

How to Improve America's Ports

Nicolas D. Loris

KEY TAKEAWAYS

America's ports are critical in delivering goods to consumers and for American businesses to move products throughout the country and around the world.

The Foreign Dredge Act prohibits foreign-built or chartered ships from dredging in the U.S., excluding companies that provide better services for lower cost.

Repealing or amending the Foreign Dredge Act will save taxpayers money, stimulate new investment and job creation and deliver environmental benefits.

America's ports are important hubs of economic activity. On U.S. coasts and on inland waterways such as lakes and rivers, ports are critical to move goods and connect businesses with consumers in the U.S. and around the world. Serving as an essential conduit for exports and imports, U.S. ports support many jobs and provide tremendous economic value for cities and communities.

Yet a law more than a century old significantly stunts America's ports' abilities to expand and grow, which, in turn, harms families and businesses. The Foreign Dredge Act of 1906 prohibits any foreign-built or chartered ships from dredging in the U.S. The result is to exclude the world's largest dredging companies that could provide better services for lower cost. While U.S. competitors have all deepened and widened their ports to accommodate state-of-the-art container ships, bulk carriers, and tank ships that significantly reduce transportation costs, the U.S. has lagged far behind.

This paper, in its entirety, can be found at <http://report.heritage.org/bg3503>

The Heritage Foundation | 214 Massachusetts Avenue, NE | Washington, DC 20002 | (202) 546-4400 | heritage.org

Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

Rather, the Foreign Dredge Act is a classic case of concentrated benefits and diffused costs in which a few politically connected companies benefit at the expense of shippers, exporters, consumers, and the ports themselves. A true America-first policy would open up dredging to foreign competition. Repealing or amending the Foreign Dredge Act is an infrastructure modernization reform that would save taxpayers money, stimulate new investment and job creation, and deliver environmental benefits. Furthermore, increasing competition would benefit the U.S. dredging industry in the long run by forcing them to work harder for customers, ultimately resulting in better American dredges and services.

The Economic Value of Ports and Opportunities for Growth

The United States is home to over 360 ports that help deliver goods to consumers across the country.¹ In fact, 99 percent of America's overseas cargo (65 percent by value) moves through U.S. ports, making them an integral component in delivering goods to their intended destinations.² In 2017, more than \$1.6 trillion in goods (\$527 billion in exports and \$1.1 trillion in imports) traveled through domestic ports.³

Opportunities exist to greatly expand trade in and out of America's ports by expanding the size and depth of shipping channels and ports. The depth and width of the shipping channels determine what size and how many vessels can travel through a shipping channel. Even a seemingly small amount of additional depth to accommodate the weight of a larger vessel exponentially creates value. Just one inch of water depth results in the ability to import and export millions of dollars' worth of more cargo. According to the National Oceanic and Atmospheric Administration, "With one more inch of depth in a port, a cargo ship could carry about 50 more tractors, 5,000 televisions, 30,000 laptops, or 770,000 bushels of wheat."⁴

The lack of depth in many shipping channels also forces bulk carriers to "light load," or carry less than a full load, because they cannot travel with full loads at existing depths. Because light-loading is inefficient, it increases transportation costs per unit of good transported—and consequently raises prices for U.S. exporters. If a port cannot accommodate a larger, heavier ship, that cargo ship will divert to a deeper port first. For instance, vessels have had to light-load in Halifax, Canada, before entering New York Harbor.⁵

In an interview with *Petroleum Economist*, IHS Markit Executive Director Paul Tossetti explained the benefit to U.S. energy companies when dredging to a depth of 75 feet to accommodate larger crude oil carriers. "If you don't have to pay 50–80 cents a barrel for reverse lightering, the discount of US crude to Brent doesn't have to be as wide, and ultimately the producer is going to benefit."⁶

