State Profile

ALABAMA

Figure 1. View entering Mobile Bay

The State of Alabama has a population of more than 4.7 million residents, ranking It the 23rd most populous. The major Alabama population centers are served by one of the four marine highways. Alabama's capital, Montgomery, with a population of 205,764 is served by the Alabama-Coosa River System which flows southwest from Montgomery, AL to Mobile Bay. Mobile, AL, Alabama's only saltwater port and oldest city, has a population of 195,111. Birmingham is the largest city in Alabama, with a population of approximately 212,237. Birmingham sits along the banks of the Black Warrior River which connects the region around Birmingham, AL, to the Tombigbee River then on further south to Mobile Bay. The northern region of Alabama around Huntsville, AL is served by the Tennessee River. After flowing west through northern Alabama, the Tennessee River flows north to the region where the states of Mississippi, Alabama, and Tennessee trisect. The Tennessee River eventually meets up with the Ohio River system along the northern border of Kentucky. The tri-state region contains the northern most component of the Tennessee-Tombigbee Waterway, a man made waterway which connects the Tennessee River with the Tombigbee and Black Warrior Rivers in Alabama. Alabama is also home to the Chattahoochee River, part of the Apalachicola-Chattahoochee-Flint (ACF) River System. This river and its two corresponding Lock and Dam projects do not currently have commercial traffic.

Early steamboat traffic traversed the Coosa River in the 200 mile section mostly in Alabama below Rome, GA however the traffic in this stretch was disconnected from the Alabama River and Mobile Bay due to a series of shoals, waterfalls and rapids north of Montgomery, AL. The Coosa River was an important gateway to trading with Creeks and Cherokee for both the French and English during the 1700's. After the French and Indian War the French relinquished their claim to region to the English. In the 1870's the U.S. Army Corps of Engineers began a navigation project along this section involving 30 locks and dams. Only 7 projects were begun and of these 5 were completed making the river navigable for 169 miles from Rome, GA to near Riverside AL. The system was abandoned for navigation in the 1950's.

The State of Alabama has both deep-draft and shallow-draft navigation within and along its borders Approximately 1,300 mile of inland waterways connects the majority of Alabama with marine

transportation. The approximate 60 miles of the Gulf Intracoastal Waterway along the southern border of the state is an important waterway connecting the Gulf States from Florida to Texas.

As shown in Table 1, in 2013 over 69.4 million tons of commodities (mostly coal, petroleum and crude petroleum, and iron/steel) moved to, from, and within Alabama. Over 28.8 million tons of cargo were shipped on the river and harbor system out of the state. Docks in the state received almost 26.7 million tons, with coal being the primary commodity. Nearly 14 million tons traversed within the state. Alabama ranks 15th in coal production and 14th in total energy production exporting 556.6 trillion Btu in 2011 to other states[1].

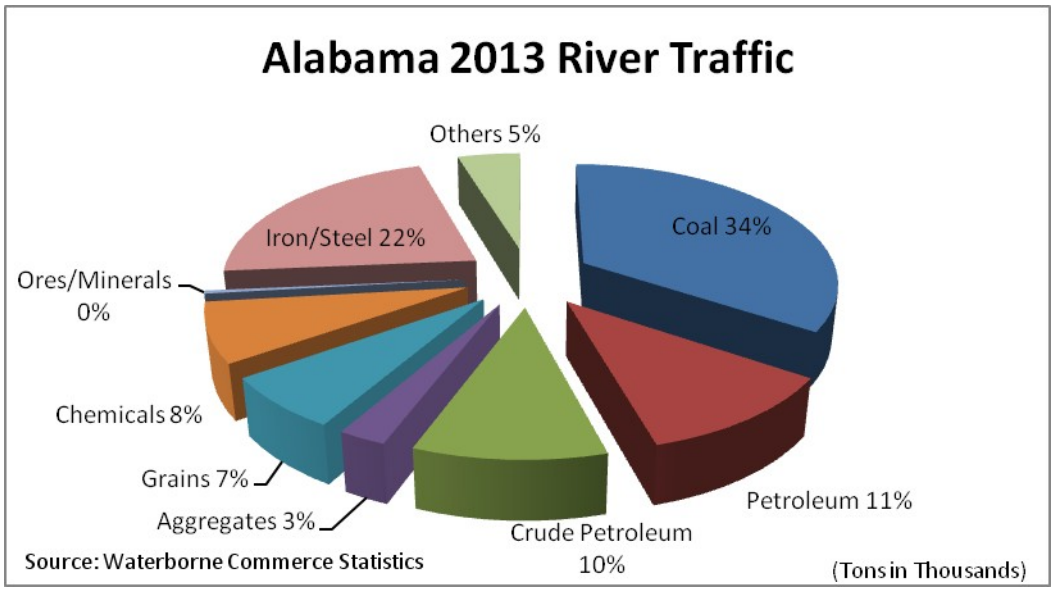
Table 1

Alabama 2013 Commodities Moved To, From and Within the State (tons in thousands)				
	Shipped	Received	Within	Total
TOTAL	28,802.8	26,671.3	13,929.3	69,403.4
Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics				

