Inconsistency with terms, definitions, and classifications hinders the advancement of the study and application of ecosystem services. A unified approach among the many disciplines that are involved in researching and implementing ecosystem services is imperative to moving concepts into practice. An operational definition needs to be adopted by the ecosystem service community as the basis of a classification system so that ecosystem goods and services may be measured by ecologists, valued by economists, and utilized by decision-makers. We propose a transdisciplinary approach centered upon shared guiding principles, a definition of ecosystem services, and classification system. The result of this shared foundation is a common set of ecosystem goods and services that serves as the focus for and connection among natural scientists, social scientists, and decision-makers. This foundation is specific enough to be operational while remaining relevant to a multitude of ecosystem service objectives for which frameworks and implementation plans may be developed. Although numerous ecosystem service frameworks exist in the literature, many of them are non-operational or are focused toward a single discipline. An evaluation of these frameworks helps to identify where the knowledge gaps exist and suggest how we may advance ecosystem services into practice. Our evaluation demonstrates that foundational concepts – especially an ecosystem service definition and classification system, and community involvement – are often poorly addressed in ecosystem service frameworks.