

Climate Change Advisory Committee
Natural Capital Notes
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Last July I gave a presentation to this board on Natural Capital, also referred to as Ecosystem Services. As a quick review, Ecosystem Services refer to the services provided by nature for free. Services like fresh water, fertile soil, clean air, etc. These services, essential to all life on Earth, are in serious jeopardy due to our current approach to economic growth. This approach does not include the value of the services nature provides as it sits; rather, it uses an approach that takes from nature the very resources we need in order to live.

On behalf of the Climate Change Advisory Committee I have prepared an update and recommended next steps towards an evaluation of the natural capital in Chatham County. This includes four steps outlined on the update document included in your packet on Natural Capital.

Briefly, these steps include:

- A. First, establishing a baseline model of the natural capital in Chatham County
 - To do this we would work with an expert knowledgeable in ecosystem services and trained in using the InVEST software – free, open-source software developed by the Natural Capital Project out of Stanford University. Basically, this works by gathering a variety of area data, much of which we already have. This would include maps of land use and land cover types, data on wood harvest rates, harvested product degradation rates, and stocks in four carbon pools – aboveground biomass, below ground biomass, soil, and dead organic matter. This is then used to estimate the amount of carbon currently stored in our landscape, or the amount of carbon sequestered over time. This tells us where our natural capital is greatest.
 - Remember, the goal is to develop a model of our natural capital that can inform policy and future development. We know that disturbing ecosystems, through things such as development but also fire and disease, can release large amounts of CO₂, so knowing where this is located is critical toward protecting it. Also, forest restoration and alternative agricultural practices, such as organic and sustainable farming, can lead to the storage of large amounts of CO₂. We need to better understand where sequestration of CO₂ is greatest in our county, where we need to improve, and then integrate this information, along with water conservation efforts, into a plan moving

forward. This work couldn't be more timely given it could also inform the Comprehensive Plan currently under way.

- B. After developing an initial model of the natural capital in our county the next steps in the process include getting more detail for our specific context. We would begin the process of reviewing specific needs or challenges within the county, working with area stakeholders and local partners, and outline possible future scenarios to inform development and restoration efforts. There is a chart on the document in your packet on page 2 that outlines different scenario types and how they might be applied. But this is an important step as it helps inform decisions made today and how they might impact our future natural capital in the coming decades. You might think of these scenarios as being similar to the models used in sustainable building planning to help forecast the energy footprint of a building.

The primary charge of the Climate Change Advisory Committee is to identify paths to reduce the CO2 footprint of our county. An Emissions Inventory along with recommendations for reducing CO2 is one side of this coin, while Natural Capital is the other. We need to not only get a handle on the CO2 we're putting into the atmosphere, but also understand where we are currently sequestering it and how we can do a better job of this in order to balance future growth.

Given we are in the beginning of the budget cycle, the recommendations of the Climate Change Advisory Committee are to initially proceed in obtaining estimates for moving forward on the first step of this process, which I described earlier and is also described in the document in your packet. This would involve obtaining a baseline model of our natural capital. I anticipate this work to cost the county between \$1,000 and \$2,500. I am glad to work with county staff to obtain estimates for the remaining steps in this process, including scenario development, which would help inform policy and decision-making for our county and impacts on our natural capital in the future.

If there are not funds available for working with stakeholder groups, finalizing data and developing the scenarios use for planning, we could then complete this work next summer in the next budget. The initial model would be an important step forward this year, however, when paired with our emissions inventory and comprehensive planning.