Not only does such inefficiency increase transit costs, harming U.S. producers and consumers, it also reduces work for the ports, which cannot load and unload cargo at full capacity. A 2018 U.S. Army Corps of Engineers report on deepening the Mississippi River Ship Channel from the Gulf of Mexico through the Port of South Louisiana highlighted these adverse economic effects caused by depths unable to accommodate larger vessels.⁷ The report explains that greater depths would reduce or eliminate light-loading, thereby generating significant efficiencies and cost savings.⁸

Harbors tend to lose depth over time as storms wash debris and sediment into the channel. In 2017, Hurricane Harvey pushed thousands of tons of sediment into the Houston shipping channel.⁹ In some places, the Port was shallower after Harvey than it had been in 100 years. Today, the port of Houston, one of America's busiest ports, is too narrow to handle two-way traffic when large vessels are in the channel. When a large container ship is in the channel, two-way traffic can be shut down for up to 10 hours, which hurts smaller vessels, such as those that export oil and gas.

Consequently, port commissioners now restrict vessels larger than 1,100 feet entering into the Houston Ship Channel to one per week.¹⁰ Clearly, such a restriction has its costs. Not only does it restrict the vessels with the most capacity, thereby hurting the producers and consumers of those goods, it also hurts the trucking companies delivering the goods to their final destination by complicating and slowing the supply chain.

Draft limits, the distance from the seafloor to the waterline that determine at which depths ships can safely operate, cause substantial economic costs. According to a 2017 U.S. Army Corps of Engineers study, a five-foot draft restriction at 20 different harbor, channel, and port projects disrupts thousands of trips and hundreds of billions of dollars' worth of cargo each year. When measuring the full value of the cargo compared to the smaller amount carried because of the draft restriction, the study estimates \$376 billion in average annual disrupted cargo. Importantly, this comparison does not take into consideration other economic costs, like "losses that would be experienced by ports and shippers, such as employment losses, contract penalties for reduced bulk exports, and loss of export business to other unencumbered ports internationally."¹¹

The report also emphasizes that "Losses can be significant and some are highly localized, but for many exported grains and other bulk commodities where there is international competition, a few cents per ton of additional cost makes US products less attractive."¹² These restrictions hurt employees at the ports by curtailing activity at the ports, and they also put many American companies at a serious competitive disadvantage. America's

farmers, energy producers, manufacturers and other businesses relying on competitive ports pay higher prices and have fewer opportunities to move their respective products.

Expanding the size and depth of shipping lanes would add tremendous economic value to America's ports, to exporters, and to consumers. It would also generate environmental benefits by improving efficiency and reducing congestion. However, dredging takes time and money, and the little-known Foreign Dredge Act dramatically increases the time and cost necessary to complete dredging projects.

The Foreign Dredge Act Prohibits Competition, Drives Up Costs

Congress passed the Foreign Dredge Act of 1906 after controversy ensued about using foreign-built dredges to repair damage from a major hurricane in Galveston, Texas, in 1900. Specifically, the Foreign Dredge Act requires that any dredging in U.S. waters must be performed by vessels built, owned, and operated in America.¹³

The Army Corps solicits bids and enters into contracts with qualifying companies. Contracts are subject to federal acquisition regulations, which further restrict competition because the Corps sets aside a portion of projects for small and emerging businesses (foreign companies excluded), thus awarding projects to companies that may not provide the best value for service. Along with authoritarian China, the United States is one of the only countries in the world that prohibits access to foreign dredging companies.¹⁴ While foreign dredgers cannot operate in the U.S., American dredging companies routinely conduct work overseas.

Restricting competition excludes the world's largest dredging companies that could provide better, cheaper services. Large, hopper dredges are by far the most efficient and practical for coastal projects.¹⁵ While there are hundreds of domestic dredges available to dredge smaller, inland waterway projects, the number of U.S. hopper dredges capable of undertaking large capital dredging projects are limited in number—and are much more expensive than their foreign competitors.

