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Report to Congressional Requesters

June 2019

COAST GUARD

Stakeholders' Views on Issues and Options for Managing the Great Lakes Pilotage Program

GAO-19-493

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GAO Highlights

Highlights of GAO-19-493, a report to Congressional Requesters

Why GAO Did This Study

The Great Lakes-St. Lawrence Seaway maritime transportation system is the longest inland navigation system in the world. In 2016, the Coast Guard implemented a number of changes, including amending its methodology for setting the rates charged to shippers for using U.S. marine pilotage services in these waters.

GAO was asked to review the Coast Guard's management of the Great Lakes Pilotage Program. This report (1) describes how the Coast Guard obtains stakeholder input on the Great Lakes Pilotage Program, and identifies key stakeholder issues that exist; and (2) discusses alternatives to the current structure and governance of the Great Lakes pilotage system identified by stakeholders, and the reported tradeoffs they may present.

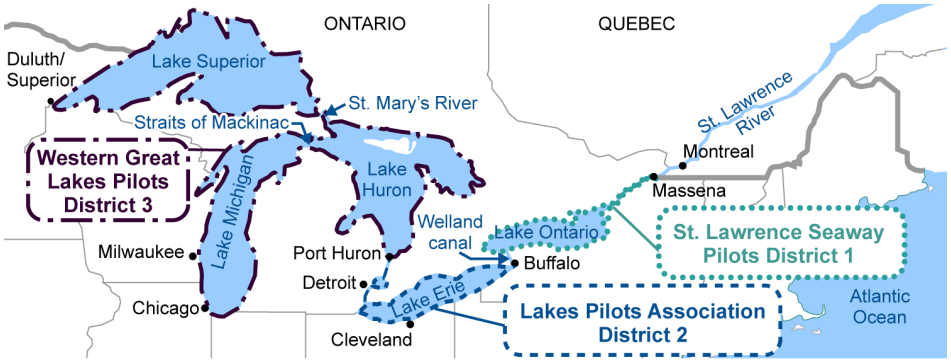
GAO reviewed applicable laws, Coast Guard rulemakings from 2016-2019, Great Lakes Pilotage Advisory Committee meeting minutes for 2017 and 2018, and issues identified by stakeholders. GAO also interviewed a range of stakeholders, including shipping industry and pilot representatives, to obtain perspectives on the Coast Guard's management of the program and any alternative governance options that may exist.

View GAO-19-493. For more information, contact Nathan Anderson at (206) 287-4804 or AndersonN@gao.gov.

What GAO Found

The Coast Guard manages the Great Lakes Pilotage Program to implement federal requirements that any oceangoing or foreign commercial vessel entering the Great Lakes-St. Lawrence Seaway use a registered marine pilot to safely navigate the vessel through the system. The Coast Guard employs several mechanisms for communicating with stakeholders and obtaining their input on the program. These include the federal rulemaking process, meetings of the Great Lakes Pilotage Advisory Committee, and ad-hoc communications with local pilotage stakeholders. Since 2016, when the Coast Guard implemented several programmatic changes, shipping industry stakeholders and pilots have identified a number of issues that they would like to have considered for the program. The issues cited by shipping industry stakeholders relate, in large part, to the financial impacts associated with the Coast Guard's methodology for calculating pilotage rates. The issues raised by Great Lakes pilots and their representatives are varied and include changes that may be needed to respond to the increasing volume and variety of vessels needing Great Lakes pilotage services, such as cruise ships.

U.S. Pilot Associations in the Great Lakes-St. Lawrence Seaway



Sources: GAO and Map Resources. | GAO-19-493

Shipping industry stakeholders and others have suggested potential alternatives to the structure and governance of Great Lakes pilotage. The proposed alternatives include consolidating the three U.S. pilot associations and districts, revising the existing governance structure and entities responsible for pilotage rate-setting, and introducing some level of competition for providing pilotage services. Each of these options presents various tradeoffs. For example, it is unclear if consolidating the three associations and districts would result in cost savings because there are relatively few administrative positions that could be reduced. According to the Coast Guard and pilot representatives, the specialized training and local experience needed to become registered pilots also presents a challenge to implementing competition because there is generally a limited supply of pilots available to compete in the same geographic area. Further, many of the governance structures and procedures of the existing Great Lakes pilotage system were established by statute and revisions would require legislative changes.

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Abbreviations

AMOU	American Maritime Officers Union
GLPAC	Great Lakes Pilotage Advisory Committee
Great Lakes-Seaway	Great Lakes–St. Lawrence Seaway
SLSDC	Saint Lawrence Seaway Development Corporation

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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June 26, 2019

The Honorable Roger F. Wicker
Chairman
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable John Thune
United States Senate

The Honorable Todd Young
United States Senate

The Honorable Gary C. Peters
United States Senate

The Great Lakes-St. Lawrence Seaway (Great Lakes-Seaway) maritime transportation system, located in North America, is the longest inland navigation system in the world. It includes the St. Lawrence River, the five Great Lakes (Ontario, Erie, Huron, Michigan, and Superior), and their connecting system of channels and locks. The Great Lakes-Seaway system extends 2,300 miles from the Atlantic Ocean in the east to Duluth, Minnesota at the western end of Lake Superior. It serves more than 100 ports across eight U.S. states and two Canadian provinces. The region's maritime sector is a critical economic driver and provides an important transportation route to the manufacturing and agricultural heartland of North America. The opening of the St. Lawrence Seaway in 1959 provided an accessible route to the Great Lakes for oceangoing commercial vessels and resulted in a significant increase in shipping traffic. As a result, congressional committees soon became concerned that marine pilots on these oceangoing commercial vessels were not operating with the same level of specialized local knowledge or skills as Great Lakes pilots and presented a potential threat to maritime safety.[1]

The economic and environmental costs of a vessel collision or disaster on the Great Lakes-Seaway, which also serves as the source of drinking water for millions of people, could be catastrophic to the region. Since 1960, federal law has required that any oceangoing or foreign commercial

[1] See S. Rep. No. 1284, at 3-4 (86th Cong. 1960).

vessel that enters the Great Lakes-Seaway use a registered Great Lakes marine pilot to board and safely navigate the vessel throughout the system.[2] United States and Canadian vessels that generally operate within the Great Lakes-Seaway (commonly referred to as "lakers") account for most of the commercial shipping on the Great Lakes-Seaway and are not affected by this law.[3] Registered Great Lakes marine pilots provide a vital safety service by using their local knowledge, navigational abilities, and ship handling expertise to guide vessels through the ports and waterways of the Great Lakes-Seaway.

Pilotage in the U.S. waters of the Great Lakes-Seaway falls under the authority of the U.S. Coast Guard (part of the Department of Homeland Security) through its Great Lakes Pilotage Program. This program is unique in that the federal government has no role in managing pilotage programs in any other U.S. waterways.[4] Through this program, the Coast Guard determines the total number of U.S. pilots needed and establishes the rates for pilotage services to be paid by shippers, among other regulatory activities. In 2016, the Coast Guard implemented a number of programmatic changes, including a change to its methodology for setting pilotage rates, which resulted in significantly increased pilotage rates in some areas. Since that time, shipping industry stakeholders have raised questions about the Coast Guard's ability to effectively manage the Great Lakes Pilotage Program and the process it uses to address industry stakeholders' input. You asked us to review the Coast Guard's management of the Great Lakes Pilotage Program. This report (1) describes how the Coast Guard obtains stakeholder input on its management of the Great Lakes Pilotage Program, and identifies key stakeholder issues that currently exist; and (2) discusses alternatives to the current structure and governance of the Great Lakes pilotage system identified by stakeholders, and the reported tradeoffs that they present.

[2] 46 U.S.C. § 9302(a). This requirement applies to foreign vessels, as well as U.S. vessels operating "on register," which means vessels engaged in foreign trade that generally transit in ocean waters outside of the Great Lakes-Seaway. 46 C.F.R. § 67.17.

[3] 46 U.S.C. § 9302(f). A "laker" is a commercial cargo vessel especially designed for, and generally limited to, use on the Great Lakes. In 2015, foreign vessels accounted for approximately 26 percent of the total commercial vessel traffic on the Great Lakes-Seaway.

[4] Compulsory pilotage is routinely implemented in waterways worldwide, including within the United States' 24 coastal states. In U.S. waterways outside of the Great Lakes, pilotage regulations and oversight functions are governed by state law.

To describe how the Coast Guard obtains stakeholder input, we first identified and reviewed criteria that govern federal rulemaking and advisory committee proceedings, including the Administrative Procedure Act and the Federal Advisory Committee Act.[5] We also reviewed all Coast Guard rulemakings associated with Great Lakes pilotage rates and related methodology updates from 2016-2019, and the documented proceedings of the Great Lakes Pilotage Advisory Committee (GLPAC) meetings from 2017 and 2018. Further, we conducted interviews with Coast Guard officials in the Great Lakes Pilotage Program to obtain information on how they use these mechanisms and to identify any other methods used to obtain stakeholder input regarding the Great Lakes Pilotage Program. We identified current stakeholder issues by reviewing: (1) public comments submitted as part of the rulemakings, (2) proceedings of recent GLPAC meetings, (3) documentation of specific issues identified by shipping industry stakeholders in related legal filings, and (4) letters and documentation provided to the Coast Guard and Members of Congress by shipping industry stakeholders.[6] Finally, we conducted interviews with a range of stakeholders to obtain additional perspectives on issues affecting the Great Lakes Pilotage Program.[7] The shipping industry representatives that we met with include the American Great Lakes Ports Association, the ports of Toledo (Ohio) and Monroe (MI),[8] Fednav Limited,[9] the Shipping Federation of Canada, the American Great Lakes Shipping Association, and the Conference of Great Lakes and St. Lawrence Governors and Premiers. The pilot representatives that we met with include the American Pilots Association; the presidents of the three U.S. Great Lakes-Seaway pilots associations; and the International Organization of Masters, Mates, and Pilots.

[5] 5 U.S.C. §§ 551-706; 5 U.S.C App. 2.

