



## Considering our Natural Resources



### What are natural resources and why are they important?

Natural resources are all around us, even in the urban core. The air we breathe, the water we drink, the food we eat, and the places we play outdoors are all resource-driven. They provide clean air, water, food, habitat, opportunities for recreation and tourism, and help mitigate extreme weather events.

In considering natural resources, we tend to think of resources individually instead of as part of a system. The interaction between resources and their functions makes up the natural environment. Ecological functions are defined in terms of ecosystem services - for example, trees provide clean air, water, and shade. However, the value of those services to people is difficult to fully quantify.

Recent studies have focused on the economic impact natural resource-based sectors, such as forestry or outdoor recreation, however it is much more difficult to quantify the value of ecological functions. For example, according to the US Forest Service, "every dollar spent on planting and caring for a community tree yields benefits that are two to five times that investment – benefits that include cleaner air,

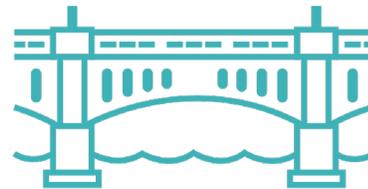
### Did you know?

A recent Clemson study found that natural resource based sectors contribute \$33.4 billion in economic activity to the state's economy, and are responsible for 218,719 jobs!

## Getting ready for 100% Clean Energy!

In June 2017, Columbia's City Council approved a resolution to establish a community-wide goal of transitioning to 100% clean and renewable energy by 2036. Columbia was the first municipality in SC to make this commitment, and the 26<sup>th</sup> in the US - to date, 113 cities have made this commitment.

lower energy costs, improved water quality and stormwater control, and increased property values." While we often forget about the ecological function, without it the human value would not be present.



### Developing our Riverfront Sustainably

As Columbians, our rivers are a large part of our identity - and they also provide one of our greatest opportunities. During our first phase of engagement, many citizens noted that the riverfront was underutilized and disconnected from the life of the City, in spite of its proximity.

While we can look to other cities like Asheville, Austin, and Portland for examples of successful riverfront revitalization, our riverfront is uniquely Columbia, and we should treat it as such. Most riverfront development examples are in fact redevelopment - Columbia didn't industrialize along the riverfront, constricting and polluting

our rivers in the same way many cities have. We are downstream of watersheds that take in increasingly heavy rains, and our rivers flood regularly, so providing hardscaped development right up to the river would not be sustainable or wise. Our rivers are increasingly clean, and Columbians love to play in them - escaping our summer heat, appreciating our wildlife, and accessing nature.

### Planning for Resiliency

While it's likely you've heard about planning for sustainability, you may not have heard as much about planning for resiliency. Planning for resiliency involves thinking about how we adapt to and mitigate risks resulting from changes - whether those changes are due to population growth, development pressures, or our changing climate. Resiliency is defined as "the capacity of a system to absorb disturbance and still retain its basic form and structure" (Walker & Salt, 2006). The system in which we operate is dependent on our natural resources - in planning for resiliency, we seek to mitigate damaging impacts to these resources, while also relying on those same resources to provide our system with resiliency.

Why plan for resiliency?



Population in the Central Midlands is expected to grow exponentially, from 839,819 people in 2020 to 1,365,128 in 2050. This growth will place pressures on both our built and natural systems.



Ecosystem services that we rely on are not priced when considering the costs of many decisions we make. Pollination, water purification, nutrient cycling, and hazard mitigation through natural systems like wetlands



must also be able to adapt.

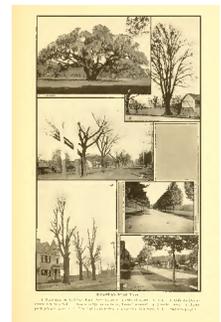
Our climate is changing. In the southeast, we continue to see historical shifts in the increased number of hot days, warm nights, and days with heavy precipitation. These are also indicators of the increasing strain on our energy and our natural resources.

### Our Urban Tree Canopy

In famously hot Columbia, our urban tree canopy provides shelter and shade to humans and animals alike. According to the USEPA, surfaces shaded by trees or vegetation may be 20-45 degrees cooler than peak temperatures of unshaded materials. The benefits provided by our canopy were also cited by citizens throughout both surveys - healthy and mature trees make neighborhoods feel more walkable and beautiful.

The health of our tree canopy has been a topic of conversation since early in the City's history. The *Improvement of Columbia SC, Report to the Civic League Plan* issued in 1905 highlighted the importance of trees, tree types, and the need for more trees in Columbia. In addition to including the City's first tree inventory and planting recommendations, it also noted the following topics, many of which we continue to discuss today:

- Wires and poles versus trees on Assembly Street
- "Tree butchery"



## We'll be releasing survey results shortly!

Our second survey was open from February to early March, and we had over 1,800 responses from citizens throughout the Midlands! We are diligently working on analyzing the data, and expect to have a report on survey results that you can dig into shortly. Sign up to receive our emails, or follow us on Facebook or Twitter, so we can notify you when the report is released!

Columbia Compass is the update to the City of Columbia's Comprehensive Plan. To learn more about the process and planning efforts, please visit [www.columbiacompass.org](http://www.columbiacompass.org).

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