

# Maritime Trade and Transportation by the Numbers

By Matthew Chambers and Mindy Liu

The nation will observe Maritime Day on May 22, which was designated by Congress in 1933 to honor U.S. merchant mariners and the maritime industry.<sup>1</sup> Water transportation contributed \$36 billion U.S. dollars and 64 thousand jobs to the U.S. economy in 2010, which helped keep Americans moving.<sup>2</sup>

## Ocean Freight Transportation

The Marine Transportation System transports the products that American businesses and residents use everyday. By value, vessels carry 53 and 38 percent of U.S. imports and exports, respectively (as shown in figure 1)—the largest share of any mode.

### Vessel Calls

Over 62,000 vessels—about 172 a day—called at U.S. seaports in 2010, carrying goods from around the world. Tankers and containerships account for about two-thirds of the vessel calls.<sup>3</sup>

**Table 1—Vessel Calls at U.S. Seaports, 2010**

Ocean vessels of 10,000 deadweight<sup>4</sup> tons or greater

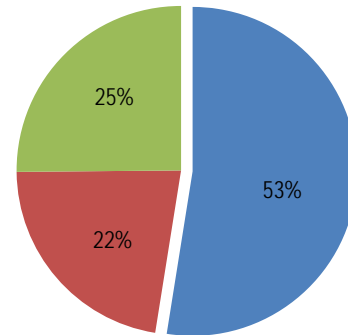
Tanker	21,944	35%
Product	13,257	21%
Crude	8,687	14%
Container	19,530	31%
Dry Bulk	10,716	17%
Ro-Ro	5,849	9%
Vehicle	4,100	7%
Gas	813	1%
Combination	168	0%
General Cargo	3,727	6%
<b>Total</b>	<b>62,747</b>	

SOURCE: U.S. Department of Transportation, Maritime Administration, Vessel Calls at U.S. Ports, available at <http://www.marad.dot.gov/> as of May 2012.

**Figure 1—U.S. Imports and Exports Vessel Value by Mode of Transportation, 2011**  
Percentages based upon millions of U.S. dollars

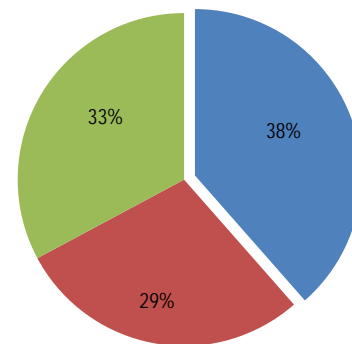
U.S. Import Value by Mode of Transportation, 2011

■ Vessel ■ Air ■ Land



U.S. Export Value by Mode of Transportation, 2011

■ Vessel ■ Air ■ Land



SOURCE: U.S. Department of Commerce, Census Bureau, Foreign Trade Division, Merchandise Trade, available at <http://www.census.gov/foreign-trade/> as of May 2012.

<sup>1</sup> U.S. Department of Transportation, Maritime Administration, *National Maritime Day*, available at <http://www.marad.dot.gov/> as of May 2012.

<sup>2</sup> U.S. Department of Commerce, Bureau of Economic Analysis, *Gross Output and Full-Time and Part-Time Employees by Industry*, available at <http://www.bea.gov> as of May 2012.

<sup>3</sup> U.S. Department of Transportation, Maritime Administration, *Vessel Calls*, available at <http://www.marad.dot.gov/> as of May 2012.

<sup>4</sup> According to the Maritime Administration, deadweight (DWT) is the total weight expressed in metric tons of cargo, fuel, fresh water, stores and crew that a ship can carry when immersed to its load line.

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## Ocean Cargo

Table 2 shows that more than half of ocean cargo is containerized. A higher percentage of U.S. imports move in containers than U.S. exports, which reflects the nature of U.S. export and import commodities. The leading U.S. exports include commodities such as cereal and grains that ship via break-bulk, whereas the leading U.S. imports include commodities such as apparel and home goods that ship via containers.

**Table 2—Containerized Vessel Value as a Percentage of Total Vessel Value, 2011**

Millions of U.S. dollars

	Vessel Value	Containerized Value	Containerized as a Percent of Vessel Value
Imports	1,159,096	635,381	55%
Exports	570,286	249,243	44%
<b>Total Vessel Trade</b>	<b>1,729,382</b>	<b>884,624</b>	<b>51%</b>

SOURCE: U.S. Department of Commerce, USA Trade Online, Port-level, available at <http://www.usatradeonline.gov> as of May 2012.

