

COMMERCE AND NAVIGATION FACILITIES  
ON THE ATLANTIC INTERCOASTAL WATERWAY

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The Atlantic Intercoastal Waterway, General

The Atlantic Intercoastal Waterway (AIW) is an inland route running 2,000 miles from Boston to Florida. However, the AIW is not clearly defined north of Norfolk, Virginia. Over the years, Congress appropriated funds for work on "inland" waterways on the East Coast under several titles, the principal one being Norfolk, Virginia to the St. Johns River, Florida. North of Norfolk, Federal projects had various names and included privately-owned canals -- the Cape Cod and the Chesapeake and Delaware.

Along its entire route, the AIW coincides with or provides access to deeper major water ports such as Boston, New York, Philadelphia, and Baltimore. Ocean-going commerce of all kinds is therefore credited to these ports and not the AIW. The same is true for ports south of Norfolk. The Port of Hampton Roads, Virginia, is a collective term encompassing the region around Norfolk. It is a major ocean-access port. The AIW south of Norfolk from both commercial and recreation standpoints takes advantage of rivers, creeks, sounds, bays, and estuaries bound together where necessary by man-made cuts to provide depths up to 12 feet. It proceeds through coastal North and South Carolina, Georgia, and Florida to the St. Johns River. The waterway continues along the coast of Florida to Miami, and via a shallower route through the keys from Fort Lauderdale to Key West.

The AIW from project Norfolk to the St. Johns River supports commerce of nearly 4 million tons - a substantial amount. Major commodities carried mostly by barge include fertilizers, sand, gravel, crushed rock, jet fuels, iron materials, chemicals, and pulpwood. North of Norfolk, the Chesapeake Bay, Chesapeake and Delaware Canal, and Delaware River carried more than 17 million tons of commerce in the mid-80s, but most of this involved deepwater ports. The remainder of the waterway commerce consists primarily of fish oil, crabs, clams, and oysters.

The entire waterway is important from a recreational standpoint. The AIW itself is utilized as well as satellite channels. Every year there is a migration of yachts from north to south in the fall and south to north in the spring. The scenery varies from the broad bays, vast wetlands, and narrow canals to great urban harbors.

The Atlantic Intracoastal Waterway, Norfolk District

Within the jurisdiction of Norfolk District are two alternate, essentially parallel routes of the AIW. They have very interesting histories and contemporary characteristics which are worthy of mention. Their names are the Dismal Swamp Canal and the Albermarle and Chesapeake Canal. Both of these

routes begin at a common point in the Southern Branch of the Elizabeth River which divides Norfolk and Portsmouth, Virginia. They proceed in a southerly direction into North Carolina eventually meeting again at Wade Point in Albermarle Sound. The Dismal Swamp Canal Route is about 75 miles long; the A&C Route about 72 miles long.

A unique feature about both canals is that they have the only locks on the AIW main stem. The A&C Canal is an 8-mile long sea level cut with a channel 12 feet deep and 90 feet wide. It connects the upper Southern Branch of the Elizabeth River which is saline and tidal with the upper North Landing River which is fresh and governed by wind tides only. There is a reversible head tidal guard lock at the western end of the cut whose primary purpose is to keep saline waters from mixing with the fresh water of the North Landing River. The 600-foot long lock has 4 sets of gates rather than 2. This is because of the variation of tides in the Southern Branch and wind blown tides in the canal which can cause unequal heads at either end of the lock.

The Dismal Swamp Canal (DSC) is a 22-mile long summit level and cut connecting the Southern Branch's tributary of Deep Creek in Chesapeake, Virginia, with the upper Pasquotank River in Camden County, North Carolina near the village of South Mills. It is the oldest operating canal in the United States. Much of the canal is overhung by trees on either side which in summer forms a shadowy canopy. The DSC is about 100 feet wide with a navigation channel of 50 feet maintained at a 6-foot depth. The Dismal Swamp itself, an area of about 200,000 acres, lies adjacent to the west side of the canal in both Virginia and North Carolina. In the middle of this area, which is mostly a peat bog rather than a swamp, is Lake Drummond, one of only 2 natural lakes in Virginia. It is a hollow body of dark stained water with a surface area of about 5 square miles or 3,200 surface acres. The lake is connected to the canal by means of a 3 1/2-mile Feeder Ditch controlled by a small concrete dam with steel wicket gates. Lake levels are controlled by the dam as is the canal itself when natural inflows during dry weather are too low to support navigation.

The locks at either end are 300 feet long, 52 feet wide, and 12 feet deep over the sills. The summit level of the canal is about 10 feet higher than either end. During times of normal or excess rainfall, both lake and canal would overflow causing flooding problems. Therefore, at either end are waste water spillways with gates to provide for canal level control. These are augmented by valves in the lock gates themselves which are normally used to fill and empty the chambers.

Because the A&C Canal is wider and deeper with only one lock, it receives virtually all of the commercial traffic and most of the through recreation traffic where large yachts are concerned. The Dismal Swamp Canal is the historic route and receives considerable interest from this standpoint. Also, Elizabeth City, NC on the Pasquotank River is on the route and caters to the boating public. The Great Dismal Swamp National Wildlife Refuge was created in 1974. Its present area of about 105,000 acres lies on the west side of the canal and includes Lake Drummond. In 1977, the Refuge Manager and the Norfolk District Commander made an agreement whereby a strict limitation was placed on the level at which Lake Drummond could be drawn upon to support navigation in the canal. In the enabling act establishing the refuge, Congress made navigation subservient to conservation of water within the refuge.