



Barges and Towboats

Why is a towboat called a towboat when it pushes the barges?

The word "tow" comes from the canal age when a draft animal walking along the bank of the canal pulled a barge. As rivermen gained experience with moving barges, they found that, by lashing barges together and pushing them, they could control the barges better and move more of them. The control was especially helpful when navigating the smaller rivers and tight bends in a river.

What is the size of a barge?

The standard barge is 195 feet long, 35 feet wide, and can be used to a 9-foot draft. Its capacity is 1500 tons. Some of the newer barges today are 290 feet by 50 feet, double the capacity of earlier barges.

What is the size of a towboat?

Towboats range in physical size from about 117 feet long by 30 feet wide to more than 200 feet long and 45 feet wide. They draft anywhere from 6.5 feet to 9.0 feet. The boat's diesel engine can produce power from a few hundred horsepower to 10,000 horsepower. A few are in excess of that, but not many. The larger boats operated on the Lower Mississippi where the water is freeflowing and wide.

How many barges and towboats are there?

There are approximately 26,000 dry cargo barges, 3,000 tanker barges, and 1,200 towboats operating today.

How many barges are there in a tow?

The average tow has 15 barges, but flotillas can go up to 40 barges, depending on the type of cargo, the river segments being navigated, and the size of the towboat. Smaller tributaries, such as the Alabama River, can support only a four-barge tow because of the meandering nature of the river and varying width of the river itself. In addition, the Alabama's locks are only 84 feet wide and 600 feet long.

How many locks are operated by the Corps of Engineers?

The US Army Corps of Engineers operates 275 lock chambers. These locks are generally 110 feet wide, and either 600 feet or 1200 feet long. The most typical tow size through these locks is three barges wide and five long. The smaller tributaries, such as the Alabama River,

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sport locks that are 84 feet wide and 600 feet long, which can support tows of two-barge width and length.

How many people are employed in the waterway industry?

In 1992, over 8,000 firms employed over 170,000 people whose annual wage averaged \$30,180. These firms included 452 barge and towing companies, over 2,000 public and private ports and terminals, plus shipyards, contractors, marine surveyors, marine divers, and numerous other categories of companies. When industries that depend on the river systems for transportation are taken into account, over 400,000 jobs and \$700 million in tax receipts can be attributed to inland waterways, according to the National Waterways Conference.

What are the primary commodities moved on the inland waterways system?

Coal, petro-chemical products, and grain constitute most of the commodities moved on the inland waterway system. In 1995, coal accounted for 27% of tonnage moved on the inland waterways. Barges moved one billion barrels of petroleum products and 450 million barrels of chemicals. Over 60 million tons of grain are moved each year. Other products of significance are lumber and wood products, sand and gravel, and pulp and paper.

How much cargo is moved on the Mississippi River?

Of the 620 million tons moved on the inland waterways system in 1995, 321 million tons moved on the Mississippi River. The Ohio River tonnage was 236 million while the Gulf Intracoastal Waterway saw 119 million tons.

What is a shallow draft waterway?

In general, waterways with drafts of 12 feet or less are considered to be shallow draft, although the controlling draft for much of our inland system is nine feet.

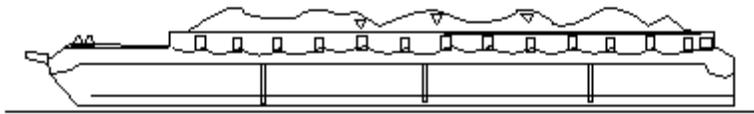
How much has the Federal Government invested in the inland waterways system?

Since World War II, the Federal government has invested approximately \$11 billion in the development and maintenance of the country's domestic waterways. Current replacement cost is estimated to be about \$40 billion.

More Barge Facts:

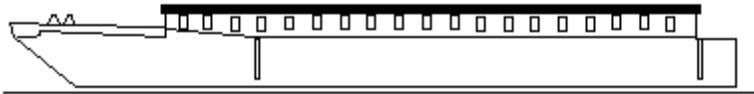
Barges
Workhorses of the Fleet

Common Barge Types



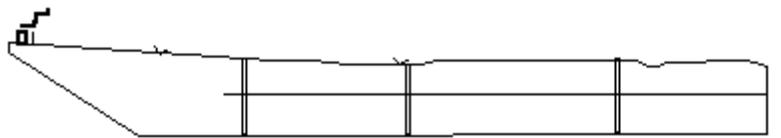
OPEN HOPPER BARGES

TYPE	LENGTH	BREADTH	DRAFT	CAPACITY
	FEET	FEET	FEET	TONS
Standard	175	26	9	1000
Jumbo	195-200	35	9	1600
Super Jumbo	250-290	40-52	9	2100-3300



COVERED HOPPER BARGES

TYPE	LENGTH	BREADTH	DRAFT	CAPACITY
	FEET	FEET	FEET	TONS
Standard	175	26	9	1000
Jumbo	195-200	35	9	1600



INTEGRATED CHEMICAL AND PETROLEUM BARGES

TYPE	LENGTH	BREADTH	DRAFT	CAPACITY
	FEET	FEET	FEET	TONS
Tanker	150-300	35-54	9	1400-3300

Hopper Barges

- Most versatile
- Least costly
- Most numerous

- Double-skinned, open top with inner shell with welded steel construction forming a long hopper or cargo hold

Open Hoppers

- Carries commodities that need no protection from elements
 - coal, sand and gravel, crushed rock, limestone, logs, lumber

Covered Dry Cargo Barges

- Carries commodities that need protection from elements
 - grains, soybeans, paper products, cement, aluminum products, building materials, rubber, salt, sugar, and other products

Tank Barges

- Used for transportation of liquid commodities
 - bulk chemicals, acids, compressed gas, fertilizer, petroleum

Deck Barges

- Simple box hull, generally with a heavy-plated, well-supported deck
- Carries cargo that needs to be tied down
 - machines, vehicles, heavy equipment, logs, etc.

Inland waterways barges are very efficient

- One barge can carry up to five times its own weight
- Capacity of jumbo barge (195 ft x 35ft) is 1500 tons (15 times greater than a rail car and 60 times greater than one trailer truck)
- Average river tow is 15 barges tied together
 - Same load would require a train 3 miles long or line of trucks stretching more than 35 miles

Barge sizes vary

- Jumbo dry cargo barges (open and covered) are 195 feet long and 35 feet wide with a loaded hull depth of 12 feet
 - Jumbo barges are most common barge operating today
 - Barges operating on smaller rivers have loaded draft of less than 9 feet
 - Cost of construction is approximately \$225,000
 - Size is usually determined by the size of the most common locks (110 ft x 600 ft or

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1200ft)

- Other lengths are 175 ft x 35 ft with a capacity of 1000 tons and 290 ft x 35 ft with a capacity of 3000 tons
- Tanker barges come in various sizes, but the most popular are 195 ft x 35 ft
 - Built to double-hulled standards today, although some single hulls exist
 - Capacity of 10,000 barrels
 - Some tank barges are 297 feet long and 54 ft wide
 - Capacity of 30,000 barrels
 - Construction cost is approximately \$750,000
 - Usually operated in tows of no more than three or four barges together