

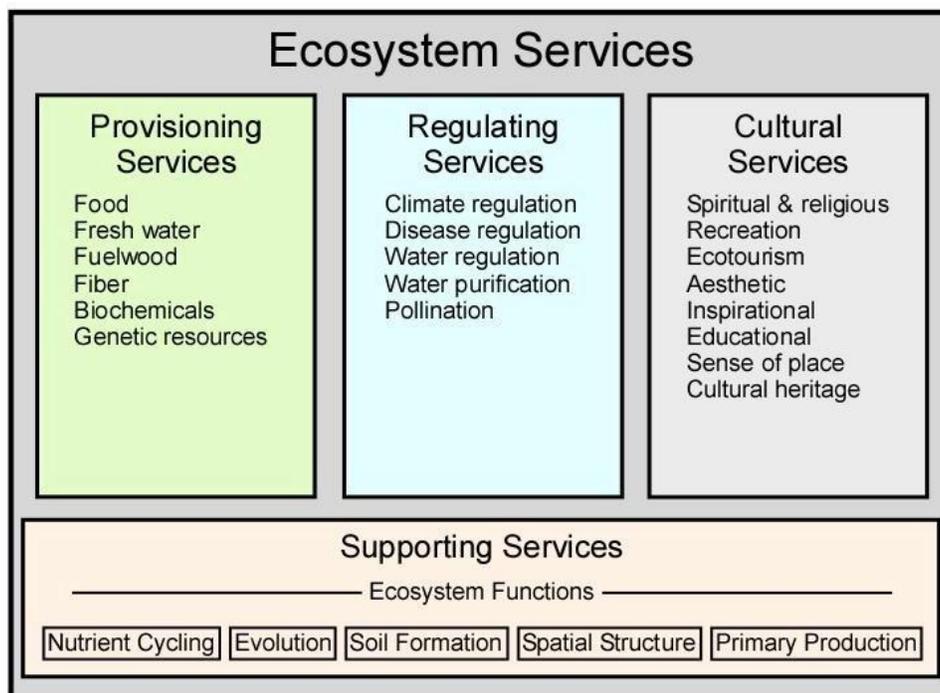
# Cornell Cooperative Extension Cornell

## Garden-Based Learning



### The Basics of Ecosystem Services

The value people get from the structure and processes generated by ecological systems have long been recognized. More recently, the concept of *ecosystem services* has emerged to describe the various positive benefits that wildlife or ecosystems provide to people.



Modified, with additions, from the Millennium Assessment

Ecosystem services are classified into four categories: 1) Supporting Services 2) Provisioning Services 3) Regulating Services 4) Cultural Services.

### Supporting Services

Ecosystems themselves could not be sustained without the consistency of underlying natural processes, such as photosynthesis, biomass production, formation of atmospheric oxygen, nutrient cycling, the creation of soils and the water cycle. These processes allow the Earth to sustain basic life forms, let alone whole ecosystems and people. Provisional, regulating and cultural services would not exist without these supports.

### Provisioning Services

A provisioning service is any type of benefit to people that can be extracted from nature and are inclusive of many products we use in daily living like food, fresh water and medicines. National Gardening Association 2013 report notes that 42 million households are growing food at home or in a community garden.

*Building Strong and Vibrant New York Communities*

Diversity and Inclusion are a part of Cornell University's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities

## Regulating Services

Ecosystems provide many of the basic services that make life possible for people. A regulating service is the benefit provided by ecosystem processes that moderates natural phenomena.

This includes reducing storm water flow and normal loads of sediment and pollutants to coastal waters or rivers. Rain gardens are versatile features that aim to mimic natural hydrology by collecting and absorbing runoff from rooftops, sidewalks, and streets

## Cultural Services

Cultural services are non-material benefits that contribute to the development and advancement of local, national and global cultures. This includes recreation, creativity born from interactions with nature (music, art, architecture), the building of knowledge and the spreading of ideas. As we interact and alter nature, the natural world has in turn altered us.



*Figure 1 The Morton Arboretum - Origami in the Garden*

## References:

- Millennium Ecosystem Assessment. <https://www.millenniumassessment.org/>
- Daily, G.C. 1997. Introduction: what are ecosystem services? Pages 1-10 *in* G.C. Daily, editor. *Nature's services: societal dependence on natural ecosystems*. Island Press, Washington DC.
- National Wildlife Foundation <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Understanding-Conservation/Ecosystem-Services>
- National Gardening Association report, *Garden to Table: A 5-Year Look at Food Gardening in America* <https://garden.org/special/pdf/2014-NGA-Garden-to-Table.pdf>
- Soak Up the Rain: Rain Gardens <https://www.epa.gov/soakuptherain/soak-rain-rain-gardens>

## Learn More:

- Plants Do That <https://consumerhort.org/wp-content/uploads/2017/03/PlantsDoThat.pdf>



**Published:** April 2019

**Author:** Lori J. Brewer

**Reviewer(s):** Donna Alese Cooke, Michelle Podolec