Tables 3 and 4 show the leading U.S. export and import commodities (in terms of vessel value). The top export and import commodities by far are fuel and oil.<sup>5</sup> They account for 22 percent of trade cargo in terms of vessel value.<sup>6</sup> This reflects the fact that the U.S. imported about 45 percent of the petroleum consumed in 2011.<sup>7</sup> More specifically, fuel and oil account for 32 and 22 percent of U.S. imports and exports by vessel value, respectively. Tankers are ideally suited to transport fuel and oil.

**Table 3—Top 10 U.S. Exports Ranked by Vessel Value, 2011**

Millions of U.S. dollars

Commodity	Vessel Value
Mineral Fuel, Oil Etc.; Bitumen; Mineral Wax	110,792
Nuclear Reactors, Boilers, Machinery Etc.; Parts	64,796
Vehicles, Except Railway Or Tramway, And Parts Etc.	51,118
Organic Chemicals	30,211
Plastics And Articles Thereof	28,342
Cereals	24,915
Electric Machinery Etc.; Sound Equip; TV Equip; Parts	18,580
Oil Seeds Etc.; Misc. Grain, Seed, Fruit, Plant Etc.	18,417
Iron And Steel	14,525
Miscellaneous Chemical Products	11,149
Other	197,442
<b>Total</b>	<b>570,286</b>

SOURCE: U.S. Department of Commerce, USA Trade Online, Port-level, available at <http://www.usatradeonline.gov> as of May 2012.

<sup>5</sup> Harmonized Tariff Schedule (HTS) Code 27—Mineral Fuel, Oil Etc.; Bitumen; Mineral Wax.

<sup>6</sup> According to the U.S. Census Bureau's Foreign Trade Division Definitions, vessel value is the value of goods that enter or leave the country by seafaring vessel.

<sup>7</sup> U.S. Department of Energy, U.S. Energy Information Administration, *How dependent are we on foreign oil*, available at <http://www.eia.gov/> as of May 2012.

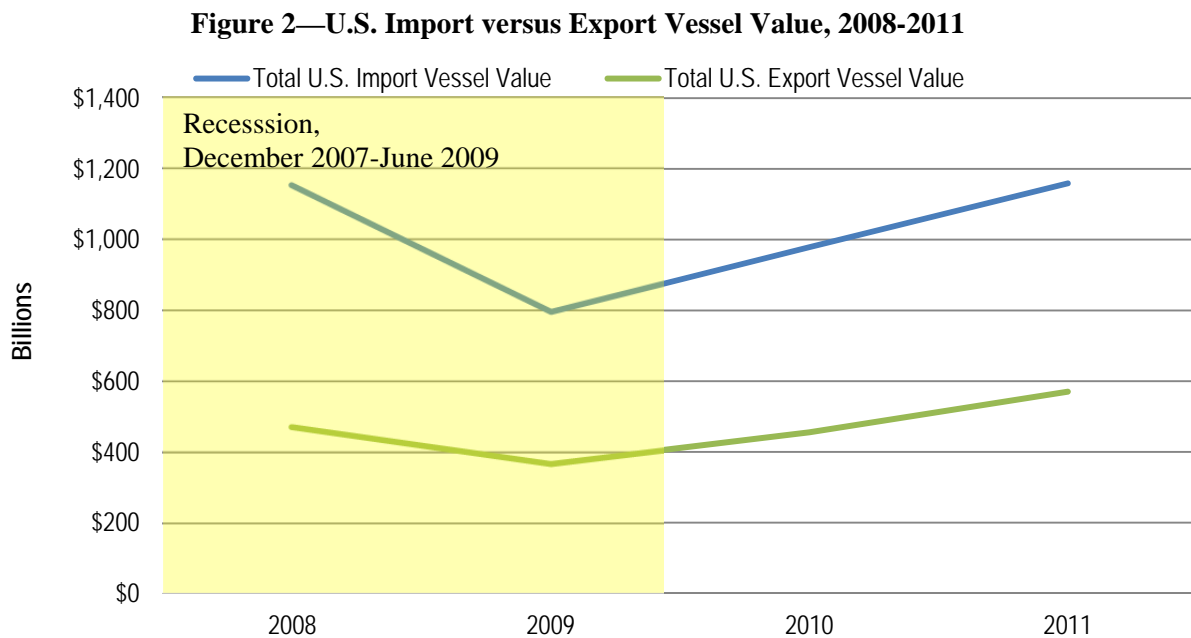
# Maritime Trade and Transportation by the Numbers

