

The Case for the Federal Hopper Dredge Fleet on the Pacific Coast



Executive
Summary
May 31, 2002

**THE CASE FOR THE FEDERAL HOPPER DREDGE FLEET
ON THE PACIFIC COAST
EXECUTIVE SUMMARY**

STUDY PREPARED BY:

**KLEINFELDER, INC.
FOSTER WHEELER ENVIRONMENTAL CORPORATION
PACIFIC NORTHWEST WATERWAYS ASSOCIATION
COLUMBIA RIVER STEAMSHIP OPERATORS ASSOCIATION
COLUMBIA RIVER PILOTS
PACIFIC NORTHWEST PORTS
PACIFIC NORTHWEST WATERWAYS ASSOCIATION**

WITH GENEROUS FUNDING ASSISTANCE FROM:

OREGON ECONOMIC AND COMMUNITY DEVELOPMENT DEPARTMENT

BACKGROUND:

The national waterway system of the United States is a fundamental component of the nation's economic strength. Comprised of over 12,000 miles of inland waterways and 900 harbors, the system supports over 13 million American jobs. The critical importance of this infrastructure and the competing demands placed on federal tax dollars require that the system's construction and maintenance program be conducted in the most cost effective manner possible.

Construction and maintenance of the system is entrusted to the U.S. Army Corps of Engineers. Dredging is managed through contract to private firms and operation of Corps equipment. The nation invests about \$800 million annually in channel and harbor dredging.

Dredging technology has evolved to meet the variety of conditions found in the waterway system. An assortment of dredging types exist, each designed for optimum performance under specific circumstances. Hopper dredges perform the largest and most dangerous jobs – clearing channels and offshore sandbars from the mouths of major rivers.

From 1906 until 1977, all hopper dredges in the United States were owned and operated by the Corps of Engineers. Almost all non-hopper dredging was and is performed by private industry.

In 1978, Congress passed a law (Public Law 95-269) that called for transferring dredging work to private industry as industry demonstrates its capability to perform the work at reasonable

prices in a timely manner. The law also called for retention of the minimum federal fleet necessary for emergency and national defense related work.

The Energy and Water Development Appropriation Act of 1993, subsequent Corps policy, the Water Resources Development Act of 1996, and the Energy and Water Development Appropriation Act of 2002 further supported the transfer of hopper dredge work to industry. Formal restrictions were placed on the number of days per year that each Corps hopper dredge could operate. One vessel was taken out of active service and placed on ready reserve. These actions facilitated the transfer of work to the commercial sector. But they also generated additional programmatic cost. This includes the direct and indirect cost of maintaining idle Corps vessels and increases in contract bid prices brought about by a decreasing number of competing firms bidding on an increased amount of work.

West Coast ports rely to a much greater degree on hopper dredging in general and Corps vessels in particular than do their eastern counterparts. Only one commercial hopper firm is located on the West Coast. It can take from five to twelve weeks to mobilize a dredge from the East Coast to the West. Congress recognized these unique circumstances in the conference report accompanying the 2002 Appropriation Act. Citing limited availability of commercial dredges and the long travel time required to move dredges from the East Coast, the report states that limitations on the Philadelphia-based *McFarland* were "...not to be considered a precedent for any other Corps of Engineers dredge, especially any dredge operating in the ports and harbors of the Northwest."

Previous analyses have focused on the capability of industry to carry out the federal program and audits of the cost of operating the individual vessels within the Corps fleet. No analysis has been performed as to how current policy impacts the cost effectiveness of the program as a whole.

The intent of this report is to provide such an assessment, with emphasis on the impacts of current policy on the dredging program in general and the Pacific Coast in particular. The goal of this report is make the case for the federal hopper dredge fleet and demonstrate how reduction or elimination of restrictions on the fleet can:

1. Ensure the capability to dredge and maintain West Coast ports and harbors,
2. Provide for programmatic cost effectiveness consistent with project quality, and
3. Provide the best value to the taxpayer.

The report's fundamental conclusion is that limited competition within the hopper industry requires a direct federal role to ensure cost effective maintenance of the nation's critical waterway infrastructure. Careful management and employment of the federal hopper fleet can protect the benefits of competitive pricing, provide a robust response capability for national emergencies, and serve as a cost effective alternative when limited competition would otherwise result in unnecessarily high bid prices.

