

Gardening Article  
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Beyond the Air We Breathe: The Limitless Benefits of Our Environment

Take a deep breath and feel the air fill your lungs. How often do you think about the air you breathe? It is common knowledge plants provide the oxygen we breathe through their photosynthesis process. This direct benefit we receive from plants is described as an ecosystem service.

Ecosystem services are the benefits derived from our environment. Although our oxygen supply is a well-known ecosystem service, the amount of ecosystem services benefiting humans is innumerable. Due to the sheer number of ecosystem services, researchers organize ecosystem services into four categories: provisional, cultural, regulating, and supporting services.

Supporting ecosystem services provide habitat for various species and ensure genetic diversity. Biodiversity is a keystone to every ecosystem service. Without biodiversity, ecosystem services have dwindling impacts. Florida's development puts increasing pressure on natural habitat-impacting species and their genetic diversity. Through smart growth and conservation practices, we can help balance Florida's development with the need to maintain strong supporting ecosystem services.

Provisioning ecosystem services are outputs associated with ecosystems, which includes services that support freshwater, food production, medicines, or raw materials. Florida's waterways and waterbodies are a great example of an ecosystem service. In 2016, Florida seafood industry accounted for 3.16% of agriculture receipt, supported 4,000 jobs, and contributed \$407.6 million to Florida's economy.

Regulating ecosystem services are the hardest benefits to see but have a substantial impact-which includes climate control, moderation of extreme weather events, water treatment, pollination, and biological control. Carbon sequestration and storage is a critical regulating ecosystem service provided by our environment. The various plants and trees in our different ecosystems capture and store carbon in their plant tissue, which helps manage greenhouse gases.

Cultural ecosystem services are non-material benefits but relate to the services that support recreation, tourism, aesthetics, and spirituality. Recreation associated with our environments provides physical and mental health benefits to our community, nation, and world. Florida's outdoor recreation industry is dependent on cultural ecosystem services. A 2017 report from Outdoor Industries Association reported that Florida's outdoor recreation industry annually accounts for \$58.6 billion in consumer spending, provides 485,000 jobs, provides \$3.5 billion in state and local taxes, and contributes \$17.9 billion in wages.

Ecosystem services are vast, numerous, and interconnected among one another. Any disruption of an ecosystem service is resonating. Florida's social, economic, and environmental livelihood are deeply tied to healthy ecosystem services. Whether vital for our economic development, public health, or climate mitigation, every ecosystem service beneficially affects every Floridian.

The upcoming ecosystem service series will highlight benefits and examples from the different ecosystem service categories. As you go about your week, summon your adventurous Took spirit and explore the environment around you. Where are the places within our community where we see

ecosystem services at work? As always, I'm rooting for you. If you have any questions, feel free to reach out to UF/IFAS Extension Alachua County.

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Trees and Forests provide supporting ecosystem services by providing wildlife habitat, provisioning ecosystem services by supply timber products, regulating ecosystem services by sequestering and storing carbon, and cultural ecosystem services by providing recreational habitat.

Photo Courtesy of UF/IFAS Marisol Amador