**Table 4-Top 10 U.S. Imports Ranked by Vessel Value, 2011**  
Millions of U.S. dollars

<b>Commodity</b>	<b>Vessel Value</b>
Mineral Fuel, Oil Etc.; Bitumen; Mineral Wax	371,348
Nuclear Reactors, Boilers, Machinery Etc.; Parts	117,962
Vehicles, Except Railway Or Tramway, And Parts Etc.	103,344
Electric Machinery Etc.; Sound Equip; TV Equip; Parts	81,143
Apparel Articles And Accessories, Knit Or Crochet	36,146
Apparel Articles And Accessories, Not Knit Etc.	28,083
Furniture; Bedding Etc.; Lamps Etc.; Prefab	27,152
Toys, Games & Sport Equipment; Parts & Accessories	23,480
Articles Of Iron Or Steel	23,370
Plastics And Articles Thereof	21,808
Other	325,259
<b>Total</b>	<b>1,159,096</b>

SOURCE: U.S. Department of Commerce, USA Trade Online, Port-level, available at <http://www.usatradeonline.gov> as of May 2012.

Figure 2 shows that U.S. import, exports, and total vessel values are growing, and the trade gap between U.S. import and export vessel values is widening. This occurred after trade declined during the recession lasting from December 2007 to June 2009, which affected maritime trade and transportation.<sup>8</sup>



SOURCE: U.S. Department of Commerce, USA Trade Online, Port-level, available at <http://www.usatradeonline.gov> as of May 2012.

<sup>8</sup> National Bureau of Economic Research, *U.S. Business Cycle Expansions and Contractions*, available at <http://www.nber.org/cycles.html> as of May 2012.

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## *Maritime Trading Partners*

Table 5 shows the top 10 U.S. import and export maritime trading partners. China and Japan are the top two sources for imports by vessel and the top two destinations for exports by vessel. Germany, Mexico, and Saudi Arabia are the other top U.S. import vessel-trading partners. Mexico, Brazil, and South Korea are the other top U.S. export vessel-trading partners.

Table 5 includes many of the top sources of crude oil and petroleum products among the top U.S. import vessel trading partners, which depend on tankers to transport their products. According to the U.S. Energy Information Administration, these countries include Saudi Arabia, Venezuela, Nigeria, and Mexico.<sup>9</sup>

**Table 5—Top 10 U.S. Imports and Export Maritime Trading Partner, 2011**

Millions of U.S. dollars

<b>Country</b>	<b>Import Vessel Value</b>	<b>Country</b>	<b>Export Vessel Value</b>
China	271,682	China	69,795
Japan	92,070	Japan	34,966
Germany	56,102	Mexico	26,969
Mexico	49,026	Brazil	26,087
Saudi Arabia	47,205	South Korea	25,064
Venezuela	43,167	Netherlands	24,424
South Korea	37,198	Germany	19,395
Nigeria	33,698	Australia	16,431
Russia	32,531	United Kingdom	16,173
Brazil	27,848	Belgium	15,168
Other	468,569	Other	295,590
<b>Total</b>	<b>1,159,096</b>	<b>Total</b>	<b>570,061</b>

SOURCE: U.S. Department of Commerce, USA Trade Online, *Port-level*, available at <http://www.usatradeonline.gov> as of May 2012.

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<sup>9</sup> U.S. Department of Energy, U.S. Energy Information Administration, *How dependent are we on foreign oil*, available at <http://www.eia.gov/> as of May 2012.

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## Waterborne Passenger Transportation

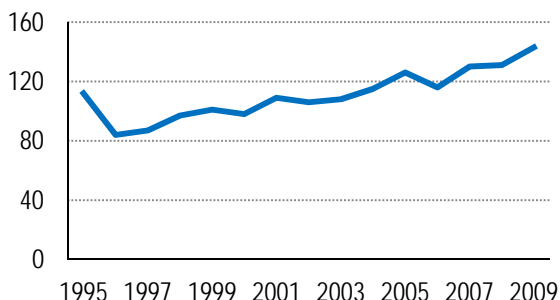
The marine transportation system serves as a critical component of the nation's passenger transportation network. Over 200 ferry operators provide safe and reliable transportation for passengers and vehicles, while cruise ships and recreational boats deliver opportunities for leisure.

### Ferryboats

The 2010 National Census of Ferry Operations<sup>10</sup> reported 233 ferry operators providing service through nearly 520 terminals using a fleet of almost 640 active vessels. These statistics represent an increase of 43 operators, 20 terminals, and 60 vessels over those reported in the 2008 census.