DOMESTIC TRAFFIC

The waterways of Alabama provide access opportunities to the expansive Ohio River system via the Tennessee River, the Gulf Intracoastal Waterway via Mobile Bay and international markets via Mobile Harbor docks. Around 56% of this traffic consisted of coal and iron/steel. Crude petroleum, petroleum products and chemical amounted to 29% of the total cargo on the river systems.

Figure 2. 2013 Alabama River Traffic By Commodity



[1] U.S. Energy Information Administration; access on 12-13-2013 at http://www.eia.gov/state/?sid=AL

Alabama domestic traffic consisted primarily of coal, 34%. Of the coal traffic on Alabama's domestic waterways 56% stayed within the state to supply nine coal-fired power plants. A majority of the facilities have their own docks and river access and utilize barge transportation to meet their demand for large amount of bulk coal. Alabama Power is the primary operator within the state, with a total of six coal- fired power plants and over 10,000 megawatts of potential electricity output. Three coal fired power plants lie on the upstream portion of Black Warrior navigation system. Alabama Power-Miller Steam Plant and William Crawford Gorgas Electric generating plant near Birmingham, AL. Greene County Electric Generating Plant near Demopolis is also on the Black Warrior River. Alabama Power also operates James M Barry Electric Generating Plant near Bucks, AL. Coal mines around Birmingham, Alabama supply these facilities with the majority of their demand for coal.

Iron/steel is the next most significant commodity group, which also has a majority of the tonnage staying within Alabama. Iron/steel traffic supplies intermediate production of pressed metal sheets for final production of equipment, automobiles, machinery and pipes. Respectively, petroleum and petroleum products followed by chemical products have the next highest levels of traffic traversing Alabama's inland waterway systems.

Crude and petroleum product if lumped together would amount to nearly 7.9 million tons and rank 3rd on Alabama's waterways. The Hunt refinery near Tuscaloosa on the Black Warrior River has the capacity to produce 36,000 barrels a day of assorted petroleum products. The Shell refinery near Saraland, AL is able to produce 80,000 barrels daily of assorted petroleum products.

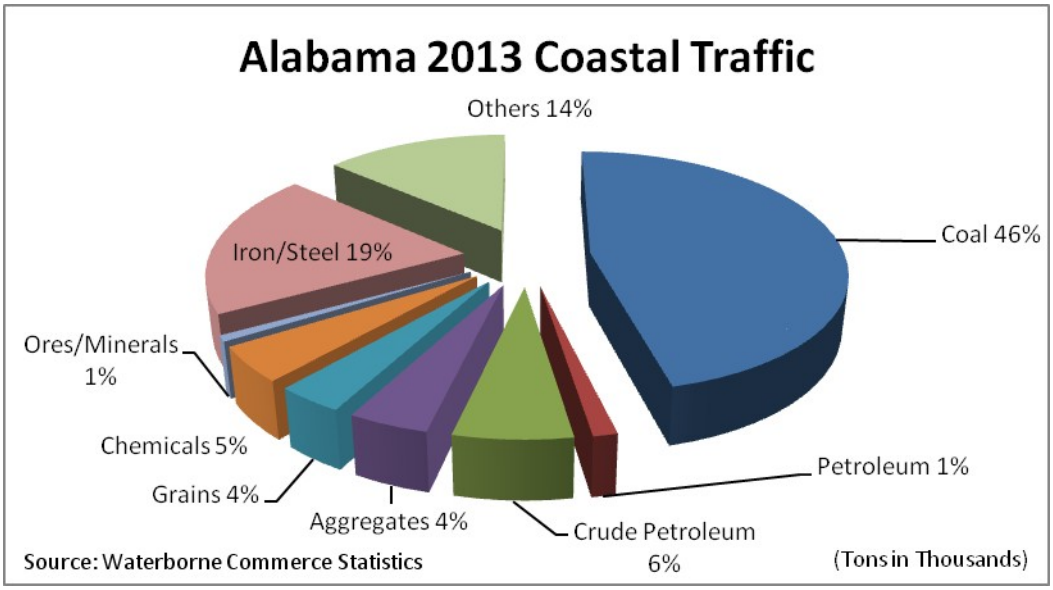
Table 2

Alabama 2013 River Traffic
Commodities Moved To, From and Within the State
(tons in thousands; values in millions of dollars)

