PHOTO ESSAY:

People and Landscape in the Halifax River Urban Watershed

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Figure 1. Sunrise on the Halifax River, Daytona Beach, Florida. Our proposal for this special issue was to explore the Halifax River Urban Watershed’s trails, roads, paths, and waterways through various landscape lenses including both temporal and spatial dimensions. Photo taken on May 9, 2021 by Hyun Jung Cho.
Figure 2. Sunset on the Halifax River, Port Orange, Florida. Our intent is to better understand life connected to the landscape features in the region’s past as well as to identify and assess the region’s drivers of change and their impacts on present landscapes. Photo taken on June 7, 2013 by Hyun Jung Cho.
Figure 3. The golden hour at Halifax River, Port Orange, Florida. Humans often heavily manipulate the landscape. Photo taken on June 7, 2013 by Hyun Jung Cho.
Figure 4. People fishing at the pier under the Dunlawton Bridge. It is important to incorporate people into environmental research to assist in the development of a sustainable and resilient coastal community capable of adaptation to changing coastal conditions. Photo taken from the Dunlawton Bridge, Port Orange on May 9, 2021 by Hyun Jung Cho.
Figure 5. The remaining natural saltmarsh at a tidal creek where the Tomoka River joins the Halifax River. In its natural state, the area to the west of the Halifax River was a floodplain with wetland vegetation that drained slowly to the Tomoka River in the north or to Rose Bay in the south. Photo taken on April 5, 2020 by Hyun Jung Cho.
Figure 6. Natural marsh and mangrove shores along the southern Halifax River, Ponce Inlet, Florida. The Halifax River area lies within the narrow latitudinal zone of transition between herbaceous marshes and woody mangrove swamps. The tropical mangroves do not tolerate cold freezes; instead, salt marshes occur along the coasts within the temperate zone. With the reduced days of winter freezes, due to the changing climate, much of the marsh vegetation has been replaced by mangroves within the past decades in this transitional area. Photo taken on November 11, 2011 by Hyun Jung Cho.
Figure 7. Remaining dragline ditch in the Ormond Beach area. Saltmarsh mosquitos (Aedes sp.) lay their eggs in salt marshes. In order to remove the potential habitats for mosquito production, dragline ditches were dug in the 1950s and 1960s. The resultant ditches and spoils created the landscape that is either too deep or too high for the mosquitos to lay their eggs. Photo taken on April 5, 2020 by Hyun Jung Cho.
Native Americans were drawn to the Halifax River area and its diverse array of food, especially the plentiful shellfish. Photo taken on November 23, 2011 by Hyun Jung Cho.
Figure 9. Facing west on the Main Street Bridge that crosses the Halifax River (a section of the Atlantic Intracoastal Waterway), Daytona Beach, Florida. The U.S. Army Corps of Engineers completed a series of canals between barrier islands and mainland along the east coast of Florida in 1912, with the Halifax River section representing one part of a 3,000-mile system that shelters boats as they travel along the Gulf of Mexico from south Texas to Apalachicola, Florida, and then up the Atlantic coast from Key West to Boston. This Intracoastal Waterway was completed in 1949 and is now federally maintained. Photo taken on March 29, 2020 by Hyun Jung Cho.
Construction of the Intracoastal Waterway was not the only change affecting the Halifax River, as the existing 256,000-acre basin was altered significantly, modifying tidal exchange, floodplain drainage for agriculture and development, and construction of additional canals. Photo taken on March 29, 2020 by Hyun Jung Cho.
Figure 11. Broadway Bridge facing from the downtown Daytona Beach, Florida. The Broadway Bridge connects Daytona Beach downtown with the barrier island across the Halifax River. Photo taken on March 27, 2018 by Hyun Jung Cho.
Figure 12. Looking over the barrier island development from the Dunlawton Bridge, Port Orange, Florida. The Halifax is in the foreground and the Atlantic Ocean is behind the condominiums. The banks of the Halifax River are already heavily developed, and new developments are spreading across more inland areas. Photo taken on October 8, 2020 by Hyun Jung Cho.
Figure 13. Nova Canal (seen on the right side of the photo) runs along Nova Road (the northbound of the road is seen on the left side of the photo). Nova canal drains the untreated urban stormwater and channels it to the Halifax River through three outfalls. Permits for stormwater discharges or other activities regulated by the Florida Department of Environmental Protection or the St. Johns River Water Management District are particularly strict if they affect the Tomoka River and Spruce Creek because these waterbodies are designated as Outstanding Florida Waters. Photo taken on March 29, 2015 by Hyun Jung Cho.
