

### ECOSYSTEM SERVICES

## Ranking restoration scenarios

*J. Appl. Ecol.* <http://go.nature.com/2GqMZtD> (2018)



Credit: MyLoupe/Universal Images Group/Getty

Restoring degraded ecosystems can enhance ecosystem services, such as water filtration by healthy wetlands. Given the many services ecosystems perform, using them to guide restoration is not straightforward. This guidance is valuable, though, given limited areas available for restoration and limited funding.

So motivated, Francisco Comín, from the Spanish National Research Council, and co-authors developed the Relative Aggregated Value of Ecosystem Services (RAVES), a tool to prioritize restoration spatially based on ecosystem services. RAVES applies formal decision analysis to weigh multiple criteria (ecosystem services) for each parcel, or pixel, of land. The authors applied it to the watershed of Spain's River Piedra. First they classified fifteen watershed land uses based on satellite images, photos and ground surveys. Next,

five experts toured the watershed and ranked the contribution of 11 ecosystem services to watershed function. Based on the availability of land and funding, the authors then estimated RAVES for three restoration scenarios.

Importantly, the watershed scale best captured variation in RAVES scores, suggesting this scale was optimal for restoration planning. Areas with natural vegetation and in gorges with forest-lined streams had the highest value. Involvement of private landowners and availability of public funding remain important. Ultimately, valuing restoration cuts both ways.

---

William Burnside

Published online: 9 February 2018  
<https://doi.org/10.1038/s41893-018-0030-3>