



**US Army Corps
of Engineers®**

2016-2017 Columbia-Snake River Extended Lock Outage Stakeholder After-Action Review

U.S. Army Corps of Engineers Portland and Walla Walla Districts



SUMMARY

The U.S. Army Corps of Engineers' Portland and Walla Walla districts recently completed their second coordinated extended outage of all Corps-managed navigation locks within the Columbia-Snake River System to perform major repairs, maintenance and improvements.

The 14-week extended outage took place from Dec. 12 through March 20 and finished early or on-schedule for six of the eight impacted locks and dams despite an extraordinarily cold and snowy winter.

While two-week closures for routine maintenance are conducted every year, additional extended outages are needed on occasion to maintain the long-term safety and viability of the locks, several of which have served the region for more than 60 years. Extended outages provide the opportunity to perform major non-routine repairs and improvements that cannot be completed within the shorter closures.

PURPOSE

The following questions are intended to aid the Corps in capturing the lessons learned from the challenges and successes of the 2016-2017 Columbia-Snake River System Extended Outage with the goal of improving future performance.

Your honest assessment of our performance throughout the lead-up to and duration of the extended outage will help us to explore how we can sustain and improve future activities so that we can perform necessary major repairs and improvements safely while best limiting impacts to stakeholders.

QUESTIONS

Industry: Name (*Optional*):

1. How did the 2016-2017 Columbia-Snake River Extended Outage lock closures impact your business or organization?

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2. How were you able to plan and help avoid or minimize impacts and adjust for the extended outage?

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3. The attached first-order costs were generated based on the historic value of tonnage moving through the locks December through March. Please comment on these estimates. What second-order costs (in dollar amount or percentage) would you attribute to a December through March extended outage, e.g., lost wages, sales and opportunities?

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QUESTIONS

4. The re-opening of the locks at Ice Harbor and Little Goose dams were delayed due to weather and mechanical problems. Ice Harbor’s re-opening was delayed three days, while Little Goose’s was delayed until April 10. How did these delays impact your business?

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5. How would a delayed lock re-opening at The Dalles Dam have impacted your business?

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6. The Corps must take various competing factors into account when determining the duration of river system outages. How would you suggest we balance the competing costs of limiting impacts to stakeholders and those associated with the schedule of construction?

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QUESTIONS

7. The extended outage was conducted during winter and spring months. While this decision was made in effort to minimize impacts to exports, it also introduced the possibility of historically severe winter weather impacting the construction schedule. During what other months would you consider an outage to minimize impacts to your specific interests?

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8. Portland and Walla Walla districts conducted purposeful outreach prior to the extended outage to ensure stakeholders knew in advance to plan for a disruption of service. How did you find out about the outage?

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9. How do you expect to find out about short-term, temporary and unscheduled closures?

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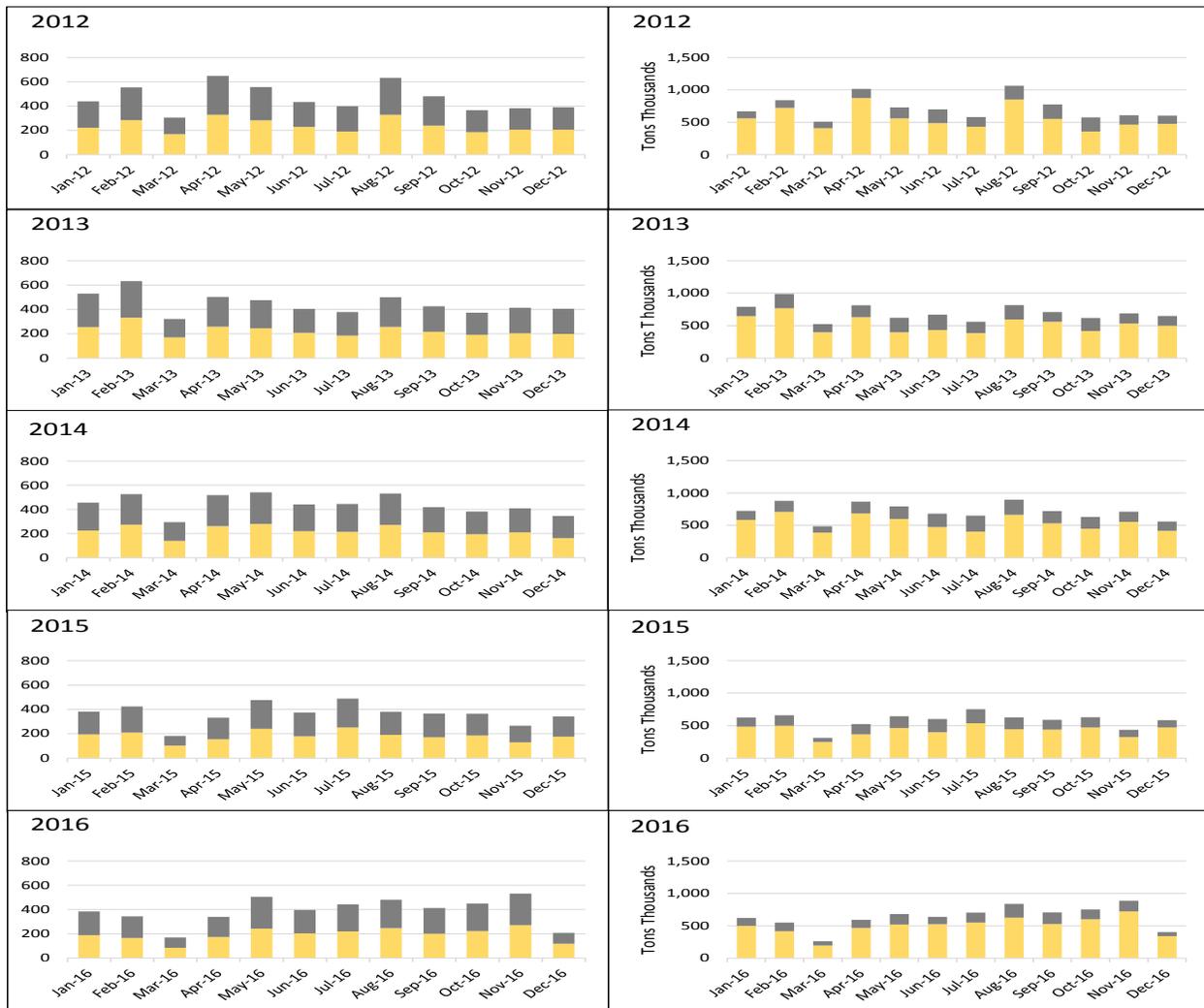
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Number of Barge Trips by Direction
Bonneville Lock and Dam

Tonnage by Direction
Bonneville Lock and Dam

■ Downstream Barges ■ Upstream Barges



5-Year Average Commodity Tons and Values at Bonneville Dam
Columbia-Snake River System (2011-2015)

Commodity	Tons Thousands	Dollars Thousands
Food and Farm Products (6)	4,766	\$ 1,335,875.07
Petroleum and Petroleum Products (2)	1,518	\$ 742,882.44
Crude Materials, Inedible Except Fuels (4)	1,642	\$ 126,002.80
All Manufactured Equipment, Machinery and Products (7)	16	\$ 82,858.50
Chemicals and Related Products (3)	130	\$ 63,764.98
Primary Manufactured Goods (5)	10	\$ 17,171.84
Waste Material; Garbage, Landfill, Sewage Sludge, Waste Water (8)	247	Not Applicable