Army Corps data show that the dredging market is extremely concentrated. Only five private U.S. companies have hopper dredges, and one of those companies only has one.¹⁶ As a result, from 2015 through 2019, 65 percent of all Army Corps contracts either had only one or two bids.¹⁷ Thus far in fiscal year 2020, 14 of 16 contracts (88 percent) had only one bidder.¹⁸

The lack of competitive bidding undoubtedly contributes to higher prices for the taxpayer. In a Center for Strategic and International Studies report, Ariel Collis and Robert Fenili illustrate the higher costs to the Army Corps stemming from lack of competition. After controlling for the size of the dredge contract, the authors find:

[T]he actual costs to the Corps of the removal of one cubic yard of material was \$5.32 [per cubic yard] when there was only one bidder for the project. When there were two bidders, the actual costs fell by \$1.71, to \$3.61 per cubic yard; when there were three bidders the project costs fell by \$2.30, to \$3.02 per cubic yard; and, for four or more bidders the project costs fell by \$3.45, to \$1.87 per cubic yard. The actual cost analysis shows that lower bid prices translate into lower dredging contract costs. These results confirm the value (to the Corps, and indirectly to taxpayers) of introducing more bidders into hopper dredging auctions.¹⁹

Another market reality is that firms in other countries have newer, larger, and more effective hopper dredges that are far more cost competitive. Companies in places like Belgium and the Netherlands, which have developed expertise in dredging because much of their respective coast is at or below sea level, are the best in the world. They have similar safety and environmental standards as those in the U.S. and do not present any national security risk. Because they are faster, more effective, and cheaper, European firms supply about 90 percent of the open market for dredging.²⁰

The cost differentials between U.S. dredging projects and ones completed by foreign competitors are striking. For example, the largest domestic hopper dredge, with a capacity of 15,000 cubic yards, currently is restoring a barrier island, Ship Island, off the coast of Mississippi. It is a 7 million cubic yard project with an estimated cost of \$350 million.²¹ Dutch dredges, which are more than *three times* the size of the largest in the U.S., routinely complete larger projects at a fraction of the cost. One project to dredge sand to restore and protect the Netherland's coastline cost \$55 million to dredge 28 million cubic yards of sand. While the two projects are not identical, the Dutch project is four times as big of that in Ship Island—and was completed at one-sixth of the projected cost.

One Dutch company, Van Oord, owns more than three times the entire capacity of all U.S. hopper dredges. According to an article in *The Times-Picayune*, “Van Oord has done ‘shadow estimates’ of recent port deepening and other large dredge projects in U.S. waters. Even if the company used mostly American crews and local support vessels, Van Oord estimates it could typically do the work three times faster and at 60 [percent] of the cost.”²²

Moreover, a specific estimate of the Jacksonville Harbor Channel Deepening project shows that foreign dredging companies can accomplish the job an estimated four years faster and for 30 percent less than the U.S. dredging fleet, generating \$180 million in savings.²³ Because the U.S. Army Corps is responsible for maintaining and improving America's ports, harbors, and shipping channels—and thus is the main customer for dredging companies—increasing competition could save taxpayers over \$1 billion per year.²⁴

There are numerous examples in which limited competition and a reliance on older, smaller dredges in the U.S. is contributing to higher costs for taxpayers. In 2017, the Army Corps estimated that deepening the Port of Savannah in Georgia would cost \$973 million—\$276 million more than its 2014 estimate and more than double the \$459 million Congress first authorized for the project in 1999.²⁵ Another example is the Mississippi Coastal Improvements Program, a project that aims to restore the Mississippi barrier islands, since the islands are the “first line of defense between the Gulf of Mexico and the Mississippi mainland coast.”²⁶ A June 2018 presentation on the project from the Army Corps' Coastal Resiliency Program Manager warned that a 45 percent increase in dredging prices in the first 18 months of the project threatened the construction intended.²⁷

Usually, policies like the Foreign Dredge Act are justified on the basis of protecting jobs or national security. However, both arguments fall short: Dredging employment would increase if the U.S. market were open to greater competition. Furthermore, clogged ports hinder sea lift capability, and the overwhelming majority of firms specializing in dredging are European, presenting no national security risk. If operating in the U.S., they would be subject to the same laws and regulations as American dredging companies. If a company from a specific country presents a valid national security risk, the Department of Defense can make that determination rather than having the blanket prohibition on foreign firms that exists today.

