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An Integrative Approach to Ecosystem Goods and Services – Putting the Pieces Together for the Tampa Bay Region

Ecosystem goods and services production, delivery, and use by humans involve multiple systems working together at various different spatial and temporal scales. Assessments of ecosystem goods and services and their benefits to current and or future human populations in any given region requires an understanding of complex and interwoven biological and physical pathways. These assessments, by their very nature, require a multidisciplinary team to complete. Here we present the approach taken by such a team developing maps and models for predicting the production of ecosystem goods and services in the Tampa Bay Region and present comparisons between wetland nitrogen processing and the land use in areas draining to them. Ongoing field research including water level, nutrient, and denitrification potential measurements along a gradient of developmental pressure and among different wetland types is helping to inform dynamic simulation models of the functionality of these wetlands. We present several of these model's results. Functional assessments and model results are being linked to social economic values for the derived final ecosystem goods and services that are generated and weighted through connectivity networks coupling ecosystem production to human demand or use. We present how our inter-disciplinary approach is producing a more holistic view of coupled human ecological systems.