[6] See *American Great Lakes Ports Association, et al* v. *Admiral Paul F. Zukunft*, No. 1:16 – cv-1019 (D.D.C); *American Great Lakes Ports Association, et al* v. *Admiral Karl Schultz,* Civil Action No. 1:18 – cv-2650 (D.D.C.).

[7] We identified stakeholders through interviews with representatives of the Coast Guard Great Lakes Pilotage Program and the Saint Lawrence Seaway Development Corporation, as well as through our review of related pilotage reports and documentation. These stakeholders included a combination of users, operators, and related organizations with knowledge of the Great Lakes marine pilotage system.

[8] We met with representatives of these two ports because, during the time of our review, these ports were experiencing labor issues that affected the service they were receiving from Great Lakes pilots.

[9] Fednav Limited is Canada's largest ocean-going, dry-bulk ship owning and chartering group and a leading user of the Great Lakes-Seaway system.

To identify potential alternatives to the current structure and governance of the Great Lakes pilotage system and obtain information on stakeholders' perspectives on the associated tradeoffs of the alternatives, we reviewed GLPAC proceedings; as well as several recent reports addressing marine pilotage systems used elsewhere in the United States, including one that specifically presented various alternative governance options for pilotage in the Great Lakes-Seaway.[10] To augment the studies we reviewed, we also discussed alternative governance issues with the shipping industry and pilot representatives listed above. In addition, we also met with representatives of the St. Lawrence Seaway Development Corporation, the Washington State Pilotage Commission, and the Canadian Great Lakes Pilotage Authority to obtain perspectives on the perceived benefits and potential implementation challenges of the various alternative governance options presented.

We conducted this performance audit from July 2018 to June 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

History and Purpose of Great Lakes Pilotage Act

The Great Lakes Pilotage Act of 1960 established the system of compulsory pilotage on the Great Lakes.[11] Senate committee reports accompanying the legislation indicate pilotage requirements in the Great Lakes were established because they were viewed as essential to helping ensure maritime safety.[12] The committees also recognized that

[10] P. Kirchner & C. Diamond, "Unique Institutions, Indispensable Cogs, and Hoary Figures: Understanding Pilotage Regulation in the United States", *University of San Francisco Maritime Law Journal*, Volume 23, Number 1, 2010-2011, p. 168; *Washington State Pilotage Final Report and Recommendations*, Washington State Joint Transportation Committee, prepared by Community Attributes, Inc. and Gleason and Associates, January 18, 2018; and *Governance Options for Safe, Reliable, and Competitive Pilotage Services in the U.S. Waters of the Great Lakes*, Conference of Great Lakes and St. Lawrence Governors and Premiers, prepared by CPCS Transcom Inc., March 27, 2018.

[11] Pub. L. No. 86-555, 74 Stat. 259 (1960).

[12] See S. Rep. No. 1284 (86th Cong. 1960); S. Rep. No. 1666 (86th Cong. 1960).

international coordination between the United States and Canada would be required at a federal level and the act specifically precludes any state, municipality, or local authority from regulating any aspect of pilotage in the waters of the Great Lakes-Seaway.[13]

Overview of the Great Lakes Pilotage System

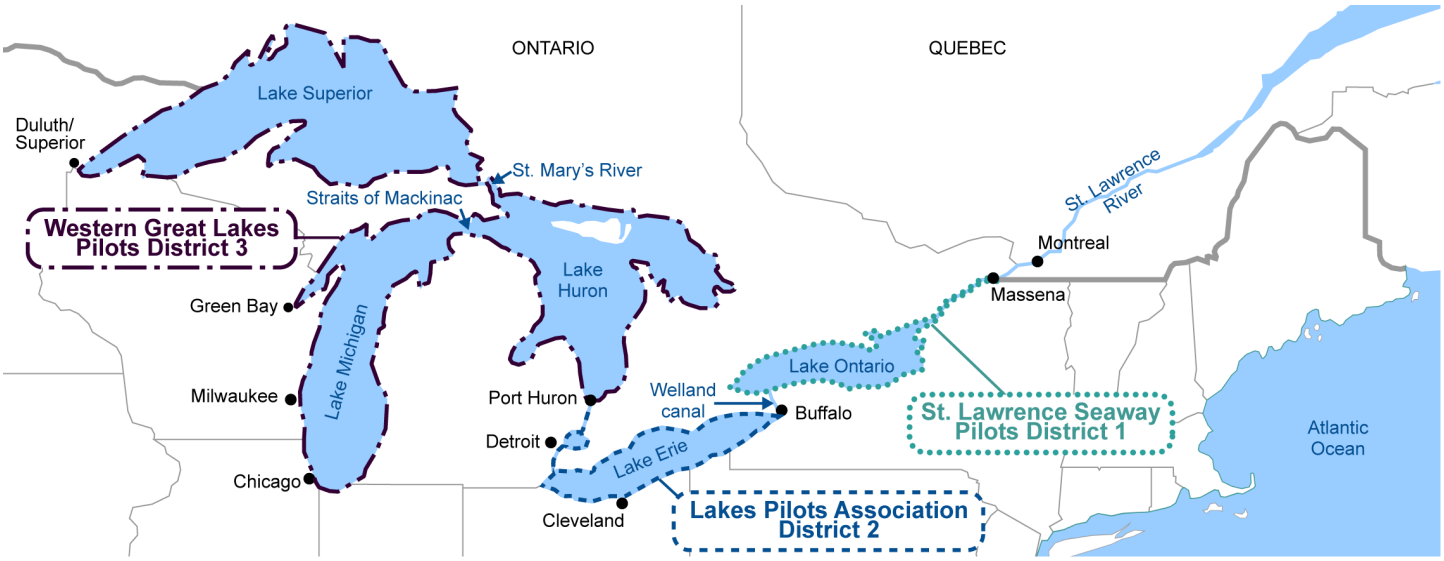
All oceangoing commercial vessels are required to use U.S. or Canadian registered pilots during their transit through regulated waters of the Great Lakes-Seaway.[14] Generally, these vessels are assigned a U.S. or Canadian pilot depending on (1) the order in which they transit a particular area of the Great Lakes-Seaway and (2) their destination port(s). Vessels do not choose which pilot they receive.[15] The U.S. waters of the Great Lakes-Seaway are divided into three pilotage districts, each operated by an association of independent pilots certified by the Coast Guard (see figure 1). The registered pilots only operate within their designated district and do not cross district boundaries. If a vessel needs to cross a district boundary to reach the next port, there will be a change of registered pilots at predetermined locations.

[13] 46 U.S.C. § 9306.

[14] 46 U.S.C. § 9302.

[15] Assignment of U.S. and Canadian pilots is conducted pursuant to a Memorandum of Arrangement that includes a numbering system for incoming vessels corresponding to an agreed percentage of vessel assignments for each country, based on specific transit areas.

Figure 1: U.S. Pilot Associations in the Great Lakes-St. Lawrence Seaway and Their Geographic Boundaries



Sources: GAO and Map Resources. | GAO-19-493

Each pilotage district is further divided into "designated" and "undesignated" areas. Designated areas of the Great Lakes-Seaway include areas that are generally more challenging to navigate and require pilots to be fully engaged in the navigation of vessels in their charge at all times.[16] In undesignated areas, which are generally open bodies of water, pilots are required to be "on board and available to direct the navigation of the vessel at the discretion of and subject to the customary authority of the master."[17] Given the size of the Great Lakes-Seaway, and depending on the port calls planned, registered pilots can be onboard vessels for multiple days. This contrasts with marine pilot transits in most U.S. coastal waters that may be just a few miles each way. Commercial vessels transiting the Great Lakes-Seaway are also generally smaller than many of the vessels that operate at coastal ports. As a result,

[16] 46 U.S.C. § 9302(a)(1)(A) provides that the President is to designate bodies of water within the Great Lakes for pilotage purposes. See Presidential Proclamation 3385, *Designation of restricted waters under the Great Lakes Pilotage Act of 1960,* December 22, 1960, 25 Fed. Reg. 13.681 (Dec. 24 1960). On June 10, 1968, President Johnson signed Presidential Proclamation 3856; this document amended designated waters for District 3. 33 Fed. Reg. 8535 (June 11, 1968).

[17] 46 U.S.C. § 9302(a)(1)(B).

pilotage fees typically represent a greater proportion of the vessel costs than many larger commercial vessels operating in coastal waters.

Federal Roles and Responsibilities

Pursuant to the Great Lakes Pilotage Act of 1960, the Coast Guard regulates the operation of U.S. pilotage services and establishes the rates they may charge.[18] These rates are to be established through a full rulemaking process at least every 5 years, but must be reviewed and adjusted on an annual basis.[19] The rate-setting process currently includes a 10-step methodology generally designed to account for the estimated annual revenues needed by registered U.S. Great Lakes pilots to provide pilotage services and total vessel traffic expected in each of the three U.S. pilotage districts. (See appendix I for further details on the pilotage rate-setting methodology.)[20] Among other regulatory roles, the U.S. Coast Guard is also responsible for developing competency standards for pilot training and issuing pilot registrations, providing oversight of the pilot associations, and determining the total number of authorized pilots operating in the U.S. waters of the Great Lakes-Seaway.[21] For the 2019 shipping season, 54 U.S. pilots were authorized to serve the Great Lakes-Seaway.[22]

The Great Lakes Pilotage Advisory Committee (GLPAC) was established in November 1998 to provide advice and make recommendations to the

[18] 46 U.S.C ch. 93. In the 1960 Act, responsibility was shared between the Department of Commerce, which was required to promulgate regulations regarding the registration of Great Lakes pilots, and the Coast Guard, which retained responsibility for matters relating to a pilot's professional competency. Pub. L. No. 86-555, 74 Stat 259 (1960). The Department of Transportation Act, enacted in 1966, transferred responsibility for implementing the Great Lakes Pilotage Act of 1960 to the new Department of Transportation, which then delegated it to the Coast Guard. Pub. L. No. 89-670, § 6(a)(4), 80 Stat. 931, 938 (1966).

[19] 46 U.S.C. § 9303(f).

[20] Outside of the Great Lakes-Seaway system, pilotage rates are handled by the states.

[21] These duties are similar to those performed by state and local government pilotage entities within the 24 coastal U.S. states.

