

Epilogue: Transportation, Development, and the Landscape of the Halifax Region

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The previous articles in this edition have painted a relatively broad picture of the development of the Halifax River region highlighting transportation, access, and consequent activities. It seems clear that the external immigration, occupation, and development of the Halifax River watershed was tightly linked to the expansion of access to the area, access that was both aided and hindered by the physical geography of the region. As external technology and effort were focused on the area, the impacts of that effort accrued to the detriment of some groups (such as the original populations at the time of outside arrivals) or activities (such as indigo and sugar agriculture) and to the benefit of others (e.g. recreation, urbanization). Underlying the extensive early changes to the region, however, was a common theme: the need to first conform with, adapt to, or otherwise alter the restrictions on movement imposed by the surrounding landscape.

One of the more interesting patterns common to the previous chapters is the early importance of directionality imposed by the landscape. The predominant alignment of features such as ridges and troughs from ancient shorelines, rivers, and the coastline is (relatively and generally speaking) north-south (N/S), which influenced early access into the region. Centuries ago, the easiest ways to enter the region were via the Halifax River (and to the west the St. Johns River) and the coast, with later land movement (such as along the King's Highway) largely following the N/S ridge and trough alignment. Movement in this direction conformed to the landscape and was thus relatively easy when compared to movement along an east-west axis, which required travel through less developed, less easily traversed areas. Thus, early on, major influences in the area were more likely to enter the Halifax River region from the north or even Europe than from the Gulf of Mexico or western US, while the native populations had to deal with shared or even lost access to these more efficient travel corridors and the potential to be squeezed into lands between them.

The difficulties with movement in the area from the 1500s through the 1700s led to a rather piecemeal development pattern as people tried to create new settlements in areas where other people

had already settled, to obtain resources in places where they were already claimed (or did not yet exist) and were hard to protect, and to generate stable profit in areas that were not particularly stable. Florida's written history is replete with stories of conflicts won and lost, locations changing hands peacefully or not, agreements made and broken, settlements appearing and disappearing, and businesses begun and lost, a great deal of it tied directly or indirectly to exploration, recreation, and settlement opportunities for the wealthy (or hopefully-to-be-wealthy). Impacts from the settlements and their associated agriculture and lumber operations almost certainly had an ecological impact on the surrounding landscape, but the combination of the scattered spatial and temporal nature of those early efforts, the difficulties with transportation of goods and people, the disagreements with the existing inhabitants, and the challenging and dynamic ecological nature of the landscape have contributed to relatively few visible signs of those early impacts to be found today. Indeed, while there are limited records of environmental impacts from early written history in Florida, the environmental impacts of modern activities in the Halifax River urban watershed would almost certainly overshadow them.

Overlain with these impacts over time was a concurrent advance in technology. From coastal vessels and river junket boats to railways, highways, and airports, increases in the convenience and efficiency of transportation slowly overcame the early limitations on access from outside, improving the probability of successful development and settlement efforts despite the attempts by existing populations to either prevent it or coexist with it (creating an ever-evolving list of social winners and losers). Today, with exceptions for transportation regulations, modern transportation methods have all but eliminated the directional and ground cover restrictions of the early movement through the region. Ironically, though, much of the region's current development and economic activity is still associated with aspects of settlement (e.g. new housing developments), exploration (e.g. retirees and vacationers coming to experience the region), or recreation (e.g. boating and NASCAR-associated activity). In the area, you can still see remnants of the old pattern of initial settlement locations along the more accessible routes, several of which have grown over time, followed by expansion into some of the intervening land as technology and circumstance permitted.

The result of minimization of barriers to access is a region of significant urbanization, modernization, and economic development. Expansion in these areas has become detached from earlier tendencies toward N/S directionality, as considerable development is expanding to the west, away from the Halifax River and coastline. While minimization of barriers has eliminated several of

the past concerns regarding survival in the area, the advances have come with their own costs. Effectively the entire Halifax River watershed has been modified by human activities ranging from resource management to elimination of habitats for development. The old trails and river boats have been replaced by modern highways and air traffic that allow access to the area for both long-term and short-term activity, resulting in an ever-changing but nonetheless growing population with its expanding environmental impacts from air pollution, chemicals, and urban runoff, impacts that could not have been imagined by the original occupants of the area. In another irony, stress on the area and its habitats from human activity is such that the old river and beach shores, once defining the most effective means of access, are now directly and indirectly impacted up to the point of degradation despite the expanded routes of access.

Instead, people are inhabiting what was once marsh, swamp, beach and dune, forest, and even agricultural land, and with that access comes more impact, development, and habitat alteration. Being a coastal watershed, the Halifax already has a number of challenges to long-term sustainability in the form of storm frequency, coastal flooding, saltwater intrusion, and harmful algal blooms among others; challenges that are expected to worsen with climate change. Indeed, climate change could potentially produce the greatest irony of all: a sort of reversal of the ease of access and development that occurred in the region. While historically the coastline was a major access and development point for the Halifax River and environs, expected sea level rise due to climate change can be expected to make our present coastal infrastructure far less stable. Already an issue in the Halifax River region and elsewhere, coastal flooding associated with the combination of storms and sea level rise is expected to exacerbate already damaging events over much of low-lying coastal Florida, forcing the population to make a choice to either attempt to fight against these environmental forces or to retreat from their impacts into more stable areas currently further inland. (The fact that much of this climate change can be linked to our recent expanding development and technological activity adds an interesting grace note to the situation.) Given these expected changing drivers to environmental impacts, the desire to maintain a sustainable coastal system should encourage us to be particularly vigilant when it comes to the intensity of environmental impacts that are under our near-term control, as are many of the things discussed in this issue.

We certainly have settlements and economic activity in the Halifax River watershed now, but there is no doubt about the environmental and social costs that have come with it. The connections are enough that we might want to consider what it will mean for the region if we continue to create

more access, economic activity, and opportunity for recreation in what's left of the original habitats of the area. Perhaps it is time to consider how much environmental impact has already occurred in the Halifax area, how much more is likely to occur in the coming years, and how to address the negative social impacts that occur along the way as best we can. In particular, we may want to consider how much more ease of access and activity the region can actually support, and whether our planning in that regard is doing justice to the environment as well as all who would be affected today and in the future.