the spread of bacteria.

## Incinerated

**Food waste**  
As much liquid as possible is removed, then remaining waste is pulped, compressed and sent to the incinerator.

**Burnable waste**  
Non-burnable objects, such as batteries, are separated out from trash. Burnable waste, including paper and cardboard, is shredded for incineration.

**Incineration**  
Smoke is shock-cooled to eliminate some contaminants, then released through the ship's main smokestack.

**Ash**  
Newer ships have packaging systems so ash may be safely landed ashore. Older ships still discharge ash at sea.

## Bilge water

Up to about 2,600 gallons of oil and water drains from engines and machinery each day. This bilge water is separated and the oily byproduct is incinerated or disposed of on shore.

## Discharged at sea

**Black water**  
Up to about 14,000 gallons of sewage per day is flushed by vacuum toilets and treated with chlorine and ultraviolet light. Most cruise lines only discharge treated sewage at least 12 miles from the coastline.

**Gray water**  
Up to about 150,000 gallons of waste water per day drains from dishwashers, sinks and showers. Considered biodegradable, it's flushed out at sea.



## ALASKA CRUISE SHIP INITIATIVE

### 2000 Season Accomplishments

#### AIR QUALITY

240 total opacity readings of cruise ship emissions were conducted by DEC and EPA. 34 observations exceeded the opacity standard. 16 ships were cited by the state and four by EPA. Opacity readings will occur for the next four seasons as a part of the Royal Caribbean settlement

Ambient air quality was monitored in downtown Juneau at four locations: near the old police station, the Baranof Hotel, Capital School, and the Court Plaza Building. From August 13 through September 30, 2000 levels were well below (50%) health based standards. The work group will determine the extent of future sampling.

#### WATER QUALITY

Wastewater samples were taken from each of 21 large cruise ships visiting Juneau. Blackwater, (from toilets) and graywater (from showers, sinks, galleys, laundry) were tested in the same manner as land based sewage treatment plants. Results showed that treated blackwater often exceeded the federal treatment standard and that graywater had surprisingly high fecal coliform levels.



Following the initial sampling results, the Coast Guard focused on how marine sanitation devices are operated and maintained by conducting follow-up inspections. Five regulatory actions are pending, based on 12 expanded examinations. Coast Guard oversight of marine sanitation devices will continue as needed, when these same ships call on other U.S. ports.

Each ship's discharges were additionally analyzed for a suite of chemicals, called priority pollutants, that would indicate if there was improper disposal of hazardous chemicals. Current results indicate that hazardous wastes are not being improperly disposed of. A few priority pollutants are present at levels above water quality standards; however, there is not enough information to determine if exceedences have occurred. Priority pollutant analysis is complex. A panel of experts is being assembled to assist with data analysis and determining if there are impacts to public health or the environment. Sampling of blackwater and graywater discharges, and certain priority pollutants will likely continue next year.

The Coast Guard implemented Operation Cruise Watch 2000, which increased the aircraft and cutter oversight of cruise ships. No violations were noted.

## OIL SPILL RESPONSE

Through the Royal Caribbean settlement, \$2.1 million has been given to the South East Alaska Pollution Response Organization (SEAPRO) to increase oil spill response capabilities in Southeast Alaska. In consultation with the DEC and the U.S. Coast Guard a variety of pollution response equipment was selected for purchase. Major purchases include:

- Two 48 ft. multi-mission fast response vessels
- One 55 ft. oil spill response barge for the Northern Lynn Canal Near Shore oil spill response package
- LORI brush skimming system
- 1,000 feet Shoreguard boom
- 2,000 ft of containment boom
- Seven 21 ft spill response skiffs

## ENVIRONMENTAL LEADERSHIP

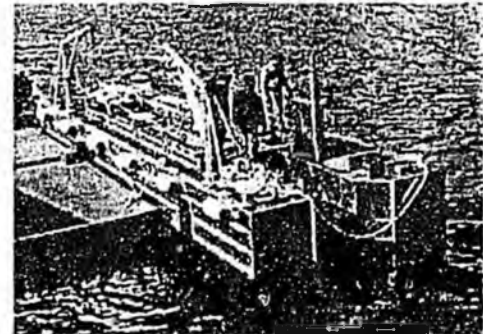
Environmental Awareness Days were conducted July 12 through July 14, with tours of ships environmental systems available daily. Additionally, during the evening of July 13, a joint panel of experts provided information to the public on environmental management systems on ships and updated the public on the 2000 Season activities.