[22] The total number of working pilots expected to be operating in 2019 is 51. Once the Coast Guard authorizes additional pilots through its staffing model, it routinely takes 1 to 2 years for a pilot trainee to meet applicable training requirements and be certified to operate independently.

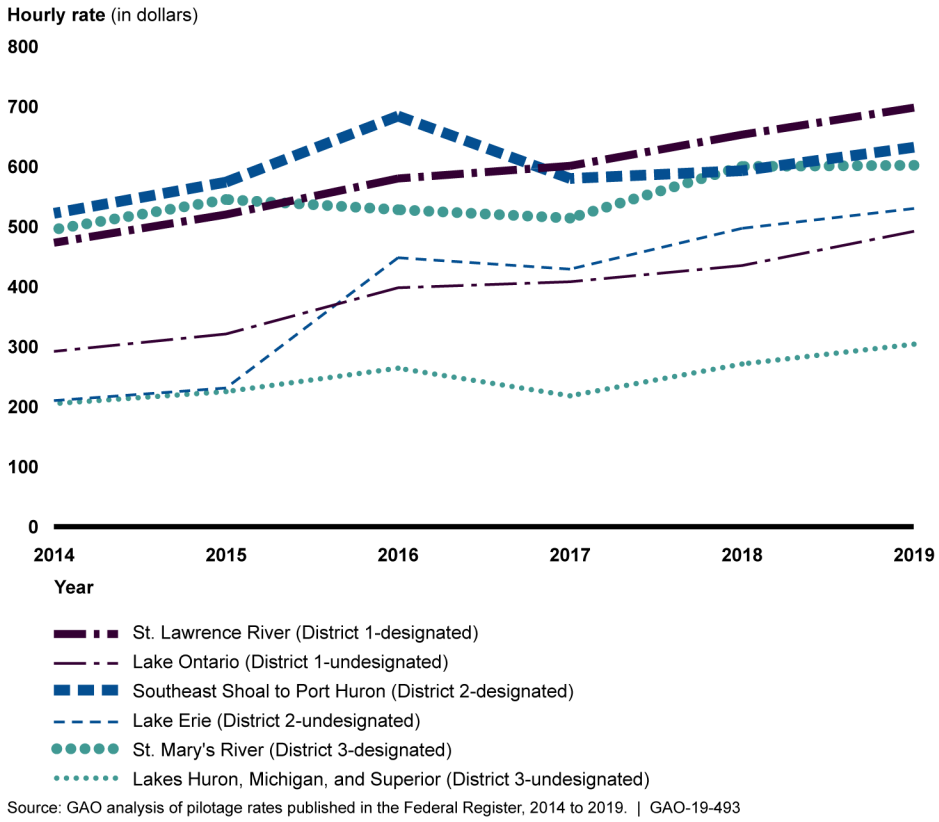
Coast Guard on matters relating to Great Lakes pilotage.[23] The GLPAC, which meets at least once annually, is comprised of seven members that include the presidents of the three U.S. Great Lakes-Seaway pilotage districts; three members that represent the ports, shipping industry, and vessel operators, respectively; and one member with a finance and accounting background that is selected by unanimous vote of the other six members.

2016 Pilotage Rate Increase and Subsequent Litigation

The number of U.S. pilots in the Great Lakes-Seaway decreased from 44 in 2007 to 36 in 2014, which, according to the Coast Guard, resulted in pilot shortages and contributed to shipping delays. In 2016, the Coast Guard initiated a number of changes to its pilotage rate-setting methodology that were intended, in part, to provide sufficient pilot compensation to attract, hire, and retain appropriate numbers of qualified Great Lakes pilots. As shown in Figure 2, after continuing to increase between 2014 and 2016, hourly rates for U.S. pilotage services in 4 of the 6 pilotage areas of the Great Lakes-Seaway were reduced for the 2017 shipping season. Since 2017, they have increased by about 10 percent annually. According to the Coast Guard, these hourly rates are intended to generate the revenues needed to cover the annual operating expenses of the pilot associations; compensate working pilots; maintain infrastructure, such as pilot boats and dispatch equipment; and train new pilots.

[23] Coast Guard Reauthorization Act of 1998, Pub. L. No. 105-383, § 303, 112 Stat. 3418 (codified as amended at 46 U.S.C. § 9307).

Figure 2: Hourly Rates for U.S. Registered Great Lakes Pilotage Services, by District/Area, 2014 – 2019



Source: GAO analysis of pilotage rates published in the Federal Register, 2014 to 2019. | GAO-19-493

Note: The data presented for 2019 are based on the proposed rates published in the Notice of Proposed Rulemaking, October 17, 2018.

In May 2016, shipping industry stakeholders filed a complaint in the U.S. District Court for the District of Columbia contesting specific elements of the Coast Guard's 2016 rate-setting methodology. In November 2017, the court dismissed 3 of the 5 original claims and found for the industry plaintiffs for the two remaining claims. In March 2018, the court remanded the matter to the Coast Guard to address those two claims while leaving

the 2016 rule in place.[24] In November 2018, a coalition of shipping industry stakeholders filed an additional complaint challenging the underlying data and decision-making process used by the Coast Guard for determining the 2018 Great Lakes pilotage rates.[25] This case is still pending before the court.

The Coast Guard Uses Several Mechanisms to Obtain Stakeholder Input on the Great Lakes Pilotage Program, and Stakeholders Have Raised a Variety of Issues for Consideration

The Coast Guard uses several mechanisms to obtain stakeholder input on the Great Lakes Pilotage Program, which stakeholders have used to raise a number of issues to the Coast Guard's attention. Some of the mechanisms are more formal and include obtaining stakeholder input on proposed rule changes and at annual meetings, while other mechanisms are informal and are employed on an as-needed basis. Since 2016, shipping industry stakeholders and pilots have identified a number of issues, or suggestions, they would like to see integrated within the Great Lakes Pilotage Program. Issues identified by shipping industry stakeholders relate, in large part, to the financial impacts associated with the Coast Guard's methodology for calculating pilotage rates, as well as other areas where enhanced transparency or oversight is suggested. Issues identified by pilots and their representatives include updating the list of "designated waters" to include areas like Great Lakes ports and addressing changes that may be needed to respond to the increasing volume and variety of vessels needing Great Lakes pilotage services, such as cruise ships.

[24] *American Great Lakes Ports Association, et al* v. *Admiral Paul F. Zukunft*, No. 1:16 – cv-1019 (D.D.C). Specifically, the District Court issued an order granting a motion for summary judgment for the Coast Guard for 3 of the 5 claims and issued an order granting a motion for summary judgment for the shipping industry plaintiffs for the remaining two claims pertaining to (1) the Coast Guard's methodology for determining a pilot compensation benchmark, and (2) the Coast Guard's decision not to include "vessel weighting factors" as a source of revenue within its rate-setting calculations. The court then remanded the matter to the Coast Guard to address those two claims without vacating the 2016 rule. The plaintiffs appealed the order denying, in part, their motion for summary judgment and that appeal is still pending. No. 18-5145 (D.C. Cir.).

[25] *American Great Lakes Ports Association, et al* v. *Admiral Karl Schultz,* No. 1:18 – cv-2650 (D.D.C).

The Coast Guard Uses Several Mechanisms for Obtaining Stakeholder Input

The Coast Guard uses several mechanisms to obtain stakeholder input on the Great Lakes Pilotage Program. Formal mechanisms include obtaining stakeholder comments during the rulemaking process and soliciting input during annual meetings of the Great Lakes Pilotage Advisory Committee. According to the Coast Guard, additional inputs are also provided more informally during ad-hoc communications and operational coordination efforts.

Rulemaking Process

The federal rulemaking process represents a key mechanism by which the Coast Guard obtains stakeholder input regarding proposed changes to annual rates pilots may charge for services. Pursuant to the Administrative Procedure Act, the Coast Guard publishes a notice of proposed rulemaking in the *Federal Register* and allows a minimum of 30 days for public comment on any applicable changes to the rate-setting methodology and proposed pilotage rates.[26] According to Coast Guard Great Lakes Pilotage Program officials, public participation is essential to the rulemaking process and they consider all comments and information received. In the final rule published to the *Federal Register,* the Coast Guard summarizes the nature of the public comments received on the notice of proposed rulemaking and characterizes how the comments were incorporated into the final rule, as applicable. For example, the 2018 Final Rule summarizes the comments received in eight different categories, including pilot compensation benchmarks and staffing model calculations.[27] According to Coast Guard officials, they have historically received about five to seven comments each year. However, they received nearly 60 comments regarding the proposed rulemaking in 2016 given the broader scope of revisions and the higher rate of pilot compensation proposed in that year.

Great Lakes Pilotage Advisory Committee

As previously stated, the GLPAC is to meet at least once annually to provide advice and make recommendations to the Coast Guard on matters relating to Great Lakes pilotage. This committee is governed by the Federal Advisory Committee Act, which calls for a published agenda, public participation, and a written transcript of the proceedings.[28] Our review of 2017 and 2018 GLPAC meeting transcripts indicate the

[26] 5 U.S.C. §§ 551-706 (1946).

[27] 83 Fed. Reg. 26,162 (June 5, 2018).

[28] 5 U.S.C App. 2.

meetings were well-attended and provided a venue for sharing a variety of ideas and perspectives; as well as for providing specific input to the Coast Guard.[29] In addition to the annual GLPAC meetings, Coast Guard officials also noted that GLPAC members participate in scheduled phone calls to discuss pertinent matters—such as a discussion of executive orders or revised regulations—on an as-needed basis. According to the Coast Guard, since 2013 there have been up to three GLPAC meetings per year, ranging in length from 5 hours to 2 days.

Coast Guard Great Lakes Pilotage Program officials also stated that GLPAC recommendations from the 2014 meeting were a key input for many of the rate-setting methodology changes implemented in 2016. Although the Coast Guard is not required to implement them, program officials commented that considerable weight is given to GLPAC-issued recommendations.[30] At the September 2018 meeting, the Committee developed three recommendations addressing issues related to the billing dispute process and issuance of temporary registrations to applicant pilots.[31] According to the Coast Guard, these recommendations are still being considered for future action.