Commodity	Shipped	Received	Within	Total	Value
Coal	2,718.0	2,788.0	7,137.7	12,643.7	$880
Petroleum	2,212.5	890.0	1,062.7	4,165.2	$4,007
Crude Petroleum	531.0	2,380.8	809.0	3,720.8	$2,270
Aggregates	**	443.2	**	935.0	$8
Grains	851.4	1,590.8	101.9	2,544.1	$867
Chemicals	831.2	1,975.5	94.3	2,901.0	$2,217
Ores/Minerals	**	131.5	**	156.9	$53
Iron/Steel	1,803.6	2,010.0	4,168.1	7,981.7	$3,652
Others	964.7	464.5	300.3	1,729.5	$1,567
TOTAL	**10,176.1**	**12,674.3**	**13,927.4**	**36,777.8**	**$15,522**

***Insufficient barge operators to release this tonnage.*
Commodity values are not calculated for foreign movements.
Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics, 2012 NDSU Commodity Valuation Analysis

COASTAL TRAFFIC



Coastal traffic utilizing the Gulf Intracoastal Waterway consisted primarily of coal, iron, and crude petroleum, respectively. Coastal traffic was dominated by coal shipments, 12.9 million, as shown in Table 3. Consistent with Table 3, Table 4 shows Louisiana and Mississippi ranking second and third among states that Alabama shipped to in 2013. The GIWW provides access for waterborne shipment of Alabama coal to the Mississippi's coal-fired Victor J Daniel Jr and Jack Watson plants, as well as the Lansing Smith, Christ and Scholz plants in Florida.

Table 3

Alabama 2013 Coastal Traffic
Commodities Moved To, From and Within the State
(tons in thousands)

Commodity	Shipped	Received	Within	Total
Coal	12,989.6	**	**	15,058.5
Petroleum	340.8	**	**	423.0
Crude Petroleum	**	1,866.8	**	2,043.5
Aggregates	0.8	1,391.2	0.0	1,392.0
Grains	634.9	543.1	0.0	1,178.0
Chemicals	**	**	0.0	1,518.3
Ores/Minerals	34.1	219.5	0.0	253.6
Iron/Steel	1,091.0	5,207.0	0.0	6,298.0
Others	**	**	0.0	4,461.0
TOTAL	**18,626.7**	**13,997.1**	**1.9**	**32,625.7**

***Insufficient barge operators to release this tonnage*

Commodity Values not calculated for Coastal movements.
Includes Foreign movements.

Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics

STATE & OTHER TRADING PARTNERS

There were 180 manufacturing facilities, terminals, and docks in Alabama that shipped and received tonnage that moved through Alabama waterways in 2013. Alabama docks shipped commodities by barge to 21 states and received commodities from 18 states.

As shown in Table 4, of the states that Alabama docks shipped to, Louisiana received the most cargo (over 3 million tons). The leading state shipping by barge to Alabama was Louisiana, which transported over 4.2 million tons of goods, the primary commodity being crude petroleum. Activity with other Gulf Intracoastal Waterway states is dominated by coal, chemicals, grains, and petroleum. Shipments to Louisiana and Texas were primarily petroleum products attracted to the clustering effect of the large petroleum and chemical refineries in New Orleans and Houston area, as well as others. Activity with northern state trading partners was dominated by receipt of western Kentucky coal.

Table 4

Alabama 2013 Commodities
Shipped to and from Other States & Trading Partners

Shipments To	Tons (in thousands)	Top Commodity (% of Total)	Shipments From	Tons (in thousands)	Top Commodity (% of Total)
Foreign	18,178.4	Coal (71%)	Foreign	12,412.6	Iron/Steel (42%)
Louisiana	3,361.7	Petroleum (31%)	Louisiana	4,261.3	Crude Petroleum (37%)
Mississippi	2,501.3	Coal (47%)	Kentucky	3,208.6	Coal (74%)
Florida	2,262.8	Coal (58%)	Texas	1,904.5	Chemicals (60%)
Texas	1,245.5	Petroleum (39%)	Illinois	1,622.6	Grains (43%)

"Foreign" includes all overseas foregin countries, excluding Canada
Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics

MAJOR PORTS

The major ports shown below are not necessarily point specific port locations, but are generally an agglomeration of docks within a single municipality or collection of municipalities recognized by a state or states for the purpose of being designated as a port.

