The trails, roads, paths, and waterways of the Halifax River Urban Watershed: Drivers and reflections of a changing landscape

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Globally, coastal urban areas are faced with numerous challenges that impact environmental and community resilience, including saltwater intrusion into aquifers and drinking water sources, flooding, and pollutant contamination of major waterways. These and other similar threats are expected to continue and worsen due to expanding urban development combined with the impacts of sea level rise. One such potentially impacted coastal area is the Halifax River (Figure 1), a 37-km long estuarine lagoon that runs along the eastern coast of Volusia County, Florida, with the city of Daytona Beach located centrally along its banks. The municipalities along the Halifax River include the coastal cities of Ormond Beach, Holly Hill, Daytona Beach, South Daytona, Port Orange, New Smyrna Beach, Daytona Shores, and Ponce Inlet.

Sustainability in its broad sense (ecological, social, economic, and technological) has been successfully used as a central place-branding theme in a number of cities and regions throughout the world. Coastal urban centers such as Daytona Beach could potentially benefit from preemptive repositioning and rebranding that adapts local assets to local and global environmental trends in order to promote sustainability/resilience while enhancing local economic activity and green tourism.

In January 2019, Bethune-Cookman University (B-CU), Stetson University, and other regional partners initiated the Halifax River Urban Watershed Sustainability Initiative (HRUWSI) to better understand and incorporate human dimensions and social factors into environmental research with the goal of assisting in the development of a sustainable, resilient coastal community capable of adaptation to changing coastal conditions. Thus far, the team produced a 23-minute documentary in summer 2019 that involved interviews of HRUW stakeholders, and a book titled *The Halifax River Urban Watershed: A Holistic Approach to Sustainability* (Cho et al. 2020).

