Socially disruptive impacts to commerce and industries

Depending on magnitude and location, an oil spill can severely impact maritime transport, businesses, and industries. It can affect a large web of distribution and terrestrial transport of all sorts of shipments such as bulk commodities, perishable goods, merchandise, manufactured items or parts. Waterway and port closures impact a vast array of stakeholders including port authorities, wharfingers, shipping lines, ship agents, broker agents, master stevedores, freight forwarders, road haulers, rail operators, and lighter barge operators [1]. Businesses and industry that fail to receive stock can be impacted if no alternate sources are found. The impact is immediate as perishable goods can spoil, production costs can rise, and firms and workers directly involved in cargo handling loose earnings. There can also be long-term effects as businesses look to diversify their transportation usage.

Impacts

- Loss of revenue for workers and firms
- Loss of perishable goods
- Delayed shipment impacts production
- Increased production costs
- Loss of revenue in secondary markets/firms
- Scheduling inconveniences
- Inventory carrying costs
- Increase cost of vessel operation
- Increase cost of shipping
- Vessel transit time
- Shipment back-up
- Delays for cruise ships

Some businesses are more vulnerable to port shutdown and transportation interruption than others. The agricultural sector is especially limited in time for substituting transportation arrangements with freight airlines or other facilities. Delays at a sensitive moment in the harvest cycle can result in absolute loss if food or other products spoil. It can also affect manufacturing sectors. The 10-day West Coast port lockout in fall 2002 cost Toyota $80 million. The automobile manufacturer shut down its production line because of the delayed shipment of cars and parts [2]. The estimated economic losses of waterways and port facilities closure can be numbered in millions of dollars a day.

Economic impacts to ports: *DM-932*

On July 23, 2008, the oil tanker *T/V Tintomara* collided with the fuel barge *DM-932* in the Mississippi River near downtown New Orleans, Louisiana. The oil tanker was not damaged but the *DM-932* barge ruptured in half at the collision point and released 282,828 gallons of oil. After the incident, the stern sunk and the bow remained pinned against the supporting pier of Crescent City Bridge. The *DM-932* spill and response resulted in the closure of a 100-mile stretch of the river to navigation (Figure 1). There was no navigation for 2 days and limited movement for 4 days, during which time the USCG was giving priority in passage to some commercial traffic deemed critical. Until the removal of the bow 3 weeks after the incident, there was only one-way navigation underneath the bridge, which slowed down movement and significantly impacted shipping on the Mississippi River [3, 10].

Spill location and closed river miles Created from Google Earth

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Human Dimensions Impacts of Oil Spills

The lower Mississippi River has some of the largest tonnage ports in the country [4] and a large portion of US commercial maritime traffic passes through New Orleans on the Mississippi River. The Port of South Louisiana, located upriver from the spill, was affected by the navigation interruption caused by the spill. This port is the largest in the country for foreign export tonnage and total tonnage. It receives over 60,000 oceangoing vessels and barge calls a year and handles over 233 million short tons of cargo [4, 5]. The New Orleans Port, St. Bernard Port and Plaquemines Port, all located along the river between New Orleans and the Gulf of Mexico were also affected. The Port of New Orleans is the sixth largest port in United States for its total tonnage. It handles bulk commodities such as chemicals, petroleum, coal, timber, steel and grain exports [4]. It is also the host of cruise lines such as Carnival, Norwegian and Royal Caribbean which sail weekly to destinations in the Caribbean and Mexico. According to the president and CEO of the port of New Orleans, the facility lost an average $101 million a day including "jobs, personal earnings, business revenue and value of output to user industries, and taxes at various levels." The economic impact for all the ports affected by the spill was estimated at $275 million a day.[6]

Vessels waiting for opening of Mississippi River Photo: NOAA

The number of ships delayed was significant. The morning of the spill, 25 ships were told to anchor along the waterway [7]. The following day, the number increased to 92 vessels: 38 going southbound, 21 northbound and 33 vessels were held in various canals [8]. Friday, July 24th, the Coast Guard reported 59 vessels still along the river, 37 more waiting in the Intercoastal Waterway canal, and 97 stopped at Southwest Pass (narrow entrance from the Gulf of Mexico into the river). Moreover, the authorities were expecting 48 more ships over the weekend [9]. The closure of the river affected port shipments, industries that relied on shipping, and some cruise lines that were waiting at the entrance to the river.

Most ports in the area deal with bulk commodities which can cost upwards of $10 million per cargo. Because of the spill, international shipments had to be rerouted to other ports to the detriment of Louisiana ports and industries. A broker agent mentioned that the shutdown of the river had affected many of his clients, a number of which import large amounts of bulk commodities. Many shipments carried to the docks before the oil spill sat there for days while new ground freight piled up in storage facilities. When the ports reopened, there was a major back-up caused by many stalled shipments coming to the docks which were already packed. It took 3 to 5 days to resume normal activities [6]. The effects an oil spill has on maritime industry is amplified each day the spill or the spill response continues to obstruct shipping.

References

1. Martin, J. and B.J. Thomas, *The container terminal community.* Maritime Policy and Management, 2001. 28(3): p. 279-292.
2. Hall, P.V., *" We'd Have to Sink the Ships": Impact Studies and the 2002 West Coast Port Lockout.* Economic Development Quarterly, 2004. 18(4): p. 354.
3. Kirkham, C. and R. Vargas, *Oil spill shuts down 80 miles of river* in *Times-Picayune* 2008: New Orleans.
4. USACE, U.S. Army Corps of Engineers, *Waterborne Commerce Statistics Center.* 2008.
5. Port of South Louisiana, Available from: http://www.portsl.com/overview.htm.
6. Dungca, N., *Oil spill halts any rolling on the river; No cruises, no port shipments for days,* in *Times-Picayune* 2008: New Orleans
7. Burdeau, C., *Coast Guard: Tug in accident lacked licensed pilot,* in *Associated Press* 2008.
8. Sayre, A., *Oil spill closes 100 miles of Mississippi River,* in *Associated Press.* 2008.
9. Sayre, A., *Mississippi River spill idles 200 ships near New Orleans,* in *Associated Press.* 2008.
10. Tuler, S., Webler, T., Dow, K., and Lord, F. 2010. *Case study report of the human dimensions of the DM-932 spill in New Orleans.* SERI Report 10-002. Greenfield, MA: Social and Environmental Research Institute, Inc. Available from: www.seri-us.org/projects/HDOil.html

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