The U.S. dredging industry argues that it is highly competitive and is increasing capacity to meet America's dredging needs: Nonetheless, the evidence of that is far from clear.²⁸ A repeated claim is that American hopper dredging capacity increased 34 percent with the addition of two new vessels, but the additions have largely just replaced older vessels. When comparing 2002 data with 2018 data, however, U.S. hopper dredging capacity only increased 12.5 percent.²⁹ If the U.S. dredging industry maintains that it is competitive, then the protectionist policy should not be necessary. They will succeed regardless on their merits, by offering the best service at the best price.

The reality is that introducing more bidders by allowing foreign competition would significantly drive down costs for port, harbor, and shipping channel dredging projects. Moreover, if U.S. dredging companies were subject to competition, it would incentivize them to innovate, lower costs, and compete for business.

In a world without the Foreign Dredge Act, some sectors of the American dredging industry will likely succeed more than others. However, repealing or amending the Foreign Dredge Act would ensure that projects are consumer-centric rather than entrenching the interests of politically connected firms bent on protecting the status quo.

Competition: A Win for the Economy, the Environment, Taxpayers, and Industry

Congress should repeal or amend the Foreign Dredge Act. Introducing more competition would be beneficial for:

- **U.S. ports and complementary businesses.** Expanding the size and depth of ports and their shipping channels would move more goods in and out of U.S. ports, creating more jobs and business for ports, truckers, and shippers. It would considerably improve efficiency by reducing port traffic congestion and light-loading.
- **America's producers and consumers.** Greater capacities at ports would be a boon for a wide variety of U.S. producers. Farmers would benefit as they could ship more grains, fruit, and crops abroad. Energy producers could deliver more affordable power through oil, natural gas, and other natural resource transport. Manufacturers could ship more vehicles, chemicals, and plastics abroad. Furthermore, consumers would have access to more televisions, clothes, shoes, and millions of other goods that Americans import and purchase. The interconnectedness of global trade allows producers to specialize and maximize their value to consumers; open competition for port expansion would ensure both producers and consumers can take advantage.
- **The environment.** By restricting competition, the Foreign Dredge Act increases congestion on the roads and at America's ports. As North Carolina State University professor Thomas Grennes points out, "The long-term trend toward moving cargo traffic from water to land has increased congestion on highways, railroads, pipelines and ports."³⁰

Repealing the Foreign Dredge Act would reduce emissions due to unnecessarily higher levels of congestion. Furthermore, dredging plays an integral role in restoring wetlands and beaches and protecting against storm surge.³¹

- **Taxpayers.** Shielded from competition, U.S. dredging projects are significantly pricier than what competitors located abroad would provide. Time and cost overruns for domestic projects only widen the gap. Since the Army Corps and state and local governments serve as the major customers for dredging projects, the American taxpayers suffer. As the federal government runs trillion-dollar deficits and has a collective debt of more than \$22 trillion, repealing the Foreign Dredge Act would be a welcome opportunity to demonstrate that policymakers can be good stewards of taxpayer money.
- **The domestic dredging industry.** Competition will be good for the long-term health of the U.S. dredging industry. Without the presence of market pressure, protectionism allows the industry to atrophy and be less competitive. Foreign competition will incentivize more innovation and efficiency from domestic dredgers so their services will be more attractive to customers bidding for their business.

Recommendation: Repeal or Amend the Foreign Dredge Act

Policymakers have a chance to modernize America's ports. Full reform would repeal the Foreign Dredge Act. At the very least, removing the foreign-built requirement would allow the most technologically advanced dredgers to complete projects for lower costs and in less time.

A true America-first approach would open dredging to outside competition so that U.S. ports do not continue to lag behind foreign competitors. Doing so would put the majority of American producers and consumers first—not just the politically connected ones.

