

Mitigation

An Alternative to Unbundling Ecosystem Services

There is a lot of interest in developing multiple types of credits, or offsets, from compensatory mitigation and conservation projects. Onlookers can readily see this push from articles and letters on Ecosystem Marketplace's website or from the titles of presentations at the National Mitigation and Ecosystem Banking Conference. Some call this credit stacking (see J.B. Ruhl's column in the January-February 2010 *National Wetlands Newsletter*), while others refer to it as credit bundling. Regardless of the definitions or terms used, the focus is on marketing multiple offsets derived from functions or services produced from a single parcel of land—for instance marketing carbon sequestration, water quality improvement, and habitat services separately from compensatory mitigation.

While conservation properties typically provide a number of functions and services, parsing or unbundling the functions or services and trading them separately is not consistent with the joint U.S. Army Corps of Engineers and U.S. Environmental Protection Agency (Corps-EPA) mitigation regulations. These regulations indicate at 30 C.F.R. 332.3(j)(1)(ii) and 40 C.F.R. 230.93(j)(1)(ii) that:

Under no circumstance may the same credits be used to provide mitigation for more than one permitted activity. However, where appropriate, compensatory mitigation projects, including mitigation banks and in-lieu fee projects, may be designed to holistically address requirements under multiple programs and authorities for the same activity.

Parsing ecosystem functions and services from the compensatory mitigation projects that provide them and then marketing those functions and services separately could reduce the likelihood that a mitigation project would offset the permitted loss of functions with which it is associated.

The Corps-EPA guidance for implementing the U.S. Supreme Court's *Carabell-Rapanos* decision includes a focus on the functions and services provided by each aquatic resource or reach to the receiving (and traditionally navigable) waters in its watershed (the guidance can be found at http://www.usace.army.mil/CECW/Documents/cecwo/reg/cwa_guide/cwa_juris_2dec08.pdf). The services considered often include fisheries and wildlife habitat, biogeochemical services, such as carbon sequestration, denitrification, carbon transformations, carbon export, and hydrologic services like flood storage.

The Corps, EPA, and many state agencies regulating impacts to waters are taking more holistic approaches to functions and services provided by compensatory mitigation sites, focusing on selection of sites that are likely to provide or support a range of important aquatic resource and conservation functions and services. Examples range from the Virginia Offsite Mitigation Location Guidelines (http://www.deq.state.va.us/export/sites/default/wetlands/pdf/VA_Offsite_Mit_Guidelines.pdf), which encourages

selection of mitigation sites that provide multiple environmental services, to the joint Washington Department of Ecology-Seattle District Corps of Engineers publication "Selecting Wetland Mitigation Sites Using a Watershed Approach" (<http://www.ecy.wa.gov/biblio/0906032.html>), which outlines a framework and hierarchical methodology for utilizing a watershed-based approach to mitigation site selection. Other methodologies under development include pilot approaches in southern California, Colorado, Maryland, Minnesota, and Tennessee.

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As an alternative to parsing or unbundling the services provided by a mitigation site, consideration should be given to the approach developed in the vernal pool region of northern California. Establishing or restoring vernal pools in California can generate a bucket of mitigation credits. This bucket of credits can be used to offset permitted impacts under §404 of the Clean Water Act, as well as impacts to federally listed species, such as the California tiger salamander or vernal pool fairy shrimp that utilize many of these constructed wetland systems. Once a credit is withdrawn from this pail of credits, whether to provide compensation for impacts under §404 or to offset impacts to federally listed species, it is retired from circulation and the available credits are reduced correspondingly. Removal of a credit to offset an impact removes that credit from future use to offset other types of impacts. Layering functions or services on a credit could incorporate offsets for water quality or carbon sequestration impacts, provided that once a credit is debited for any function or service, the remaining credits generated by the mitigation site are reduced accordingly.

A project requiring compensation for impacts to habitat, water quality, carbon sequestration, and flood storage might be able to offset impacts to those services with a credit that has those attributes. On the other hand, if the project required only compensation for water quality impacts, this “combination” credit could be used, but once used, this credit would be retired even if its other attributes, e.g. habitat or flood storage functions, were not used. This approach allows for credits generated by compensatory mitigation projects to provide offsets for a range of resource impacts. It is also one approach to credit stacking or bundling that I believe is consistent with Corps and EPA mitigation regulations. ■

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