Ad-Hoc Communications

Coast Guard program officials reported that they have extensive ad-hoc communications with shippers, pilots associations, and their Canadian counterparts to coordinate pilot assignments and help reduce vessel traffic delays on the Great Lakes-Seaway. These stakeholders corroborated their communications with the Coast Guard during our meetings with them. Other venues for information sharing and stakeholder interaction identified by Coast Guard officials include visits to the pilots' offices to perform oversight functions, meetings with shipping industry representatives and Canadian counterparts (Great Lakes Pilotage Authority) at maritime meetings and conventions; as well as

[29] According to the Coast Guard, approximately 50 individuals were in attendance at the September 2018 GLPAC meeting, representing a combination of pilots, ports, environmental groups, and industry representatives.

[30] A recommendation can be passed by the GLPAC with "all but one" members agreeing with the proposal.

[31] A fourth recommendation was also passed by the committee related to a labor dispute that affected the provision of pilotage services at two ports within District 2 (Toledo, OH and Monroe, MI). Based in part on the GLPAC discussions, the Coast Guard subsequently rescinded a 1994 Commandant Instruction (COMDTINST 16637.5) on September 12, 2018 that alleviated this issue and is intended to help ensure all vessels receive pilotage services upon request.

interactions with Coast Guard officials from District 9 (Cleveland, OH), which is responsible for broader Coast Guard activities in the Great Lakes-Seaway. According to these Coast Guard program officials, operational coordination and routine meetings with stakeholders provide ongoing opportunities to obtain input on the Great Lakes Pilotage Program and help inform potential changes that may be needed.

Shipping Industry Stakeholders and Pilots Have Identified a Number of Issues in Recent Years

Since 2016, when the Coast Guard implemented several significant programmatic changes, shipping industry stakeholders and pilots have identified a number of issues. Collectively, these issues have been the subject of discussion during annual GLPAC meetings, documented in written comments submitted as part of the annual rulemaking process, and included in supplemental correspondence to the Coast Guard and Members of Congress.

Issues Identified by Shipping Industry Stakeholders

Issues identified by shipping industry stakeholders relate, in large part, to the financial impacts associated with the Coast Guard's methodology for calculating pilotage rates, as well as other areas where enhanced oversight is suggested. The key issues cited by shipping industry stakeholders in recent years generally fall into four categories: (1) financial oversight and cost accounting, (2) vessel traffic estimates, (3) pilot compensation and staffing, and (4) billing and dispute resolution. Some of these issues remain the subject of ongoing litigation initiated by a coalition of shipping industry stakeholders against the U.S. Coast Guard. (See appendix II for additional details on selected issues identified by shipping industry stakeholders, including a summary of the specific claims that are in litigation).

Financial oversight and cost accounting. Since 2016, shipping industry stakeholders have cited several issues regarding the timeliness and transparency of financial information provided by the U.S. pilot associations that is used during the rulemaking process. These issues include a request for disclosure of individual pilot compensation levels, and additional clarification and transparency regarding the use of the pilot

districts' working capital funds.[32] For example, shipping industry representatives claim that disclosure of individual pilot compensation levels would help ensure that compensation practices remain fair and are not a disincentive to attracting and retaining Great Lakes pilots. At the September 2018 GLPAC meeting, a pilots' representative noted that this information was previously provided for District 1, but was eliminated due to concerns that the data could be used out of context. For example, this individual stated that although all pilots in his association generally receive the same rate of pay, some may obtain higher annual compensation because of additional days worked. According to Coast Guard officials, they do not collect or retain individual compensation data on pilots; however, they do review such data during visits to the pilot associations' offices to help ensure fair compensation practices.

Vessel traffic estimates. In 2016, the Coast Guard began using a 10-year rolling average of Great Lakes-Seaway vessel traffic volumes to estimate projected vessel traffic for each district in the coming year as part of its annual pilotage rate-setting calculations.[33] According to the Coast Guard, this change was implemented to help reduce rate volatility and remedy traffic overestimates that occurred in the past, largely based on shipping industry projections. However, given the increasing volume of vessel traffic on the Great Lakes-Seaway since the 2008-2009 recession, shipping industry stakeholders contend that the 10-year rolling average represents a significant underestimate of vessel traffic volume. For example, in the 2017 shipping season, vessel traffic in 5 of the 6 pilotage areas of the Great Lakes-Seaway exceeded the estimates (calculated using a 10-year rolling average) by over 25 percent. According to its 2018 Notice of Proposed Rulemaking, the Coast Guard noted that use of the rolling average will result in pilots taking in more revenue than projected

[32] The working capital fund, previously referred to as "return on investment," is intended to provide pilots with a source of revenue to be used for future expenses associated with capital improvements, technology investments, and future training needs, with the goal of eliminating the need for surcharges. Surcharges are calculated as a percentage of total revenue for each district and that percentage is applied to each bill until the total amount of the surcharge is collected. The districts use these surcharges to help pay for expenses such as the training of new pilots.

[33] As part of its 10-step rate-setting methodology, the Coast Guard divides the estimated pilotage revenues needed (operating expenses, total pilot compensation, etc.) by the 10-year average of vessel traffic to determine base pilotage rates. See appendix I for additional information on this process. For the 2016 shipping season, the Coast Guard used a 9-year rolling average because only partial season data was available for 2006.

in some years, and in other years will result in less revenue.[34] Coast Guard officials believe that, over the long term, this methodology will help ensure infrastructure is maintained and that pilots receive adequate compensation and rest between assignments to enhance pilot retention. Shipping industry organizations challenged the Coast Guard's use of 10 years of traffic data in the complaint filed with the U.S. District Court for the District of Columbia in November 2018, and that case is ongoing.[35]

Pilot compensation and staffing needs. The data sources and methodology used by the Coast Guard to develop a target compensation benchmark for U.S. Great Lakes pilots have been subject to ongoing disagreement among pilots and shipping industry stakeholders for several years. Since 2016, the Coast Guard has used two primary data sources as a basis for comparison—the average compensation of Canadian Great Lakes-Seaway pilots, and compensation data for first mates on domestic Great Lakes vessels (lakers). Shipping industry stakeholders identified concerns with some of the specific adjustments made by the Coast Guard related to both of these data sources and filed complaints in 2016 and 2018 in federal court contesting the Coast Guard's methodology.[36] A related issue identified by shipping industry stakeholders concerns the number of average pilot working days the Coast Guard uses to determine the number of pilots needed each season. For example, the Coast Guard uses 270 working days as a baseline to calculate pilot compensation figures, but uses 200 working days to calculate staffing requirements so as to account for a 10-day per month rest standard for pilots. The Coast Guard states that this 10-day rest standard is not a requirement and generally does not apply during the busiest times of the season. During the busiest time, pilots generally remain available to work additional days to service the increased vessel traffic on the Great Lakes-Seaway. The 2018 complaint filed by shipping industry stakeholders includes a claim

[34] 83 Fed. Reg. 2581, 2584 (Jan. 18, 2018).

[35] *American Great Lakes Ports Association, et al* v. *Admiral Karl Schultz,* No. 1:18-cv-2650 (D.D.C).

[36] In 2017, the U.S. District Court for the District of Columbia found that the Coast Guard's decision to make a 10 percent adjustment to the Canadian pilot compensation data was arbitrary and capricious. The court remanded the matter to the Coast Guard without vacating the 2016 rule. *American Great Lakes Ports Association, et al* v. *Admiral Paul F. Zukunft*, No. 1:16-cv-1019 (D.D.C). In 2018, shipping industry plaintiffs filed a complaint challenging Coast Guard's adjustment to compensation data for first mates based on overtime, and that case is ongoing. *American Great Lakes Ports Association, et al* v. *Admiral Karl Schultz,* No. 1:18-cv-2650 (D.D.C).

challenging the Coast Guard's use of a 270-working day assumption, and that case is ongoing.[37]

Billing and dispute resolution. Other issues cited by shipping industry stakeholders pertain to billings from pilot associations and the Coast Guard's dispute resolution process. The primary billing issues cited by shipping industry stakeholders since 2016 include an increase in the number of tug boats requested, as well as cases where double pilotage was employed that shipping industry officials did not believe were necessary.[38] In the case of tug boat usage, pilot representatives acknowledged that there may have been an increase in tug boat usage, but they noted that they do not have any financial incentive to call for the use of tug boats and they only request them, in coordination with the shippers' agents, when they deem them necessary. According to Great Lakes Pilotage Program officials, the Coast Guard routinely reviews inquiries from shippers on this issue, but noted that decisions to use tug boats remain safety decisions that are made between the vessel operators and the Great Lakes pilots. In contrast, authorizations for double pilotage are provided on a case-by-case basis by the Director of the Great Lakes Pilotage Program. According to the Coast Guard, there were instances in which pilot associations charged for double pilotage without obtaining authorization from the Director and, in such instances, the Coast Guard has ruled in favor of vessel operators with regard to billing disputes. Both of these issues were topics addressed at the September 2018 GLPAC meeting, as well as discussion regarding reasonable time frames for filing billing disputes. According to Great Lakes Pilotage Program officials, some disputes were filed after an extended period of time had elapsed, making it more difficult to adjudicate the issues. For this reason, the Coast Guard reported that it is considering introducing a maximum amount of time allowable for vessel operators to initiate a billing dispute, and corresponding time frames for pilot associations and the Coast Guard to respond and adjudicate, respectively.

[37] *American Great Lakes Ports Association, et al* v. *Admiral Karl Schultz,* No. 1:18-cv-2650 (D.D.C).

[38] The use of two pilots (double pilotage) is typically used in adverse weather or sea conditions, or when aids to navigation (e.g., buoys) are removed due to ice. Additional factors for determination are specified in 46 C.F.R. § 401.425.

Issues Identified by Great Lakes Pilots and Their Representatives

Issues raised by Great Lakes pilots and their representatives generally include the following categories: (1) recognition of the pilots' unique qualifications and role, (2) review of "designated waters," and (3) review of protocols for vessel priorities.