Next summer, Princess Cruises will connect four of its ships to Juneau shore power, eliminating the need to run generators, thereby reducing emissions while in port.

The North West CruiseShip Association paid for four sets of Oil Spill Recovery Barges that have been located at Haines, Juneau, Glacier Bay, and Ketchikan. Each set consists of two barges, one with a skimmer, and both with 249 barrels of storage capacity. These barges significantly increase the states oil spill safety net, as they can be used for responses to spills other than just from cruise ships.

## WASTE WATER TREATMENT:

- Eliminated discharges of treated blackwater and untreated graywater in ports.
- All capable ships held discharges until 10 miles from port, and discharged at a speed of at least 6 knots.
- There were no discharges of garbage or untreated wastewater in so-called "donut holes", once the policy was enacted.
- Four pilot projects are underway to test new ways of treating graywater.
  - Reverse osmosis: initial analysis indicated this process meets standards.
  - Aerated membrane treatment system: preliminary results from one ship are promising.
  - Activated oxidation process: currently being evaluated.
  - Chemical treatment with mechanical decanting: shipboard sampling indicated that early modifications were successful.
- Industrial wastewater treatment methods have not changed in decades. These initiatives may fundamentally change wastewater treatment methods for the marine trade.



# Cruise Ship Legislation Summary of Summer 2000 Water Quality Sampling



Alaska Department of Environmental Conservation  
Division of Statewide Public Service

## Priority Pollutants

- 24 cruise ship effluent samples were analyzed for priority pollutants to determine if hazardous chemicals were being improperly discharged.
- 10 pollutants exceeded Alaska's water quality standards; there was no evidence of hazardous wastes being mixed with overboard discharges.
- 7 metals – chromium, copper, lead, mercury, zinc, silver and nickel – were present in levels above the water quality standards for aquatic life.

Table 1 lists the priority pollutants that were found, the Alaska Water Quality Standard, the highest sample concentration of a pollutant found, and the number of samples that were above the Alaska Water Quality Standards. Additionally, the table lists the drinking water standard maximum contaminant level (MCL) and the number of samples above the drinking water standard.

Table 1: Highest Concentration of Priority Pollutants Found During Cruise Ship Wastewater Testing, Summer 2000

Metals	WQS	Highest Sample	Number Above	DW MCL's	Number above DW
	ug/L	ug/L	WQS	ug/L	MCL's
Chromium	50	430	2	100	1
Copper	2.9	7100	46	1000	6
Lead	5.6	62	12	15	10
Mercury	0.25	0.33	1	2	0
Nickel	8.3	630	11	100	3
Silver	2.3	610	7	Na	Na
Zinc	86	1800	39	5000	0
<b>Organics</b>					
Diethyl phthalate	3.4	15	14	No Drinking Water Criteria for these organic compounds	
Di-n-butyl phthalate	3.4	98	5		
Ethylbenzene	430	2600	1		

## Assessment of Wastewater Treatment

In the summer of 2000 only blackwater (waste from toilets) was regulated. Regulations required blackwater to be treated in a Marine Sanitation Device (MSD) certified by the Coast Guard. MSDs constructed after 1980 have to meet effluent limits of 150 mg/l of total suspended solids (TSS) and 200 fecal coliform per 100 milliliters. Until the passage of the Murkowski amendments, graywater, consisting of drainage from dishwashers, showers, laundry, washbasins and galleys, was discharged legally, without any treatment, into waters anywhere in Alaska.

## Results of Black and Graywater Discharges for Fecal Coliform, TSS, BOD, and COD

- 21 cruise ships tested black and graywater effluent samples for fecal coliform, TSS, biological oxygen demand (BOD) and chemical oxygen demand (COD).
- Only one blackwater sample out of 70 samples met both the TSS and fecal coliform standards.
- 78% of the samples exceeded the effluent limit of 200 fc/100 ml for discharges from marine sanitation devices.
- 40% of the graywater samples for TSS exceeded the MSD effluent limit of 150mg/l. These results indicate that graywater is similar to blackwater in number of fecal coliform bacteria and total suspended solids, and that graywater should be treated prior to discharge.