Mobile, AL – Alabama State Port Authority owns operates the public terminal in at the Port of Mobile. The Port of Mobile was dedicated in 1928. Today it has approximately 4,000-acres with 41 berths and 4 million square footage of warehouse space. The Gulf port of Mobile, AL shipped and received almost 54 million tons, both shallow and deep draft traffic. Mobile was the fourth largest seaport for exporting U.S. coal in 2011; coking coal used in the steelmaking process accounted for more than 90 percent of the total.

Guntersville, AL – Port of Guntersville sits on the bank of Guntersville Lake in the city of Guntersville, AL.

Dauphin Island, AL – Port Dauphin is a French village on Dauphin Island, AL and is a port for Mobile, AL.

Table 5

Alabama 2013 - Top 3 Ports (tons in thousands)				
Port	Port Type	Type Rank	Port Tons Within State	Total Port Tons
Mobile, AL	Coastal	7	53,992.6	53,992.6
Guntersville, AL	River	17	2,020.4	2,020.4
Dauphin Island, AL	River	43	12.9	12.9
Tonnages represent only tons shipped or received in the state and port, and not necessarily the total port tonnage.				
Source: USACE Waterborne Commerce Statistics				

LOCKS AND DAMS

Eleven[2] lock and dam projects are located in Alabama along four major rivers that support waterborne commerce: the Tennessee, Tombigbee, Black Warrior, and Tennessee-Tombigbee Rivers. John Hollis Bankhead, Holt, William Bacon Oliver, and Armistead I Selden provide the navigation pools of the Black Warrior River before it becomes the Tombigbee River near Demopolis. The coal mines located in the upper tributaries of The Black Warrior River are relatively competitive in the international market for coal due to their proximity and waterborne access to Mobile Harbor. Two locks and dams on the Tennessee-Tombigbee are located in Alabama: Tom Bevill and Howell Heflin, both located north of the junction of the Tennessee-Tombigbee, the Black Warrior, and Tombigbee Rivers. Demopolis Lock and Dam help maintain pool at this junction, and is located on the Tombigbee River directly west of the city. Coffeeville Lock and Dam is also on the Tombigbee, located farther south on the waterway. The lower portion is relatively balanced across upbound/downbound movements, except for the continued downbound imbalance originating from the Black Warrior waterway. Three other locks and dams are located in Alabama on the Tennessee River main stem. In order from east to west they are Guntersville, General Joseph Wheeler, and Wilson Locks and Dams. Other than Guntersville L&D, the Tennessee River lock and dam projects exhibit a traffic direction imbalance due to the upbound movement of coal to TVA power plants, grains to Alabama terminals, and petroleum products to population centers in the upper reaches of the Tennessee.

[2] Walter F. George and George W. Andrews on the Chattahoochee River and Claiborne, Millers Ferry, and Robert F. Henry on the Alabama River do not have commercial traffic.

Table 6

Alabama 2013 Lock Tonnage (tonnage in thousands)				
Lock	**Waterway**	**Upbound**	**Downbound**	**Total**
Coffeeville L&D	Black Warrior - Tombigee	4,166.1	6,065.3	10,231.4
Demopolis L&D	Black Warrior - Tombigee	3,878.3	6,138.2	10,016.5
Wilson L&D	Tennessee	6,331.1	3,017.0	9,348.1
General Joseph Wheeler L&D	Tennessee	6,293.5	3,041.6	9,335.1
Armistead I Seldon L&D	Black Warrior - Tombigee	1,981.0	4,982.6	6,963.6
Howell Heflin L&D	Tennessee-Tombigbee	3,534.2	2,695.0	6,229.2
Tom Bevill L&D	Tennessee-Tombigbee	3,619.3	2,589.9	6,209.2
William Bacon Oliver L&D	Black Warrior - Tombigee	1,145.7	4,779.2	5,924.9
Guntersville L&D	Tennessee	2,928.9	2,026.2	4,955.0
Holt L&D	Black Warrior - Tombigee	523.4	4,417.3	4,940.7
John Hollis Bankhead L&D	Black Warrior - Tombigee	567.0	3,439.7	4,006.7
Source: Lock Performance Monitoring System				