Recognition of pilots' unique qualifications and role: Representatives of the U.S. Great Lakes pilots state that the shipping industry remains overly focused on pilotage costs and may fail to recognize the unique qualifications that registered Great Lakes pilots possess and the fundamental public interest the pilots serve by ensuring the safety of vessel navigation and environmental protection on the Great Lakes-Seaway. The pilots noted that, in addition to the often challenging weather conditions they face, they also serve a security role in that they may be the only U.S. citizen on board to provide situational awareness to U.S. authorities in the event of any suspicious activities given that foreign vessels in the Great Lakes-Seaway can travel close to major infrastructure and U.S. cities. The pilots also stated that it can be easy for the shipping industry to select individual routes and billings to make a case that U.S. pilots charge significantly more than their Canadian counterparts, but they contend that is not an accurate picture of actual system-wide costs.

Review of designated waters: Great Lakes pilots commented that "designated water" determinations have not been reviewed for over 50 years and they should be reassessed. In particular, pilots note that increases in the volume and variety of vessels; as well as expanded port infrastructure on the Great Lakes-Seaway since establishment of the Great Lakes Pilotage Program in 1960, warrant the consideration of additional areas as "designated waters," which are generally more challenging to navigate and require registered pilots to be in full navigational control of the vessels at all times as they transit these designated areas. For example, pilots contend that the Straits of Mackinac and all ports on the Great Lakes-Seaway should be considered designated waters. Coast Guard officials reported that it is their understanding that masters are already relying on pilots to direct navigation in waters such as the Straits of Mackinac. Additionally, the officials stated that the Coast Guard does not have the authority to make

these designation changes through regulation; rather, such revisions require a presidential declaration.[39]

Review of protocols for vessel priorities: Great Lakes pilots also commented that increases in the volume and variety of vessel traffic on the Great Lakes-Seaway in recent years may necessitate a review of the first-come, first-served standard for assigning pilots to vessels. For example, the pilots note that plans for increasing the volume of cruise ships on the Great Lakes-Seaway may require adjustments to the priority process for assigning pilots given that cruise ships are generally on fixed itineraries and tight timelines. This issue was discussed at the 2018 GLPAC meeting and is the subject of ongoing discussions among the Coast Guard and Great Lakes-Seaway stakeholders.

Stakeholder-Identified Alternatives to the Current Structure and Governance of the Great Lakes Pilotage System Entail Potential Tradeoffs

Some shipping industry stakeholders, and a recent report commissioned by the Conference of Great Lakes and St. Lawrence Governors and Premiers, have suggested that it is time to evaluate potential governance alternatives to help ensure the Great Lakes pilotage system is efficient, cost-effective, and better serves the needs of the maritime shipping industry and the public.[40] Some of the proposed alternatives include changes that could be implemented within the existing governance system, such as the consolidation of the three U.S. pilotage districts and a review of some pilotage requirements. Other changes, such as transferring the pilotage rate-setting function from the Coast Guard to another entity, would entail more sweeping reforms and require statutory changes.[41] Finally, some proposals, such as the introduction of competitive pilotage services, would reflect an even more significant change from the existing model of Great Lakes pilotage consisting of federal oversight and economic regulation of independent pilot associations, known as a regulated monopoly.

[39] 46 U.S.C. § 9302(a)(2).

[40] *Governance Options for Safe, Reliable, and Competitive Pilotage Services in the U.S. Waters of the Great Lakes*, Conference of Great Lakes and St. Lawrence Governors and Premiers, prepared by CPCS Transcom Inc., March 27, 2018.

[41] Many of the existing structures and governance procedures for the U.S. Great Lakes pilotage system were established by statute and revisions would require legislative changes.

District Consolidation and Review of Some Pilotage Requirements

District Consolidation

Some shipping industry stakeholders and the report commissioned by the Conference of Great Lakes and St. Lawrence Governors and Premiers suggest that consolidation of the three existing U.S. Great Lakes-Seaway pilotage districts might help reduce administrative costs. According to these sources, such a consolidation could also limit the complexity associated with vessel agents and shippers interacting with multiple pilot associations over the course of a single journey on the Great Lakes-Seaway. Apart from consolidating all three of the existing districts into one, industry stakeholders did not identify any other proposed alternatives for changing the existing district boundaries.

According to representatives of the Great Lakes pilots, the expansive area of the Great Lakes-Seaway and natural geographic boundaries lend themselves to maintaining the three pilot associations. The pilot representatives also noted that if the districts were to be consolidated, shippers and agents would lose some degree of localized service currently provided by each district, such as knowledge of local conditions and transit times.

It remains unclear to what extent cost savings could be realized through consolidation of the three existing U.S. pilotage districts. According to the pilot association presidents, there are relatively few administrative and support staff employed for such a large geographic area and some perform multiple functions.[42] Specifically, the pilots reported that, collectively, there were 23.5 administrative positions (non-pilots), comprised mostly of 8.5 seasonal dispatchers and 10 pilot boat operators.[43] Assuming that existing pilot boat operations would generally remain consistent following district consolidation, administrative and dispatch services represent the principal source of potential cost savings.

[42] For example, during our visit to District 2 in Port Huron, Michigan, staff that perform dispatch services were also used for operating pilot boats to transport pilots to vessels needing a registered Great Lakes pilot.

[43] This figure does not include contracted pilot boat operators used by District 3. The additional five administrative positions identified include three secretaries and two comptrollers/accountants.

Based on our review of the Canadian Great Lakes Pilotage Association (GLPA) model, which operates a single, consolidated administrative office, it is not clear that the number of administrative staff, including dispatchers, would be reduced after consolidation of the three U.S. pilotage districts and associations. For example, during the 2018 shipping season, the Canadian Great Lakes Pilotage Association included 21 administrative positions, of which 10 were designated as dispatchers—which is similar in proportion to the existing U.S. Great Lakes Pilotage dispatcher distribution.

It is also important to note that even with a potential consolidation of administrative functions within one U.S. pilotage district; pilots would still be limited to operating within the geographic area where they are licensed. According to pilots and Coast Guard program officials, cross-licensing is generally not feasible for multiple waterways between districts given the extent of local specialized training and knowledge required and is not practiced anywhere else in the United States or the Great Lakes-Seaway.

Review of Some Pilotage Requirements

Some shipping industry stakeholders state that a broader review of Great Lakes pilotage requirements may be necessary, particularly the compulsory use of pilots in "undesignated" or open areas of the Great Lakes.[44] According to these stakeholders, such a review is warranted given the significant technology improvements that have occurred since initial passage of the Great Lakes Pilotage Act in 1960. Any proposed changes to the existing pilotage requirements could not be implemented through Coast Guard regulatory changes and would require legislative changes or a presidential declaration.

Although a significant portion of a Great Lakes-Seaway vessel transit may occur in "undesignated" open waters, the Coast Guard and pilots' representatives cited several logistical challenges that would likely occur if pilotage requirements in these areas were revised or eliminated. For example, if a pilot was not on board a vessel in open waters, there likely would be no way to get one on board in the event of severe weather, equipment failure, or other emergency. In addition, the officials noted that if a pilot did not remain on board the vessel for the entire transit, one would still be required to navigate the vessel in and out of each port

[44] In undesignated waters, pilots must be on board and available to direct the navigation of the vessel at the discretion and subject to the customary authority of the master. 46 U.S.C. § 9302(a)(1)(B).

destination. This would entail additional costs for picking up the disembarking pilot and transporting the pilot to a designated shore location and then later to transport another pilot to the vessel to navigate into port. These additional pilot transfers may require the acquisition of additional pilot boats, which are generally customized and can cost in excess of $1 million. Alternately, each individual port could employ its own registered pilot and make the necessary infrastructure investments, including pilot boats and related dispatch equipment, but the result could be an overall increase in the number of pilots operating in the system, which could also increase pilotage costs.

Finally, an increasing number of vessels that otherwise are not compelled to use pilots (e.g., domestic oil tankers) are requesting pilotage services due, in part, to requirements by insurance providers. Because of this increase in the requests for pilotage services, a change in open water pilotage requirements may not result in a reduction in the number of pilots required in some areas of the Great Lakes-Seaway.

Transfer of the Pilotage Rate-Setting Function from the Coast Guard to a Different Entity

Establish a Great Lakes Pilotage Advisory Board to Assist with Rate-Setting

The report commissioned by the Conference of Great Lakes and St. Lawrence Governors and Premiers cites an opportunity for enhanced input into the governance process through the establishment of an advisory board or other oversight mechanism, such as those used commonly in state pilotage commissions nationwide.[45] According to the report, such a mechanism would provide for increased industry participation in the governance process beyond the consultative inputs currently available through the GLPAC and rulemaking processes, and could include responsibility for the pilotage rate-setting function. The principal advantage cited for this increased level of participation would be to better align pilotage services with user needs.

[45] State pilotage commissions are routinely comprised of an evenly divided mix of representatives of pilots, vessel operators, port interests, as well as other interests including environmental groups, government officials, and public members.

Under this proposal, an advisory board would be formed and the board members would be involved in the full range of pilotage governance functions as generally provided by state pilotage commissions. These responsibilities commonly include safety oversight and related functions, such as selecting individuals for admission into the training program, overseeing the training process, issuing licenses, investigating accidents or pilot complaints, taking disciplinary actions, and establishing pilotage rates. All of these activities are current regulatory functions performed by the Coast Guard and statutory changes would be required to designate a new pilotage regulatory body and delineate these responsibilities. Given that stakeholders we met with generally do not advocate for transferring any of the safety oversight and related regulatory functions from the Coast Guard, for the purposes of this report we will focus on the potential tradeoffs associated with having an advisory board formed that would only take responsibility for the Great Lakes pilotage rate-setting function from the Coast Guard.

With regard to the rate-setting function, the introduction of an advisory board to determine pilotage rates may not improve one of the core issues cited by both shipping industry and pilot stakeholders at the most recent GLPAC meeting that was held in September 2018. That is, no matter what entity has responsibility for pilotage rate-setting—a new advisory board or the Coast Guard—such an entity would face similar rate-setting challenges posed by the competing interests of pilots and shipping industry representatives. Further, according to a recent report reviewing the pilotage system in the state of Washington, proposed changes to pilotage rates are often evenly split between shipping industry representatives and pilot representatives and final determinations routinely come down to committee chairpersons or independent board members, sometimes without full transparency regarding how decisions were reached.[46] In contrast, the current GLPAC process provides for considerable input by committee members, stakeholder and public participation, and is documented through publicly available transcripts. Coupled with the rulemaking requirements that incorporate public review and comments, we found that the existing mechanisms represent a fairly

[46] *Washington State Pilotage Final Report and Recommendations*, Washington State Joint Transportation Committee, prepared by Community Attributes, Inc. and Gleason and Associates, January 18, 2018. According to the report, the authors were contracted by Washington state legislators to identify best practices in other pilotage districts and industries to compare these best practices with the state of Washington and to provide recommendations for how to implement those best practices in Washington.

transparent system of pilotage rate-setting as compared to the process used by some coastal states.