Nicolas D. Loris is Deputy Director of the Thomas A. Roe Institute for Economic Policy Studies, and Herbert and Joyce Morgan Fellow in Energy and Environmental Policy, of the Institute for Economic Freedom, at The Heritage Foundation.

Endnotes

1. U.S. Environmental Protection Agency, "Ports Primer: 2.1 The Role of Ports," September 16, 2019, <https://www.epa.gov/community-port-collaboration-and-capacity-building/ports-primer-21-role-ports> (accessed April 2, 2020).
2. Ibid.
3. World Integrated Trade Solution, "Overall Exports and Imports for United States 2018," April 2, 2020, <https://wits.worldbank.org/countrysnapshot/en/USA/textview> (accessed April 2, 2020).
4. National Oceanic and Atmospheric Administration, "An Inch of Water. What's It Worth?" U.S. Department of Commerce, <https://oceanservice.noaa.gov/economy/inch-water/#transcript> (accessed April 2, 2020).
5. Planning and Management Consultants, Ltd., *The National Dredging Needs Study of Ports and Harbors: Implications to Cost-Sharing of Federal Deep Draft Navigation Projects Due to Changes in the Maritime Industry*, Report Submitted to the U.S. Army Corps of Engineers, May 2000, <https://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/00-R-8.pdf> (accessed April 3, 2020).
6. Greg Miller, "Bringing VLCCs to Port," *Petroleum Economist*, February 26, 2019, <https://www.petroleum-economist.com/articles/midstream-downstream/transport/2019/bringing-vlccs-to-port> (accessed April 6, 2020).
7. U.S. Army Corps of Engineers, *Integrated General Reevaluation Report & Supplement III to the Final Environmental Impact Statement, Mississippi River Ship Channel, Baton Rouge to the Gulf, Louisiana Project*, April 2018, https://www.mvn.usace.army.mil/Portals/56/docs/Projects/Miss%20Deep/01_MRSC_Main%20Report.pdf (accessed April 2, 2020).
8. Ibid., p. 20.
9. John Burnett, "Houston Ship Channel and Galveston Bay Digging Out After Harvey," NPR, December 10, 2017, <https://www.npr.org/2017/12/10/569463500/houston-ship-channel-and-galveston-bay-digging-out-after-harvey> (accessed April 6, 2020).
10. Andrea Leinfelder, "In Win for Energy Industry, Port Limits Large Container Ships in Channel," *Houston Chronicle*, April 9, 2019, <https://www.chron.com/business/energy/article/Port-Houston-limits-number-of-1-100-foot-vessels-13752765.php> (accessed April 2, 2020).
11. U.S. Army Corps of Engineers, *Hopper Dredge Recapitalization Analysis: Examination of the Corps and Industry Hopper Dredge Capacity; The Need, Composition, Location, and Recapitalization of the Corps Hopper Dredge Fleet*, June 20, 2017, <https://bayplanningcoalition.org/wp-content/uploads/2018/07/HDRecapFinal.pdf> (accessed April 2, 2020).
12. Ibid.
13. Foreign Dredge Act of 1906, ch. 2566, § 1.
14. F. Ryan Clark, Harris C. Bienn, and Clinton S. Wilson, *Assessing the Cost of Coastal Land Creation Using Dredged Material*, The Water Institute of the Gulf, September 16, 2015, https://thewaterinstitute.org/assets/docs/reports/12_02_2016_Assessing-the-Cost-of-Coastal-Land-Creation-Using-Dredged-Material.pdf (accessed April 2, 2020).
15. Ariel Collis and Robert N. Fenili, "Expanding Competition, Expanding Ports: Competition in U.S. Hopper Dredging," Center for Strategic and International Studies, June 2018, https://csis-prod.s3.amazonaws.com/s3fs-public/publication/180601_Collis_ExpandingCompetitionExpandingPorts_Web.pdf?OUdRA9ITG8uH8lbfD0sezeHkyiKCIE53 (accessed June 18, 2020).
16. Ibid.
17. Data compiled from U.S. Army Corps of Engineers, "DIS: Previous FY Information," <https://www.iwr.usace.army.mil/About/Technical-Centers/NDC-Navigation-and-Civil-Works-Decision-Support/> (accessed April 2, 2020).
18. U.S. Army Corps of Engineers, "FY 2020 Dredging Contracts Awarded," March 20, 2020, <https://publibrary.planusace.us/#/document/19d94f27-31a9-46ab-b6d9-d5b8307bc7f5> (accessed April 2, 2020).
19. Collis and Fenili, "Expanding Competition, Expanding Ports: Competition in U.S. Hopper Dredging."
20. Tristan Baurick, "Water Ways: How the Dutch Are Building Coastal Protection for Less—With Nature's Help," *The Times-Picayune*, March 6, 2020, https://www.nola.com/news/environment/water_ways/article_0a50735a-5e56-11ea-a7ee-eb8087416f63.html (accessed April 2, 2020).
21. Vince Beiser, "Aboard the Giant Sand-Sucking Ships That China Uses to Reshape the World," MIT Technology Review, December 19, 2018, <https://www.technologyreview.com/s/612597/aboard-the-giant-sand-sucking-ships-that-china-uses-to-reshape-the-world/> (accessed April 2, 2020).
22. Baurick, "Water Ways."
23. Data provided by Samuels International Associates.
24. Daniel J. Ikenson, "A Ports Policy Barnacled With Bad Law," *The Wall Street Journal*, August 5, 2015, <https://www.cato.org/publications/commentary/ports-policy-barnacled-bad-law> (accessed April 2, 2020).
25. Russ Bynum, "Savannah Port Dredging Jumps Nearly 40 Percent: Now Approaching \$1 Billion," *The Florida Times-Union*, April 6, 2017, <https://www.jacksonville.com/metro/2017-04-06/savannah-port-dredging-jumps-nearly-40-now-approaching-1-billion> (accessed April 2, 2020).