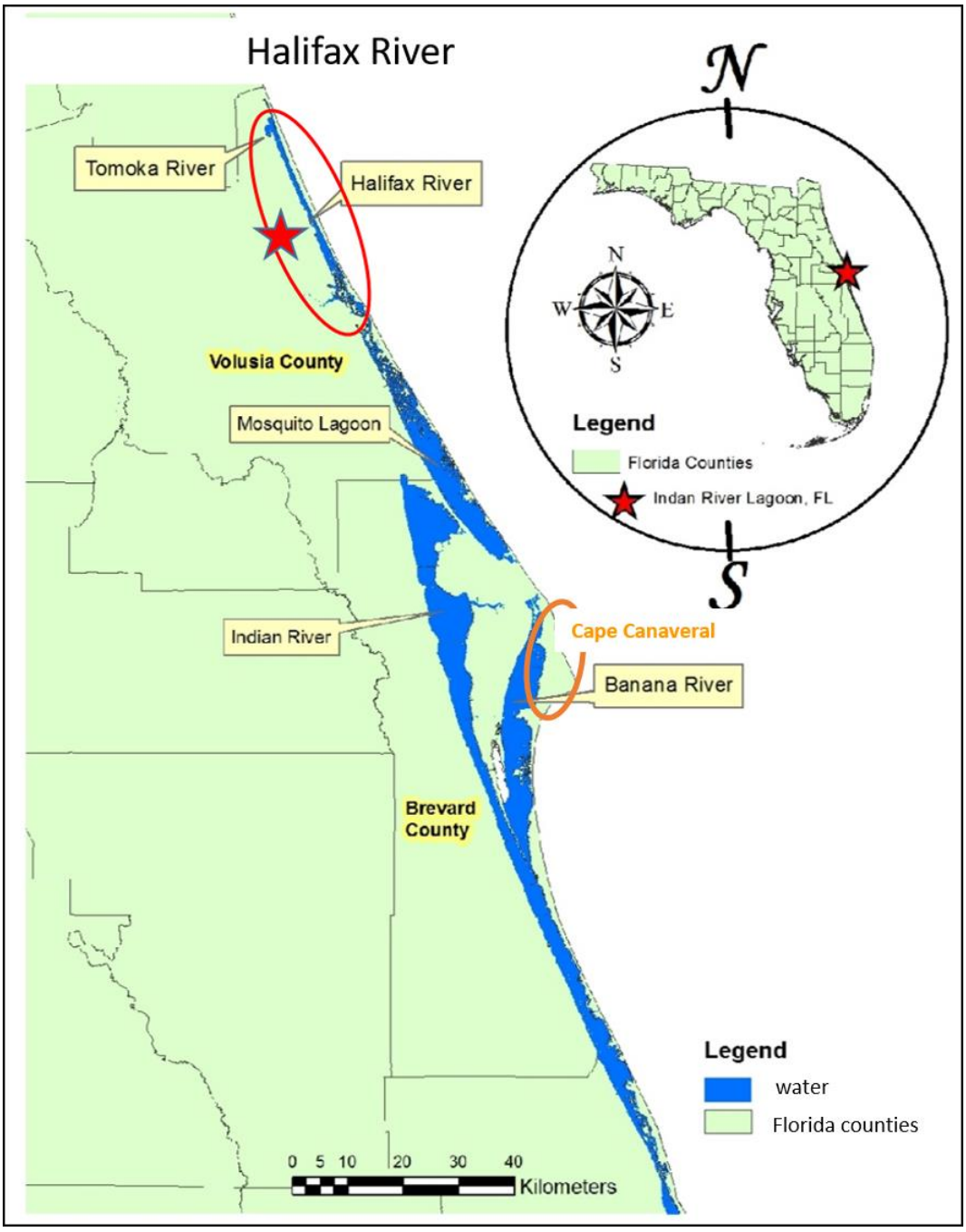

Figure 1. The Halifax River is indicated in an open red oval.

That first publication on the HRUW described the area's physical setting; history, human development, and culture; health and wellness profile; economic determinants; and considerations for restorative justice in the area. Our goal was to provide a broad foundational blueprint for a holistic

systems approach to the area's sustainability. This special issue of *The Florida Geographer* is the second collective publication on the HRUW by authors with diverse academic backgrounds.

The Florida Geographer appealed to us as an ideal portal for our next publications on the HRUW. Editor-in-Chief Christopher Meindl received our proposal with a positive attitude, acknowledging the relatively little public and governmental attention that the Halifax River receives compared to the St. Johns River, the Indian River Lagoon system, Lakes Apopka and Okeechobee, the Everglades, and Tampa and Apalachicola Bays. Our proposal was to examine different drivers for, and resultants of, landscapes (i.e. the eco-physical; the historical, cultural, and spiritual; the political and military; the economic and technological; etc.) and the respective interactions between humanity and landscape drivers within the HRUW.

The boundary of the HRUW is influenced by physical, social, historical, cultural, economic, and jurisdictional factors, so the actual geographic ranges covered in individual papers in this issue vary. But the primary geographic region of attention is the Halifax River watershed plus the adjoining area within and along the St. Johns River-to-Sea Loop (Figure 2). Indeed, it is often very difficult to describe developments in the HRUW without reference to activities in the surrounding land, rivers, and ocean.

An area's present perceptible landscape characteristics are the products of superimposed climate, underlying geology, natural surface features, past and current land use, and the builtscape, among which interactions overlap in time and space. Since the concept of landscapes is wide-ranging, our focus is on landscapes and drivers related to the formation and uses of rivers and water bodies, paths and trails, and roads and railroads in the HRUW. The interaction of different landscapes and likely drivers of change can be deduced from looking at a selected area and/or time through a variety of landscape lenses. Our proposal for this special issue was to explore the HRUW's trails, roads, paths, and waterways through various landscape lenses and to superimpose the views temporally and spatially.