Establish an Independent Rate-Setting Entity

One variation used in some U.S. coastal states to help overcome the challenge of competing stakeholder interests during the pilot rate-setting process is the establishment of an independent rate-setting entity, similar to a public utility commission.[47] In fact, one of the principal recommendations in the Washington report was to transfer the rate-setting function from the state pilotage commission to an independent utility and transportation commission in an effort to establish a more clearly defined, rigorous, and transparent process with enforceable timelines. In many respects, we found that the Coast Guard is currently performing this independent function as its rate-setting process includes many of the characteristics identified as a best practice, such as a defined methodology, clear data submission and review process, and the absence of any direct material interest in the outcome of the rate determinations. While individual stakeholders may not agree with the specific inputs and assumptions used by the Coast Guard, the current process is generally transparent and provides an opportunity for informed stakeholder feedback and identification of any grounds on which they can choose to take legal action.

Transfer Pilotage Rate-Setting Authority to Another Federal Entity

Another option presented by various stakeholders is to transfer pilotage rate-setting authority to another federal entity. Under this scenario, the Coast Guard would retain its jurisdiction over safety and related regulatory functions, but responsibility for pilotage rate-setting would be transferred to another federal entity. One specific entity that has been identified as a potential replacement for the Coast Guard is the Saint Lawrence Seaway Development Corporation (SLSDC).[48] According to some stakeholders we spoke with, the SLSDC would have more of a vested interest in ensuring that pilotage rate changes consider the potential impact of such changes on the viability of commercial shipping

[47] At least four coastal states use a public utility commission or similar independent entity to establish pilotage rates. States identified include Maryland, Oregon, Virginia, and Washington.

[48] SLSDC is a wholly-owned government corporation and an operating administration of the U.S. Department of Transportation. The SLSDC operates and maintains the U.S. infrastructure and waters of the St. Lawrence Seaway, while performing trade development focused on driving economic activity for the Great Lakes St. Lawrence Seaway System. Its mission is to serve the marine transportation industries by providing a safe, reliable, efficient, and competitive deep draft international waterway, in cooperation with its Canadian counterpart.

in the Great Lakes-Seaway. SLSDC representatives declined to comment specifically on this proposal, but they cited historical precedent to indicate that if SLSDC were statutorily required to assume pilotage rate-setting responsibilities, additional staffing resources would likely be needed.[49]

It should be recognized that shipping industry and pilotage stakeholders will continue to have vested interests in each of the rate-setting inputs and assumptions that are used to determine pilotage rates and some degree of contention is likely to remain no matter the entity responsible. In addition, pilots' representatives previously filed a complaint regarding the transfer of pilotage rate-setting authority from the Coast Guard to the SLSDC in the 1990s, and they told us that they continue to oppose such a move. According to pilot representatives, they are concerned with a potential transfer of the pilotage rate-setting function to SLSDC given its role in trade promotion, which could potentially affect SLSDC's ability to remain fully independent in this role.

Whether the Coast Guard maintains responsibility for pilotage rate-setting or that function is transferred to another federal entity like SLSDC, the continued role of a federal entity in performing the pilotage rate-setting process would ensure that Administrative Procedure Act requirements still apply, thereby retaining transparency and providing stakeholders and the public an opportunity for review and comment. While there may be some potential for redundancy or increased administrative burden on the pilot associations if the safety oversight and pilotage rate-setting functions were split between the Coast Guard and another federal entity, similar division of responsibilities currently exist in the handful of states that use an independent rate-setting entity, such as a public utility commission. It is the Coast Guard's position that authorizing two federal agencies to oversee different aspects of the Great Lakes Pilotage Program could be challenging. For example, Coast Guard officials noted that a transfer of the rate-setting function may not consider potential impacts to other authorities associated with rate setting, such as limiting the number of pilot pools; prescribing a uniform system of accounts; performing audits;

[49] In 1995, the Secretary of Transportation rescinded its delegation of Great Lakes pilotage functions to the Coast Guard and delegated these responsibilities to the SLSDC. According to SLSDC officials, four additional billets were subsequently transferred to SLSDC to support these responsibilities. However, pilots challenged the decision on the grounds that the Secretary lacks the authority to delegate Great Lakes pilotage functions to SLSDC. In 1997, a court decision led to the reversal of this transfer and pilotage oversight reverted back to the U.S. Coast Guard. Halverson et al. v. Slater, 129 F.3d 180 (D.C. Cir. 1997).

determining the number of pilots to be registered; and establishing conditions for services.

Alternatives to a Regulated Monopoly of Great Lakes Pilotage

Government Employee Model

The existing model of Great Lakes pilotage consisting of federal oversight and economic regulation of independent pilot associations is referred to as a regulated monopoly. This model of regulating pilotage is employed almost exclusively within U.S. coastal states and is also a common method for delivering marine pilotage services worldwide. However, there is also some precedent for pilots serving as government employees.[50] One reason why this government employee model has been identified as one potential alternative for U.S.-registered pilots in the Great Lakes-Seaway is because a majority of the Canadian pilots that operate in the Great Lakes-Seaway are federal employees.

Although making U.S. Great Lakes pilots federal employees could eliminate the need for the Coast Guard to provide administrative and financial oversight of independent pilots, we found that U.S. Great Lakes pilot associations provide many administrative and logistical functions, such as dispatching and pilot transfers, which would need to be assumed by the federal government under this type of alternative model. According to pilots' representatives, one of the principal impacts of the government employee model would likely be the provision of some financial benefit to the shipping industry, given that taxpayers would potentially be assuming the cost of pilotage salaries, benefits, and retirement-related benefits. Additional costs to the U.S. government would also likely be required to fund initial procurement of existing pilot association infrastructure and assets, such as offices and pilot boats.

Another factor to consider in evaluating the pilots as federal employees model involves how the Coast Guard budget process may also affect the future funding and operation of pilotage operations. A significant expansion of the pilotage program staffing and associated resource requirements would likely pose an additional challenge to ensure

[50] For example, pilotage services at the ports of Los Angeles (California) and Grays Harbor (Washington) are provided by municipal employees.

sufficient annual appropriations are obtained, given the ongoing need to balance funding and resources across the Coast Guard's 11 statutory missions.

According to representatives of the Canadian Great Lakes Pilotage Association, pilotage operations in their jurisdiction are to be financially self-supporting through pilotage tariffs, and the Canadian government does not provide an annual appropriation for this purpose.[51] They noted that government pension benefits are also incorporated into the pilotage rates to help achieve these offsets. Similar mechanisms could also potentially be used to fund the additional costs borne to the U.S. government within a federal employee pilot model. Additional considerations associated with a government employee model include the different compensation and overtime structures, and the potential for reduced flexibility afforded to the government if fewer numbers of pilots are needed due to reduced pilotage demand. For example, according to representatives of the U.S. pilot associations, each pilot presently receives the same compensation for each working day they are available, regardless of seniority. However, the U.S. federal government routinely employs a system of graduated compensation based on years employed and may face difficulties in hiring or terminating pilot employees if necessary due to shifting pilotage demand.

Another approach identified within the government employee model is the use of harbor pilots. This option would generally entail pilots working directly for an individual or group of ports as municipal or port employees. According to one pilot representative, the key challenge identified with such an approach is that individual ports would each require its own infrastructure and pilot boats to service incoming vessels, which could represent a substantial investment. In addition, the geography of the Great Lakes and the long transits many times involved present additional hurdles associated with pilot transfers and related logistical support services make the harbor pilot approach less feasible.

Competition for Pilotage Service Delivery

Shipping industry stakeholders have also proposed that the Coast Guard consider the introduction of some level of competition for pilotage service delivery, which would represent the most significant change to the existing model of pilotage regulation. According to shipping industry

[51] According to these representatives, short term deficits can be accrued and financed by the Canadian government if annual pilotage revenues do not meet the amount forecasted.

stakeholders, the introduction of competition would be intended to provide an additional incentive for pilot associations to contain costs. Some specific mechanisms identified include introducing a competitive bidding process to provide pilotage services under multi-year contracts, or allowing individual pilots or groups of pilots to compete for business from vessel operators. The concept of using some form of competitive bidding to grant multi-year contracts for pilotage service delivery is generally consistent with government cost-containment efforts. However, stakeholders we spoke with were unable to identify any pertinent examples where market competition for pilotage services was currently used within U.S. coastal states to provide a basis for further evaluation of this model.[52]

According to the Coast Guard and pilot representatives, several features of the Great Lakes-Seaway pilotage system present challenges for potentially implementing competitive pilotage services in the Great Lakes-Seaway. Most notably, the nature of marine pilotage requires several years of specialized training and local experience that entail significant time and investment to acquire. These requirements generally result in a limited supply of available pilots that could compete for a competitive contract in the same geographical area. This represents a potential barrier to market entry and could lead to a single, entrenched service provider, which may reduce the competitive pressure toward cost containment. Further, if registered pilots did not have the assurance of steady employment in the Great Lakes, there may be increased incentives for them to seek opportunities outside of the region, thereby reducing the overall pool of available pilots.