SUMMARY OF CONCLUSIONS:

1. The intent of PL 95-269 and subsequent policy and legislation to establish a domestic hopper dredging industry has been met. Further restrictions on the Corps fleet are unnecessary.
2. Corps hopper dredges provide an essential and cost effective alternative to the limited industry hopper capability on the West Coast. Maintaining the West Coast-based Corps vessels to modern standards is critically important to western ports because of their greater dependence on hopper dredging in general and the Corps fleet in particular.
3. The Corps fleet adds value to the nation's dredging capability that offsets its higher cost.
4. Corps operating rates could be reduced from 12% to 16% if the authorized operating year were increased to the levels that existed before restrictions were imposed.
5. The private hopper dredging industry does not possess the characteristics of a fully open and competitive market. There are five hopper dredge firms nationwide. This limited number of providers, coupled with limited substitutability between the types and sizes of dredges and high cost barriers to market entry, result in limited competition. As a result, there are fewer bidders per hopper contract than on other types of dredging contracts.
 - One firm owns 40% of the private hopper fleet. The remaining vessels are divided between the other four firms only one of which is located on the West Coast.
 - 42% of industry-performed government hopper dredge contracts exceed the government estimate.
 - There is a statistically significant inverse correlation between the number of bidders per contract and bid price. In general, low numbers of bidders result in higher bid prices.
 - 16% of all hopper contracts have only one bidder. Contracts with only one bidder exceed the government estimate 90% of the time.

- 36% of hopper contracts have two bidders. Contracts with two bidders exceed the government estimate 46% of the time.
 - Contracts with three or more bidders exceed the government estimate about 25% of the time.
 - The West Coast is vulnerable to the cost effects of limited competition due to only one private hopper firm being located in the West.
6. Restrictions on the number of days that Corps hopper dredges can operate per year increase program cost.
- There is a statistically significant inverse correlation between the amount of hopper work advertised for contract each year and the average number of bidders competing per contract. As the amount of material advertised increases, the number of bidders per contract decreases.
 - Since 1993, the number of domestic hopper firms has decreased from seven to five.
 - Institutionalization of the “180 Day Rule,” coupled with the decrease in the number of competing hopper dredge firms, resulted in a statistically significant increase to bid prices due to a decrease in competitive bidding. Following implementation of Corps fleet limitations in 1993, the average amount of material advertised nationwide increased from 37.2 million cubic yards to 51.1 million cubic yards (37%) per year. The increased work was competed between a decreasing number of firms. As a result, the average number of bidders per federal hopper contract decreased from 3.0 to 2.5 per year. The average bid increased from 84% to 95% of the government estimate.
 - Since 1993, limited competition has resulted in bid prices totaling between \$16 and \$41 million over what would have been realized if greater competition were available.
 - In 1993 the Corps estimated it would cost \$10.6 million per year to limit all four Corps hopper dredges to 180 days per year. This estimate included direct cost only. It did not include the difference in operating cost for replacement contract dredges or the administrative cost of contract management (preparation of plans and specifications, solicitation, bid evaluation, bid award, contract supervision, and follow-on surveying) that would not be required if operating year restrictions were not in place.

- Increased contract bid prices and the direct and indirect cost of maintaining vessels in a ready condition while on standby thus increase program cost.
- Consequently, current restrictions on Corps fleet operations do not support the goal of maintaining ports and harbors in "...the manner most economical and advantageous to the United States."
- The opportunity exists to reduce the number of contracts that exceed the government estimate from 42% to 25% by either increasing the amount of competition within industry or increasing the availability of Corps vessels. The 17% difference represents 64 contracts that exceeded the government estimate due to limited competitive bidding. This opportunity can be at least partially realized by eliminating operating restrictions on the Corps fleet.

RECOMMENDATIONS:

1. Impose no further operating restrictions on the Corps hopper dredge fleet.
2. Repeal all existing statutory, regulatory, and policy restrictions on the number of days the *Yaquina* and *Essayons* are allowed to operate each year.
3. Ensure the *Yaquina* and *Essayons* are maintained to a level consistent with the safe and efficient performance of their missions.

Implementation of these recommendations will increase the availability of hopper dredge capability and enhance responsiveness to West Coast ports. Increasing the amount of work allocated to Corps dredges will improve their operating efficiency and increase competition among private firms for that portion of work allocated to industry. It will thereby help reduce the higher pricing that accompanies limited competition. Taxpayer interests will be better served through greater programmatic cost effectiveness.