Table 2 displays the number of samples that had fecal coliforms in the 0 to 200, 200 to 1000, 1000 to 1 million, 1 million to 10 million and greater than 10 million ranges. Similar ranges are shown for total suspended solids, BOD and COD.

Table 2: Sample Ranges for Fecal Coliform, TSS, BOD and COD					
Fecal Coliform per 100 mL	0 to 200	200 to 1000	1000 to 1,000,000	1,000,000 to 10,000,000	more than 10,000,000
Gray Water	14	2	27	12	9
Black Water*	27	6	16	15	4
Gray & Black Water Combined	1	1	5	2	1
Rev. Osmosis Treated B&G Water	5				
*FC results greater than 200 per 100 ml exceed the federal standard for MSD.					
TSS	0 to 150 mg/L	150 - 1000 mg/L	More than 1,000 mg/l		
Gray Water	39	23	3		
Black Water*	8	22	6		
Gray & Black Water Combined	8	3			
Rev. Osmosis Treated B&G Water**	5				
*Samples >150 mg/l exceed the federal standard for MSDs					
BOD	0 to 100 mg/L	100 to 1000 mg/L	More than 1,000 mg/l		
Gray Water	16	36	13		
Black Water	18	16	1		
Gray & Black Water Combined	1	10			
Rev. Osmosis Treated B&G Water	3	2			
COD	0 to 100 mg/L	100 to 1000 mg/L	1000 to 10,000 mg/L	more than 10,000 mg/l	
Gray Water	1	39	15	2	
Black Water		2	5	1	
Gray & Black Water Combined		10	1		
Rev. Osmosis Treated B&G Water		5			

# Cruise Ship Legislation

## Visible Cruise Ship Emissions



Alaska Department of Environmental Conservation  
Division of Statewide Public Service

### History of Emissions Testing

From 1990 through June 1996, DEC staff routinely monitored cruise ship smoke emissions in Juneau and Ketchikan. On occasion, DEC also monitored cruise ship opacity in Valdez, Haines, and Glacier Bay. The National Park Service has done monitoring in Glacier Bay for several years. Reductions in general funds reduced the program to monitoring on a complaint basis. From 1997 to 1999, DEC did few or no observations of cruise ship emissions.

In 2000, DEC has contracted for smoke readers in Juneau, Ketchikan, Haines, and Skagway, using money from the Royal Caribbean Cruise Line settlement.

### Compliance Summary

Year	DEC Inspections	Out of Compliance	DEC Notices of Violation	Complaints Received by DEC
1992	152	56	20	252
1993	127	25	11	97
1994	109	27	15	45
1995	195	26	20	32
1996	78	-	-	65
1999	-	17*	0	-
2000	240	34	16	-86

- Readings by EPA
- 

### Penalties

Until funding was cut in 1996, DEC used schedules of fines agreed to by the cruise lines, instead of referring violations to the Attorney General. The amount of the fine depended on the number of violations the ship had during the summer, and whether the cruise line turned in a corrective action report. This agreement has not been in place since 1996.

The fee schedule used in 1995 was:

Number of NOVs	Penalty
1 <sup>st</sup>	\$0
2 <sup>nd</sup>	\$5,000
3 <sup>rd</sup>	\$10,000
4 <sup>th</sup> and subsequent	\$20,000
Additional Penalty if corrective action report	\$5,000

not turned in after any NOV	
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The following schedule was planned to start on July 15, 1996, but was never implemented:

Number of NOVs	Penalty
1 <sup>st</sup>	\$10,000
2 <sup>nd</sup>	\$20,000
3 <sup>rd</sup>	\$40,000
4 <sup>th</sup> and subsequent	\$100,000

### Changes to Opacity Limits

#### From 1980 to 1991:

The Opacity limit was less than or equal to 40%. Ships could exceed this 40% requirement for:

- three minutes in any hour;
- six minutes in any hour during diesel startup.

#### From 1991 to 1995:

- The opacity standard was lowered to 20%.
- To allow safe operation, an exemption was added for 12 minutes in any hour during berthing, anchoring, getting underway, and maneuvering in port.

#### From 1995 – present:

The exemption during berthing, anchoring, getting underway and maneuvering in port was changed to 40% for one hour, or 20% except for 9 minutes in that hour.