Other mechanisms of pilotage competition, such as allowing individual pilots or pilot associations to compete for business, would represent a fundamental shift from the norms of compulsory pilotage services worldwide. As a representative of the American Pilots Association stated at the September 2018 GLPAC meeting, one of the foundations of the existing regulated monopoly system is that pilots provide services using their independent judgement to ensure marine safety and the public

[52] One example of contracting for pilotage services was identified at the Port of Long Beach (California). In this case, pilots are employees or shareholders of a private company, which holds an exclusive franchise from the port to provide pilotage services. This firm has been the sole pilotage service provider to the port since 1924 and, as such, did not provide a reasonable basis for assessing the potential impacts or challenges associated with competitive contracting.

interest and should not be subject to any potential financial incentive or business pressure from a vessel operator. Similar statements can be seen in Florida state statutes, which specify the need for economic regulation of marine pilotage at the state level, rather than competition in the marketplace, to better serve and protect the public health, safety, and welfare.[53] In contrast, shipping industry stakeholders suggest that there are likely comparisons to the deregulation implemented in other industries where public safety is also of paramount concern, such as commercial aviation. However, an evaluation of models of competition used in other industries was outside the scope of our review. An additional challenge noted by pilot representatives is that, in a competitive model, pilots may prefer to pursue customers offering more regular or profitable work rather than operate in a non-discriminate manner as is currently the case under the existing numbered rotation system of pilotage assignment.

Along these lines, research conducted by KPMG on international models of marine pilotage, found that although a model "*comprised of independent contractor pilots could result in theoretically more competitive rates, the combination of what appears to be relatively the same demand for pilotage services in the market, and the uniqueness of pilot skillsets have resulted in a scenario where competition is limited in reality.*"[54] The authors' findings also suggest that, in the few cases where competitive pilotage was introduced, it was generally unsuccessful; and that absent sufficient oversight, direct competition among pilots could potentially lead to incentives to cut costs through reduced focus on safety and quality of service.

Agency Comments

In May 2019, we provided a draft of this report to the Department of Homeland Security and the Coast Guard for review and comment. The Coast Guard provided technical comments which we incorporated into the report.

[53] Fla. Stat. § 310.0015(1), (2).

[54] This work was conducted at the request of the Canadian government as part of its 2018 Pilotage Act Review.

We are sending copies of this report to the appropriate congressional committee, the Secretary of Homeland Security, the U.S. Coast Guard, and other interested parties. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (206) 287-4804 or AndersonN@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix III.

Nathan Anderson
Acting Director
Homeland Security and Justice

Appendix I: Summary of Great Lakes Pilotage Rate-Setting Methodology

Pursuant to the Great Lakes Pilotage Act of 1960, the Coast Guard regulates pilotage for oceangoing vessels on the Great Lakes—including setting the rates for pilotage services and adjusting them on an annual basis. For the 2018 shipping season, these base pilotage rates ranged from $271 to $653 per pilot hour depending on the specific areas where pilotage service is provided.[1] According to the Coast Guard, the three U.S. pilot associations use this revenue to cover operating expenses, compensate working pilots, maintain infrastructure, such as pilot boats, dispatch equipment, and personal pilotage units; and train new pilots.[2] The Coast Guard uses the following 10-step methodology to calculate revenues needed for each Great Lakes pilotage association based on the estimated volume of foreign vessel traffic for the upcoming shipping season.

Step 1 – Recognize previous operating expenses. The Director of the Great Lakes Pilotage Program reviews audited operating expenses from each of the three U.S. Great Lakes pilot associations. This number forms the baseline amount that each association is budgeted. There is a 3-year delay between the year the expenses were incurred and when they are included in the rate-setting calculation. For example, the 2019 pilotage rates are calculated using 2016 operating expenses.

Step 2 – Project operating expenses, adjusting for inflation or deflation. The Coast Guard applies 3 years of inflation adjustors to the baseline of operating expenses identified in Step 1. The inflation adjustors routinely used are from the Bureau of Labor Statistics' Consumer Price Index.

Step 3 – Estimate the number of working pilots. The Coast Guard determines the number of working pilots that need to be compensated via collection of pilotage fees. As part of this step, the Coast Guard also uses a "staffing model" to determine how many pilots may be needed for each district to handle expected shipping traffic at the beginning and close of the season. According to the Coast Guard, this number helps inform the

[1] The broad range of pilotage rates reflect, in part, the varying requirements for pilotage services between "designated" and "undesignated" areas. Designated areas require pilots to be fully engaged in the navigation of vessels at all times. In contrast, undesignated areas are generally open bodies of water and not subject to the same pilotage requirements.

[2] According to the Coast Guard, personal pilotage units are precision carry-on navigational units and communications systems.

Director of the Great Lakes Pilotage Program regarding how many total pilot credentials may be authorized for each district to help meet future demand.

Step 4 – Determine target pilot compensation. This step contains two phases to determine the revenue needed for pilot compensation. In the first phase, the Coast Guard determines a target "compensation benchmark" for each of the working pilots. For the 2018 shipping season, this number was derived from 2015 data provided by the American Maritime Officers Union regarding labor contracts, along with annual inflation adjustments deemed applicable by the Director.[3] The second phase entails multiplying this compensation figure by the number of working pilots in each pilotage district and area.

Step 5 – Project working capital fund. This value is obtained by adding total operating expenses (step 2) and total pilot compensation figure (step 4) and multiplying that figure by the annual rate of return from the preceding year for new issues of high-grade corporate securities.

Step 6 – Project needed revenue. The Director of the Great Lakes Pilotage Program adds the total values produced for operating expenses, total pilot compensation, and the working capital fund. This number, which is calculated separately for each district and area, represents the total projected revenue needed for the upcoming season.

Step 7 – Calculate initial base rates. This step consists of first calculating the 10-year vessel traffic average for each district and area. Then, the figure for needed revenue is divided by the 10-year traffic averages.

Step 8 – Calculate average weighting factors by area. Since each vessel that requires a U.S. Great Lakes pilot pays a multiple of the "base rate" based on its size (ranging from 1.0 for the smallest vessels to 1.45

[3] The American Maritime Officers Union (AMOU) labor contracts are multi-year, collectively-bargained contracts between AMOU and individual American vessel owners operating ships on the Great Lakes-Seaway. For the 2019 shipping season, the target compensation benchmark used in this step was $359,887.

for the largest vessels), the Coast Guard calculates the extra revenue that has historically been produced by the weighting factor in each area.[4]

Step 9 – Calculate revised base rates. The Coast Guard modifies the base rate to account for the extra revenue generated by the weighting factors. This is done by dividing the initial base rate by the average weighting factor to produce a revised rate.

Step 10 – Review and finalize rates. According to the Coast Guard, this step can be referred to informally as "director's discretion" and is principally intended to help ensure that the rates meet the goals set forth in applicable law and regulation. The Coast Guard reported that no additional adjustments were included as part of this step for the 2018 Final Rule.

After the base pilotage rates are set, the Coast Guard also considers whether surcharges are necessary, such as those used to help fund the training of new pilots.[5] This amount is calculated as a percentage of total revenue for each district and that percentage is applied to each bill until the total amount of the surcharge is collected.

[4] The Coast Guard uses an historical average of applied weighting factors since 2014, the first year the current weighting factors were applied.

[5] In recent years, the Coast Guard allocated $150,000 per applicant pilot to be collected via surcharges.

Appendix II: Further Information on Issues Identified by the Shipping Industry and Recent Litigation on Great Lakes Pilotage

Financial Oversight and Cost Accounting

Shipping industry stakeholders identified a number of issues related to improving the timeliness and transparency of pilotage association financial information used in pilotage rate-setting process. Among these include (1) addressing the 3-year time lag that exists to incorporate pilotage expenses into the rate calculations; (2) presentation of financial information in a uniform format; (3) disclosure of individual pilot compensation data; and (4) clarifying the purpose and authorized uses of the working capital fund.

- **3-year time lag to incorporate pilotage expenses.** Shipping industry stakeholders suggest that the Coast Guard make an effort to reduce the 3-year time lag to incorporate pilotage expenses into the rate-setting calculations. For example, audited financial information for the 2016 shipping season is used in the development of the 2019 rulemaking. At the most recent GLPAC meeting in September 2018, Coast Guard representatives identified several reasons for this time lag, including about 6 months required for an auditor to conduct an independent review of pilotage expenses and multiple stages of federal review that can take an additional 6 months for the Coast Guard to develop and publish the proposed rate in the Notice of Proposed Rulemaking each year. Pilot representatives and Coast Guard officials generally agree that shortening this lag would be preferable, but are unable to identify a method by which this could be achieved given the existing time frames required for the financial auditing and rulemaking processes.
- **Uniform format for financial reporting.** Shipping industry stakeholders have requested that audited financial statements for the pilot associations be presented in a uniform format. According to an industry representative, the audited financial statements (prepared individually by each pilotage association each year after the shipping season) differ primarily due to the standard accounting practices of the different organizational structures. Specifically, two pilot associations are partnerships and one is a corporation. Our review indicates that a consistent format is used by the Coast Guard and its designated independent reviewer to present summary information of applicable expenses for all three pilot associations as part of the rulemaking process.
- **Public reporting of individual pilot compensation.** Shipping industry stakeholders contend that individual pilotage compensation levels should be disclosed to help ensure revenues are being shared equally among the associations' workforce. According to one pilot

representative, individual compensation data were previously provided for District 1 as part of audited financial statements, but was eliminated because the information was being used out of context. The pilot representative noted that although all pilots in his association generally receive the same rate of pay, some may obtain higher annual compensation due to additional days worked. According to Coast Guard officials, they do not collect or retain individual compensation data on the pilots, but they do review such data during visits to the pilot association offices to help ensure fair compensation practices.

- **Enhanced transparency of the working capital fund.** Members of the shipping industry also identified an issue related to the "working capital" component of the rate-setting process.[1] According to these stakeholders, this fund could potentially be used to augment general revenue and compensation levels and there is a lack of transparency regarding how these funds are being applied to fund capital improvements. This position was the basis of one of the claims included in the complaint filed by a coalition of industry stakeholders in November 2018.[2] In that complaint, the plaintiffs claim that the Coast Guard's failure to eliminate the working capital element as a basis for additional revenue requirements or to bound revenue raised as working capital to particular uses is arbitrary and capricious, among other things. That case is ongoing. According to pilots' representatives, this fund is important to help fund capital improvements, particularly through the winter months, but they also recognize that additional clarity could be provided about its intended uses and potential limitations. In November 2018, the Coast Guard issued guidance to each of the pilotage association's presidents regarding the reporting and uses of the working capital fund. Specifically, the Coast Guard directed the associations to segregate revenues generated by this fund and place them into a separate account at least once per quarter, and further clarified that funds from this account could be applied only toward capital projects, infrastructure improvements/maintenance, and non-recurring technology purchases necessary for providing pilotage services.