Figure 14. The native submerged aquatic plant, American eelgrass (*Vallisneria americana*) growing lusciously in Reed Canal, one of the three stormwater outlets to the Halifax River, South Daytona, Florida. A series of similar canals delivers water to the Halifax River. Photo taken on March 29, 2015 by Hyun Jung Cho.
Figure 15. A mother duck and her ducklings in Nova Canal, Daytona Beach, Florida. With proper management, the stormwater system provides important urban ecosystem services and habitats for fish and wildlife. Photo taken on March 29, 2015 by Hyun Jung Cho.
Figure 16. Ormond Scenic Loop and Trail (shown here is the section of Old Dixie Highway between Bulow Creek State Park and Tomoka State Park), Ormond Beach, Florida. The King’s Road remained the only viable land route south from St. Augustine until 1914. It was resurrected as State Route 4 in 1926. The surviving sections of the old State Route 4 have been found in the Plantation Oaks development along the Ormond Scenic Loop and Trail. Photo taken on April 5, 2020 by Hyun Jung Cho.
Figure 17. Forest along the Pershing Highway Interpretive Trail. Florida. Pershing Highway was built in 1917 to connect Daytona and Deland by paved road. After the highway was abandoned in 1947, it quickly fell to the forest. Photo taken on May 22, 2021 by Hyun Jung Cho.
Figure 18. Wild blackberries found along the Pershing Highway Interpretive Trail. Florida. The archaeological evidence of the region’s early 1900s transportation network is hard to find. Even paved roads quickly disappeared into the Florida undergrowth if not maintained. Photo taken on May 22, 2021 by Hyun Jung Cho.
Figure 19. Blue Springs State Park, DeLand, Florida. Karst topography is common in the western portion of Volusia County. Sinkholes are abundant in the area and so are springs such as Volusia Blue, DeLeon, Gemini, and Green springs. Many Florida springs have long drawn tourists. Photo taken on August 21, 2021 by Hyun Jung Cho.
Figure 20. Early nineteenth century sugar mill ruins at Dunlawton, Port Orange, Florida. In the Battle of Dunlawton, Seminoles led by Coacoochee (Wildcat) greatly outnumbered and ambushed the local militia in early 1836. Photo taken on November 14, 2021 by Hyun Jung Cho.
Figure 21. Bulow Plantation Ruins Historic State Park. Major Benjamin Putnam and his militia, known as the "Mosquito Roarers," seized the largest and most profitable plantation, Bulowville. In January 1836, the militia ordered an evacuation of Bulow Station. After Putnam left, the Seminoles destroyed Bulowville, including the factory and the coquina main house. Today, Bulow Plantation Ruins Historic State Park provides visitors with a ghostly glimpse of the site’s past. Photo taken on December 18, 2021 by Hyun Jung Cho.
Figure 22. The Old Fort Park Archeological Site, New Smyrna Beach, FL. The largest nineteenth century hotel in New Smyrna, owned by John Sheldon, was located on top of an ancient shell midden and old coquina ruins from the original 1765 Turnbull Colony. One can visit the coquina remains of the old Sheldon Hotel, which today is called the Old Fort Mound Park in Downtown Historic New Smyrna Beach. Photo taken on November 25, 2021 by Hyun Jung Cho.
Figure 23. The Casements, Ormond Beach, Florida. Built in 1913, The Casements was purchased by John D. Rockefeller in 1918 and was used as his winter mansion. It is now the Cultural Center for the City of Ormond Beach. Northern settlers were lured to the Halifax River area because of the promise of broad expanses, northern amenities and, above all, easy transportation access. Photo taken on April 5, 2020 by Hyun Jung Cho.
Figure 24. Motorcycles parked along Beach St. during the 2021 Daytona Beach Bike Week, Daytona Beach, Florida. Daytona Beach’s annual Bike Week, a 10-day event held in March, is one of the events that draw people into this area. Photo taken on March 10, 2021 by Hyun Jung Cho.
Figure 25. Downtown Daytona Beach, Daytona Beach, Florida. The 3.8 percent population increase of Daytona Beach from 2020 to 2021 is significantly higher than both the US national trend and Florida trend (~0.1 % and 1.1%, respectively). Photo taken on May 9, 2021 by Hyun Jung Cho.
Figure 26. Eroded beach and collapsed seawalls after the 2022 Hurricanes Ian and Nicole. Increased hazard risks from sea level rise and more powerful hurricanes elevate insurance costs, making the cost of home ownership in Florida less affordable. Daytona Beach, Florida. Photo taken on November 28, 2022 by Hyun Jung Cho.