RIVER SYSTEMS

There are four major navigation systems in Alabama: the Tennessee River, Alabama-Coosa River, Black Warrior River System, and the Tennessee-Tombigbee (Tenn-Tom) waterway. The Tenn-Tom waterway meets the Black Warrior and Tombigbee Rivers at Demopolis AL, a manmade expansion that connects the Tennessee River to the Black Warrior River System. The Tenn-Tom provides alternate access to the Gulf Coast and Mobile Bay for important inland waterway networks such as the Upper Mississippi and Ohio River Systems. The Black Warrior and Tombigbee navigation system serving Birmingham, AL had the third most traffic of the inland waterways with almost 12.6 million tons. The Alabama reach of the Tennessee River system, crossing the northern third of Alabama, ranked fourth of the inland systems with over 10.1 million tons. The Mobile River Channel ranked second of the inland systems with over 20.1 million tons. This is predominantly due to its proximity to Gulf Coast and the multitude of docks in the southern reaches of the channel near Mobile Bay. This region houses a unique blend of both inland barges and ocean-going vessels, operating in synchronous fashion to transport commodities to and from the United States. By in large, the Mobile Bay Ship Channel contains the most tonnage within the state with almost 30 million tons.

Table 7

Alabama 2013 Top 5 Waterways (tons in thousands; values in millions of dollars)		
Waterway	**Tons**	**Value**
Mobile Bay Ship Channel	29,994.2	$ 10,661
Mobile River Channel	20,158.3	$ 14,737
Black Warrior and Tombigbee Rivers, AL	12,529.9	$ 4,543
Tennessee River, TN, AL and KY	10,106.3	$ 3,935
Theodore Ship Channel, AL	2,758.5	$ 1,521
Commodity Values not calculated for foreign/coastal movements.		
Sources: USACE Waterborne Commerce Statistics, 2012 NDSU Commodity Valuation Analysis		

WATERBORNE DOMESTIC & FOREIGN TRAFFIC

Alabama contains one major deep draft port, Mobile Harbor, ranked 13th in terms of overall tonnage in the nation. Mobile Harbor handles a total of 53.9 million tons. Coal is the largest commodity shipped and received from Mobile Harbor.

Of the 28.8 million tons shipped from Alabama docks, almost 18.2 million were deep draft. Of the 18.2 million tons on deep draft vessel being shipped out of Alabama, almost 13 million tons was coal. Almost 26.7 million tons of goods were received by Alabama docks, almost 12.5 million tons of which were deep draft cargo, mainly coal, crude petroleum and iron/steel. These three commodities accounted for 2, 1.6, and 5.2 million tons respectively. No commodities were shipped within the state via a deep draft vessel. Mobile Harbor is uniquely positioned to provide unique international iron/steel market access to the facilities on Alabama's waterways. Manufacturing facilities demand specific grade and quantity of raw iron/steel material needed in their production process, without deep draft docks in Mobile Harbor these facilities would be limited to domestic markets.

Table 8

Alabama 2013 Domestic and Foreign Commodities				
			Foreign	
Commodity	**Total Tons**	**Domestic**	**Imports**	**Exports**
Coal	27,702.2	12,688.1	2,024.4	12,989.6
Petroleum	4,588.2	4,450.4	24.0	113.9
Crude Petroleum	5,764.2	4,119.6	1,644.6	0.0
Aggregates	2,326.9	1,681.7	644.5	0.8
Grains	3,722.0	2,544.1	543.1	634.9
Chemicals	4,419.2	3,316.0	673.7	429.6
Ores/Minerals	410.5	156.9	219.5	34.1
Iron/Steel	14,279.7	7,981.8	5,207.0	1,091.0
Others	6,190.5	1,793.6	1,512.3	2,884.6
TOTAL	**69,403.5**	**38,732.0**	**12,493.0**	**18,178.4**
Source: U.S. Army Corps of Engineers Waterborne Commerce Statistics				

SOURCE

- Mobile district home page: http://www.sam.usace.army.mil/Missions/CivilWorks/Recreation/TennesseeTombigbeeWaterway.aspx
- Tennessee Tombigbee Waterway accessed at: http://business.tenntom.org/maps-tennessee-tombigbee-waterway/
- Tennessee Valley Authority accessed at: http://www.tva.com/river/navigation/
- U.S. Energy Information Administration: http://www.eia.gov/state/?sid=AL
- Alabama Power accessed at: http://www.alabamapower.com/about-us/plants/