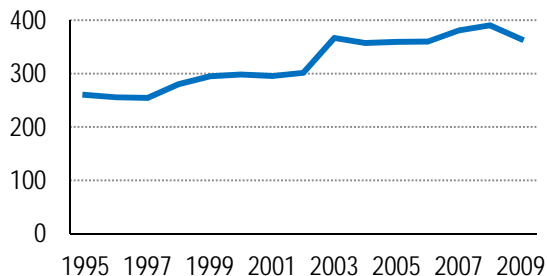
According to the National Transit Database, 32 public transit ferry systems operated vessels carrying predominantly commuters across the country in 2009. The transit agencies operating the public transit ferry systems employed almost 4,600 employees and served over 360 million passenger-miles using a fleet of 143 ferryboats in 2009. The number of transit ferryboats has grown steadily since 1996, reaching its peak in 2009 (figure 3). These ferry services continue to serve an increasing number of passengers. Figure 4 shows the record level of passenger-miles reached in 2008. To meet the needs of increasing ferry ridership, the overall workforce has grown since 1995, but has experienced reductions in 2000 and 2006 through 2008 (as shown in figure 5).

**Figure 3—Number of U.S. Transit Ferryboats, 1995-2009**  
Number of boats



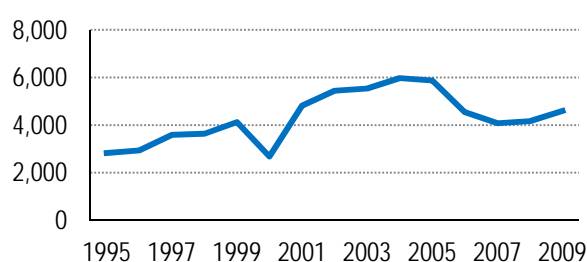
SOURCE: U.S. Department of Transportation, Federal Transit Administration, National Transit Database as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, National Transportation Statistics as of May 2012.

**Figure 4—U.S. Transit Ferryboat Passenger-miles, 1995-2009**  
Millions of passenger-miles



SOURCE: U.S. Department of Transportation, Federal Transit Administration, National Transit Database as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, National Transportation Statistics as of May 2012.

**Figure 5—U.S. Transit Ferryboat Employment, 1995-2009**  
Number of employees



SOURCE: American Public Transportation Association, Public Transportation Fact Book as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, National Transportation Statistics as of May 2012.

<sup>10</sup> The National Census of Ferry Operations includes public and private ferry operations providing domestic service within the U.S. and its territories or operations providing service to or from at least one U.S. terminal. These operations include itinerant, fixed route, common carrier passenger, and vehicle ferry service as well as railroad car float operations.

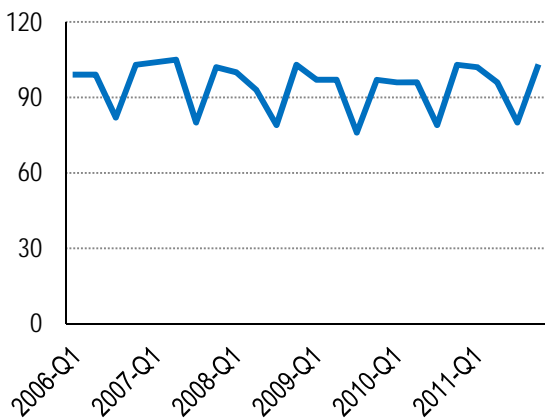
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## Cruise Ships

In 2010, the North American cruise industry contributed an estimated \$37.8 billion to the U.S. economy, an almost eight-percent increase from 2009. The industry also supported over 300 thousand jobs worth \$15.2 billion in wages.<sup>11</sup>

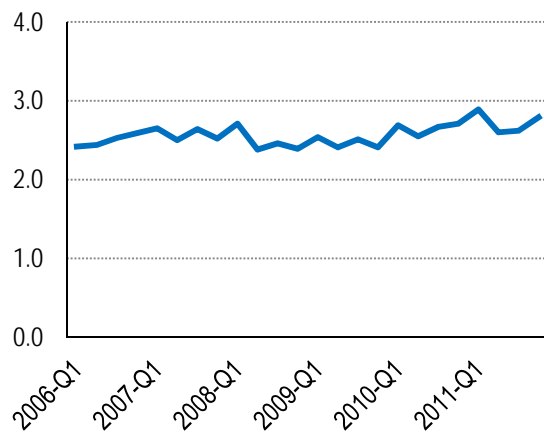
According to the Maritime Administration, 102 cruises served almost 11 million passengers in the last quarter of 2011. Figure 6 shows that number of cruises is seasonal, but overall numbers have remained steady between 2006 and 2011, despite the economic recession. During the same period, cruise passengers dipped slightly in 2008 and 2009 but have reached record levels since 2006 (as shown in figure 7).