[1] The working capital fund, previously referred to as "return on investment," is intended to provide pilots with a source of revenue to be used for future expenses associated with capital improvements, technology investments, and future training needs, with the goal of eliminating the need for surcharges.

[2] *American Great Lakes Ports Association, et al* v. *Admiral Karl Schultz,* No. 1:18–cv-2650 (D.D.C.).

Vessel Traffic Estimates

In 2016, the Coast Guard initiated changes to its rate-setting methodology regarding how it estimates projected vessel traffic for each district and the corresponding hours worked for related pilotage services. Citing a recommendation issued by the Great Lakes Pilotage Advisory Committee in 2014, the Coast Guard initially proposed using a rolling average of 5 years of historical shipping data to estimate traffic volume as part of its ratemaking calculations for the 2016 shipping season. However, based on public comments received on the 2016 Notice of Proposed Rulemaking, the Coast Guard increased this number to 10 years of historical data. According to the Coast Guard, this change was implemented to further reduce rate volatility and help remedy traffic overestimates that occurred in the past, largely based on industry projections.

Given the increasing volume of actual Great Lakes-Seaway vessel traffic in recent years, shipping industry stakeholders contend that the 10-year rolling average used for rate-setting calculations represents an underestimate of traffic volume. Responding to the 2018 Notice of Proposed Rulemaking, industry commenters asserted that the 10-year average included a period of substantially depressed traffic volume caused by the recession in 2008-2009, which if used to estimate future traffic volume could result in increased pilotage rates. See Table 1 for a summary of the variance between actual traffic volumes during the 2017 Great Lakes-Seaway shipping season compared with the estimates calculated using a 10-year rolling average.

Table 1: Variance between Actual and Projected Great Lakes-Seaway Hours of Vessel Traffic, by District/Area, for 2017

	District 1		District 2		District 3	
	Designated	Undesignated	Designated	Undesignated	Designated	Undesignated
Actual vessel traffic (hours of pilotage required)	7,605	8,679	6,074	5,139	3,798	26,183
Estimated traffic used in 2017 rulemaking (10-year average)	5,390	5,597	4,842	5,174	2,835	18,835
Percent variance	41.1	55.1	25.4	-0.7	34.0	39.0

Source: GAO analysis of 2017 and 2018 Final Rules, Great Lakes Pilotage Rates. | GAO-19-493

In the November 2018 complaint, shipping industry organizations argued that the Coast Guard's use of 10 years of traffic data, in contrast with the shorter periods used to determine expenses and manning levels, was arbitrary and capricious, among other things, and that case is ongoing.

Pilot Compensation and Staffing

The process and sources used by the Coast Guard to develop a target compensation benchmark for Great Lakes pilots have been subject to ongoing disagreement among stakeholders. Prior to 2016, the Coast Guard used compensation data for first mates on domestic Great Lakes vessels as the basis for comparison. This data was based on labor contracts of the American Maritime Officers Union (AMOU).[3] However, in 2016, when the AMOU determined it would no longer provide this data to the Coast Guard, program officials revised the rate-setting methodology to begin using the average compensation of Canadian vessel pilots as the primary source, along with a 10 percent adjustment that program officials believed was appropriate to reflect the different level of benefits provided to Canadian pilots as government employees. After the court found that the 10 percent adjustment to the Canadian compensation level benchmark was not supported by reasoned decision-making and remanded the matter to the Coast Guard,[4] for the 2018 rulemaking, the Coast Guard reverted to using the pre-2016 compensation data of domestic "laker" first mates. However, the November 2018 complaint included a claim that the Coast Guard improperly applied an adjustment

[3] The AMOU labor contracts are multi-year collectively bargained contracts between AMOU and individual American vessel owners operating ships on the Great Lakes.

[4] *American Great Lakes Ports Association, et al* v. *Admiral Paul F. Zukunft*, No. 1:16–cv-1019 (D.D.C.).

of "guaranteed overtime" to the compensation benchmarks based on additional input provided by the AMOU during the notice and comment period. This case is ongoing. Regardless of the basis used, the benchmark pilot compensation levels have not varied greatly in recent years after accounting for annual inflation adjustments. That is, target compensation in 2016 was $326,114 and has increased to $359,887 in 2019, an average annual increase of approximately 3.3 percent.[5]

One related change implemented by the Coast Guard in 2016 that can also affect pilot compensation figures includes the determination to calculate pilotage rates based on the actual number of working Great Lakes pilots rather than the total number authorized. For example, in 2019 there were 54 total authorized U.S.-registered Great Lakes pilots, but only 51 were actually employed and available to provide pilotage services. According to the Coast Guard, this change serves, in part, to remove any financial incentive of pilot associations to operate with fewer pilots than allowable to increase individual compensation levels.

The shipping industry has also identified issues regarding the number of working days the Coast Guard uses to calculate compensation figures and its application of a 10-day per month rest standard for pilots. For example, in 2016, the Coast Guard began using 200 working days per season as the basis for staffing calculations—down from 270—to allow for up to 10-days of rest per month.[6] According to the Coast Guard, this change was made, in part, to address recommendations from the National Transportation Safety Board regarding reducing possible "pilot fatigue." However, shipping industry stakeholders have suggested that if 200 days is the benchmark for working days, it should also be used to determine pilot compensation levels. Instead, the Coast Guard multiplies the weighted daily rate derived from AMOU compensation data by 270 to calculate the target annual compensation. This issue is also the subject of a claim included in the 2018 complaint, which alleges that the Coast Guard's use of the 270-day multiplier value is arbitrary and capricious,

[5] The Coast Guard currently has a compensation study underway that will include additional data on compensation levels of U.S. and Canadian pilots on the Great Lakes, first mates of domestic vessels, as well as pilots serving in other coastal U.S. states. However, in September 2018, members of the GLPAC committee expressed preliminary concerns about how the results of this study will be used by the Coast Guard to support changes in future compensation benchmarks.

[6] 270 days represents the estimated number of days in an average 9-month Great Lakes shipping season.

among other things. The shipping industry stakeholders further contend that the 10-day rest standard may need to be revisited to ensure adequate pilot availability and avoid any unnecessary increases in total pilot numbers. The Coast Guard states that this 10-day rest standard is not a requirement and generally does not apply during the busiest times of the season, when pilots would remain available to work additional days to service increased vessel traffic on the Great Lakes-Seaway.

Billing Concerns and Dispute Resolution

There is ongoing concern among shipping industry stakeholders about certain billings from pilot associations they view as unnecessary and the Coast Guard's dispute resolution process. The primary billing issues cited by shipping industry stakeholders since 2016 include an increase in the number of tug boats requested, as well as cases where double pilotage was employed that vessel operators did not believe were necessary. In the case of tug usage, pilot representatives generally recognize an increase in tug usage but respond that they do not have any financial incentive to call for the use of tug boats and that pilots only request them, in coordination with the shippers' agents, when they are deemed necessary. Pilot representatives at the 2018 GLPAC meeting also stated that tug boats represent additional insurance to avoid any potential collisions in an increasingly risk-averse environment. Further, they noted that the newer pilots that have come onboard in recent years may also be a contributing factor for an increase in tug usage. According to the Coast Guard, the program routinely reviews inquiries from shippers and masters on this issue, but decisions to use tug boats remain safety decisions between the master and pilot.[7]

In contrast, authorizations for double pilotage are provided on a case-by-case basis by the Director of the Great Lakes Pilotage Program as specified in regulation.[8] In general, the Director may authorize double pilotage when aids-to-navigation have been removed due to ice and weather conditions, dead ship tows, adverse weather and sea conditions, or any abnormal condition that will likely result in extended transits in designated waters. According to the Coast Guard, there were instances in which pilot associations charged for double pilotage without obtaining authorization from the Director of the Great Lakes Pilotage Program. In

[7] 46 C.F.R. § 401.431 outlines the dispute resolution process.

[8] 46 C.F.R. § 401.425.

such cases, the Coast Guard has ruled in favor of vessel operators with regard to billing disputes.

According to Great Lakes Pilotage Program officials, if vessel operators believe a billing error was made, they should first engage directly with the respective pilot association to review the charges and rectify any mistakes. If no agreement is reached with the pilot association, then the vessel operator can make an appeal to the Coast Guard to conduct a further review. If the Coast Guard review determines that a chargeback is justified, they can issue an advisory opinion that the pilot association refund any amount not approved by the Coast Guard or reissue the bill.[9] At the September 2018 GLPAC meeting, Coast Guard representatives noted that some billing concerns were presented after more than 2 years and did not include sufficient details to effectively review and make an informed decision. The Coast Guard is currently working on a proposal to establish reporting timelines for presenting and making determinations on billing disputes.[10]

Another billing concern cited by industry stakeholders at the 2018 GLPAC meeting includes objections to an absence of limits to charges when pilots are onboard a vessel but it cannot get underway due to inclement weather or for other reasons. Pilot representatives point out that such delays consume pilotage resources and the charges are needed to provide an incentive for shippers and agents to remain efficient when ordering and releasing a pilot. Shipping industry stakeholders note that there are a range of factors that can cause a pilot to be detained onboard and the charges, which can exceed $20,000 per day, are unreasonable and represent a large, unforeseen cost. According to Coast Guard officials, they plan to continue engagement with GLPAC members on this issue, recognizing that pilot resources should be employed efficiently, but also that weather/ice conditions may require pilots to remain onboard a vessel for an extended period of time at significant additional cost.

[9] 46 C.F.R. § 401.431 (g). Failure or refusal to comply with the advisory opinion within the time allowed may form the basis for a determination of a violation of Great Lakes Pilotage regulations and may result in a civil penalty.

[10]Under the proposal being considered, vessel owners would need to identify questionable billings within a set time period (i.e., 60 or 90 days), and then the pilot association involved would also need to respond within in a similar time frame. As needed, the Coast Guard would then also be required to make a final determination within a similar time frame.

Appendix III: GAO Contact and Staff Acknowledgments

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