26. U.S. Geological Survey, "Mississippi Coastal Improvements Program (MsCIP): Adaptive Management and Monitoring Planning and Implementation," U.S. Department of Interior, https://www.usgs.gov/centers/wetland-and-aquatic-research-center-warc/science/mississippi-coastal-improvements-program?qt-science_center_objects=0#qt-science_center_objects (accessed April 2, 2020).
27. Justin S. McDonald, *Mississippi Coastal Improvements Program (MsCIP) Ship Island Restoration Project Update*, U.S. Army Corps of Engineers, November 29, 2018, <https://www.boem.gov/sites/default/files/non-energy-minerals/McDonald-MsCIP.pdf> (accessed April 2, 2020).
28. William P. Doyle, "U.S. Dredgers Are Doing What They Should," Letter to the Editor, *Wall Street Journal*, May 1, 2018, <https://www.wsj.com/articles/u-s-dredgers-are-doing-what-they-should-1525199928> (accessed April 13, 2020).
29. U.S. Government Accountability Office, "Effects of Restrictions on Corps' Hopper Dredges Should Be Comprehensively Analyzed," GAO-03-382, March 2003, <https://www.gao.gov/assets/240/237556.pdf> (accessed April 13, 2020), and Collis and Fenili, "Expanding Competition, Expanding Ports."
30. Thomas Grennes, "By Land or by Sea: Does the Jones Act Cause Land-Based Transport Congestion?" Cato Institute, November 15, 2018, <https://www.cato.org/publications/cato-online-forum/land-or-sea-does-jones-act-cause-land-based-transport-congestion> (accessed April 2, 2020).
31. News release, "EPA Awards Over \$1.6M to Louisiana Coastal Protection and Restoration Authority," U.S. Environmental Protection Agency, January 15, 2020, <https://www.epa.gov/newsreleases/epa-awards-over-16m-louisiana-coastal-protection-and-restoration-authority> (accessed April 2, 2020).