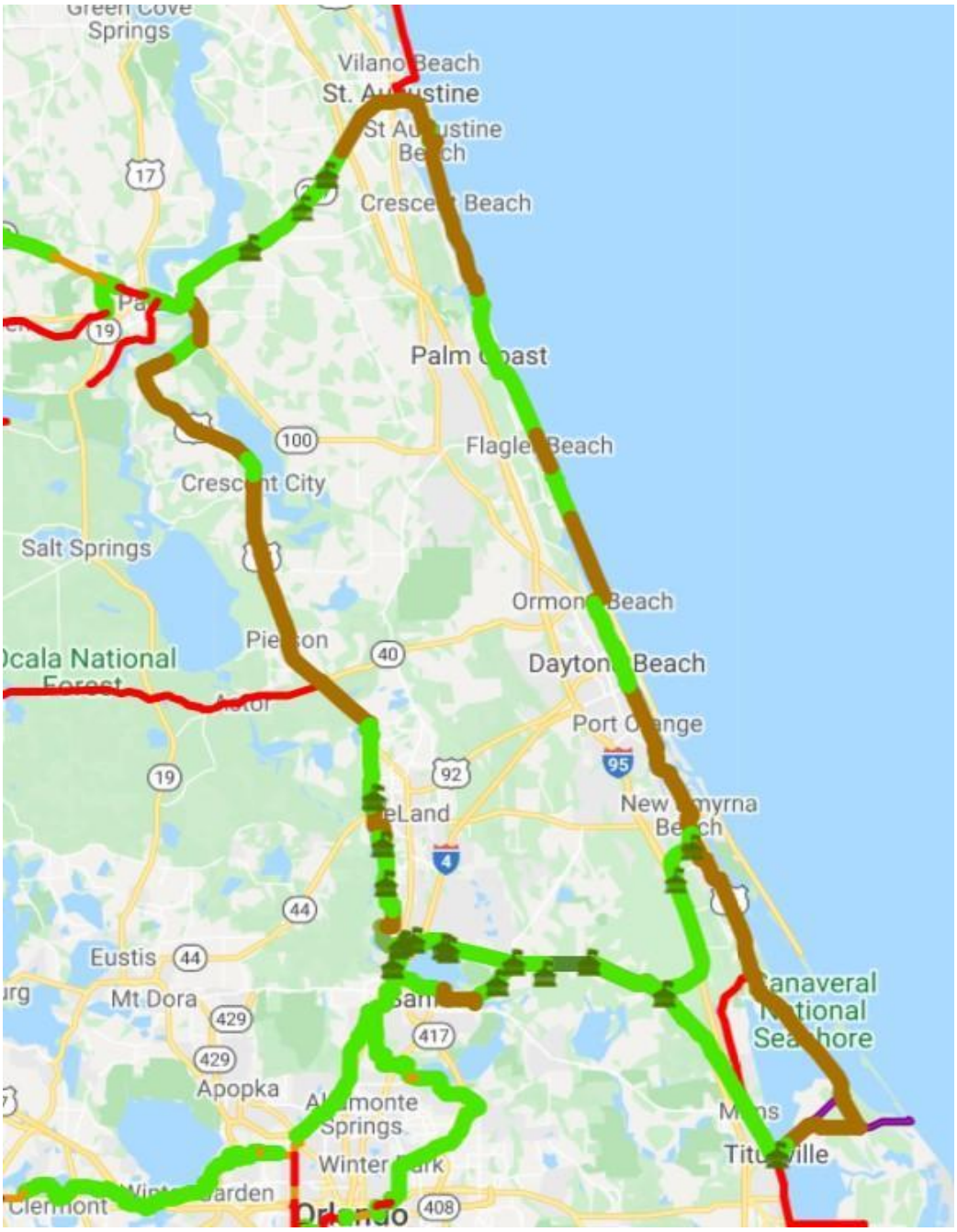

Figure 2. The St Johns River-to-Sea Loop Multiuse Paved Trail
(Source: https://river2sealoop.org/the-loop/).

The different colors of the lines of the loop indicate the different stages of development following the Florida Department of Transportation's standard multi-color coding: green for existing trails; yellow for programmed or funded for construction; red for funded for pre-construction phases; and brown for not yet built.

Our goal is to better understand life connected to these features in the region's past as well as to identify and assess the current direction of the region's drivers of change and their impacts on present landscapes, from which we can forecast both likely future endpoints and alternative endpoints that might be more sustainable. Once the desired future endpoints are determined, we can assess the feasibility of that future and the policy measures required today to help reach that future.

That is how it began; and here we present to you the collection of articles on the HRUW from its geologic foundation, key waterways, historic transportation systems, historical conflicts and their ruins, urban growth, and the possibility of restorative justice regarding traditional environmental knowledge.

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