**Figure 6—North American Cruises, 2006-Q1 to 2011-Q4**  
Number of cruises



SOURCE: U.S. Department of Transportation, Maritime Administration, *North American Cruise Statistical Snapshot 2011* as of May 2012.

**Figure 7—North American Cruise Passengers, 2006-Q1 to 2011-Q4**  
Millions of passengers



SOURCE: U.S. Department of Transportation, Maritime Administration, *North American Cruise Statistical Snapshot 2011* as of May 2012.

<sup>11</sup> Cruise Lines International Association, *Cruise Industry's Contribution to U.S. Employment, Economy Grows In 2010* press release, July 26, 2011, available at <http://cruiseindustryfacts.com/>.

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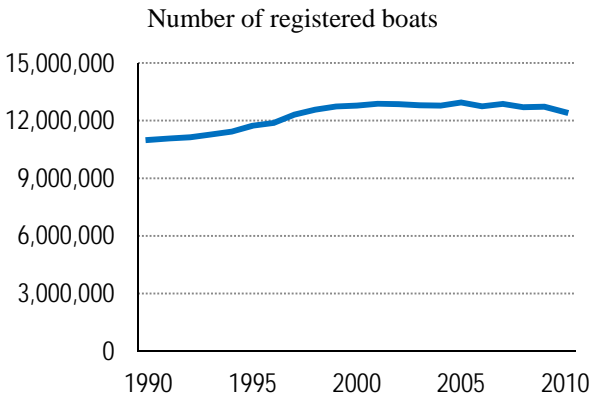
## Recreational Boats

Recreational boating contributed \$30.4 billion to the economy in 2010<sup>12</sup>. The number of registered recreational boats steadily increased between 1990 and 2000. However, the number has remained flat at just above 12 million boats since 2000 (as shown in figure 8). In 2010, Florida reported the largest number of recreational boat registrations. The remaining top five states included Minnesota, Michigan, California, and Wisconsin.<sup>13</sup> The lower levels of recreational boat registrations and sales in recent years (as shown as figure 9) may be the result of the economic recession and high fuel costs.

Although recreational boat sales declined between 2006 and 2009, recreational boat participation has grown to its highest level since 2000. In 2010, an estimated 32.4 percent of the adult population participated in recreational boating, a 14 percent increase over the previous year.<sup>14</sup>

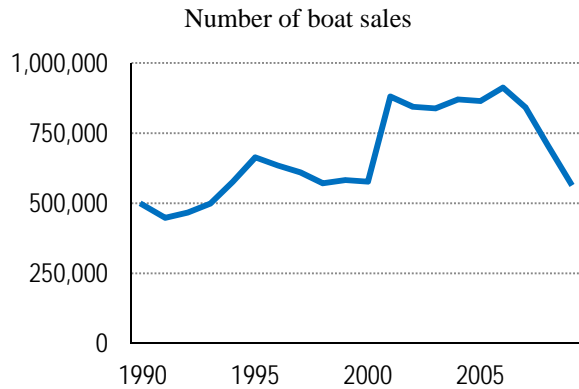
Recreational boating also supports the economy in the form of boats and marine engines traded. In 2010, the U.S. exported over 100 thousand recreational boats, and imported 265 thousand boats.<sup>15</sup>

**Figure 8—U.S. Recreational Boat Registrations, 1990-2010**



SOURCE: U.S. Department of Transportation, U.S. Coast Guard, Boating Statistics as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, National Transportation Statistics as of May 2012.

**Figure 9—U.S. Recreational Boat Sales, 1990-2009**



SOURCE: National Marine Manufacturers Association, Recreational Boating Statistical Abstract as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, National Transportation Statistics as of May 2012.

<sup>12</sup> National Marine Manufacturers Association, *2010 Recreational Boating Statistical Abstract*.

<sup>13</sup> U.S. Coast Guard as cited in the U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *State Transportation Statistics*.

<sup>14</sup> RMRM/Foresight Research as cited in National Marine Manufacturers Association, *Recreational Boating Statistical Abstract 2010* as of May 2012.

<sup>15</sup> National Marine Manufacturers Association, *Recreational Boating Statistical Abstract 2010* as of May 2012.