

Ecosystem Services – What Nature Provides

“Ecosystem services” is a term used to define critical needs that Nature provides. Enjoy breathing oxygen? Thank the Amazon and temperate forests for photosynthesis. Prefer to eat fresh and wholesome food? Be grateful to the insects, plants and micro-organisms that build soil. Want clean water to drink? Appreciate forests and grasslands that filter rain and snowmelt, feeding fresh water to our streams and aquifers in manageable amounts.

Without these free services, humans would not be alive and thriving around the world, from millennia past to present times. There is no way we can duplicate these benefits on a global scale, at any cost. And yet, while the Earth is a closed system, surrounded by sterile and inhospitable space, we act as though these services and the life-sustaining resources they provide are infinite and will always exist to support us.

Perhaps we are beginning to notice the strain on our critical life-support systems as storm events become bigger and more frequent, washing away roads, driveways and shorefront. News of year-long fire seasons, record hurricanes and rainfall, winter tornadoes in the south, and increasingly inundated coastlines from Florida to New Jersey is more common than ten years ago. Our own experience reinforces long-standing concerns from the international scientific community about climate change.

In 2014 as part of the Newfound watershed management program, Jeff Schloss of the UNH Cooperative Extension Service estimated ecosystem services values provided by riparian buffers and wetlands. Riparian buffers are the areas immediately adjacent to surface waters, such as streams, ponds and Newfound Lake. Left in a naturally-vegetated state, a 25-foot-wide riparian buffer removes roughly 80% of stormwater pollutants, such as the key freshwater nutrient phosphorus. Wetlands also reduce phosphorus loading, while slowing floodwaters and reducing unwanted and damaging impacts of large rain events.

Based on multiple models and some basic, conservative assumptions, Jeff’s study indicated that the cost to duplicate Newfound’s riparian buffers’ ability to remove phosphorus is roughly \$4,000,000 *per year*. This value is roughly \$40,000,000 per year for the services that wetlands provide. Thus, a low-end dollar value for just two of our watershed’s key ecosystem services is roughly \$44,000,000 each and every year. As people cannot effectively duplicate these and other life-sustaining services, their true value is beyond measure.

The NLRA’s core message is that our watershed faces steady and increasing pressure and that, together, we can each take small steps to protect priceless ecosystem services, as well as the less tangible but equally important quality of life that calls us to Newfound year after year, and generation after generation. Please help protect the ecosystem services that provide for you and your family, both through your individual actions and by supporting your local watershed association.

Photo Caption – Riparian buffers provide and protect clean water