"Bread and Beauty Grow Best Together"

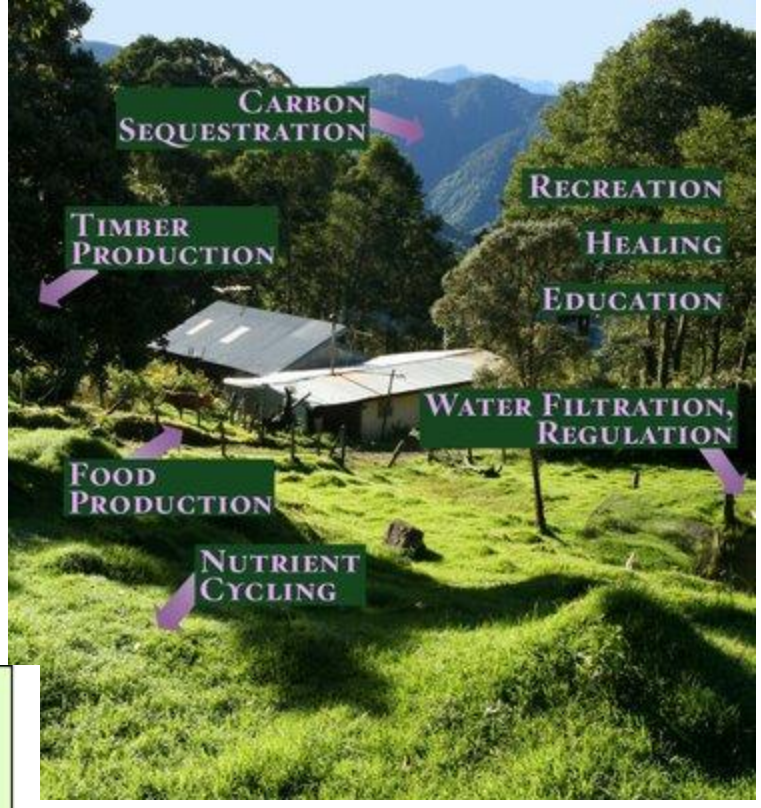
Richard L. Knight
Colorado State University

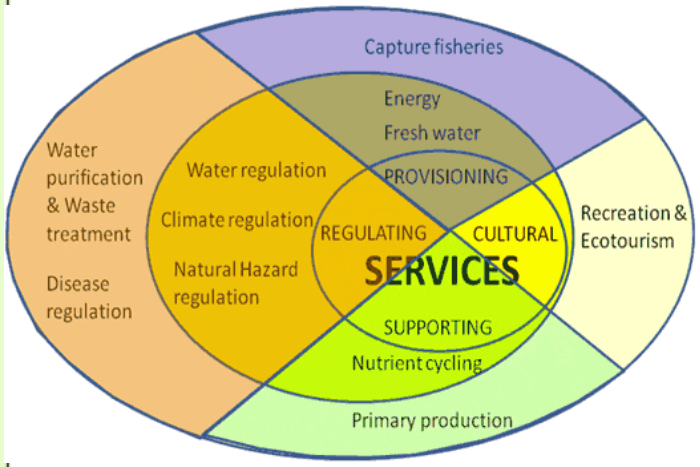
The Public and Private Good

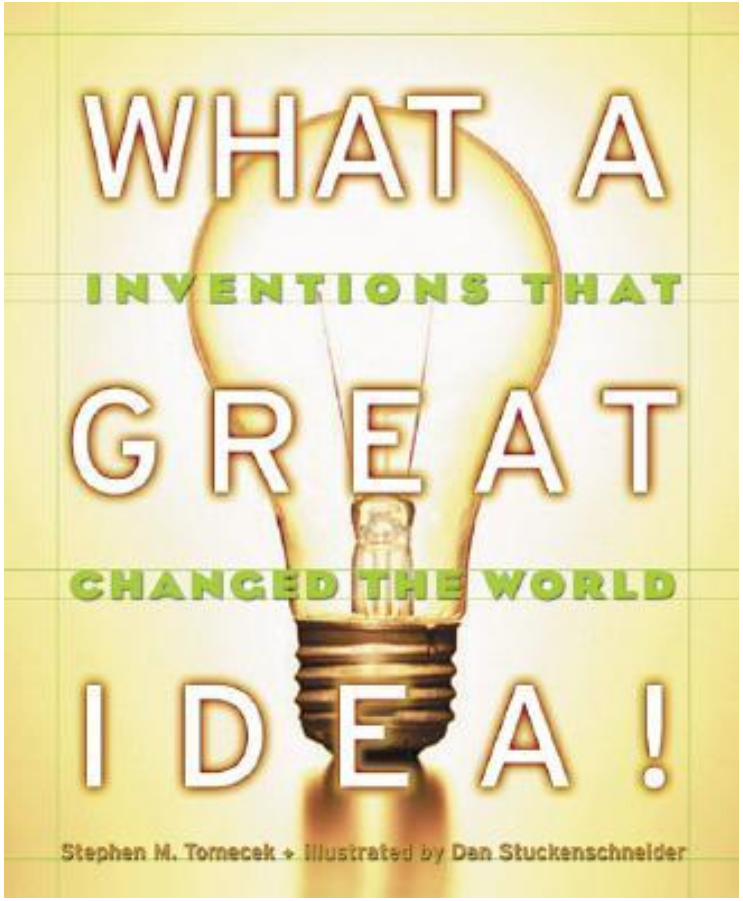
"The crux of the problem is that every land-owner is the custodian of two interests, the public interest and his own. What we need is a positive inducement or reward for the landowner who respects both interests in his land-practice…What should this reward be? What is a practical vehicle for it? These are the two basic questions in American conservation. An answer seems to require the collaboration of economists, jurists, regional planners, ecologists, and esthetes."

Aldo Leopold (1934)

Everybody's talking about ecosystem services!






WHAT A
INVENTIONS THAT
GREAT
CHANGED THE WORLD
IDEA!
Stephen M. Tomecek • Illustrated by Dan Stuckenschneider

OR...

1. ES need not be provided by native species (e.g., zebra mussels)

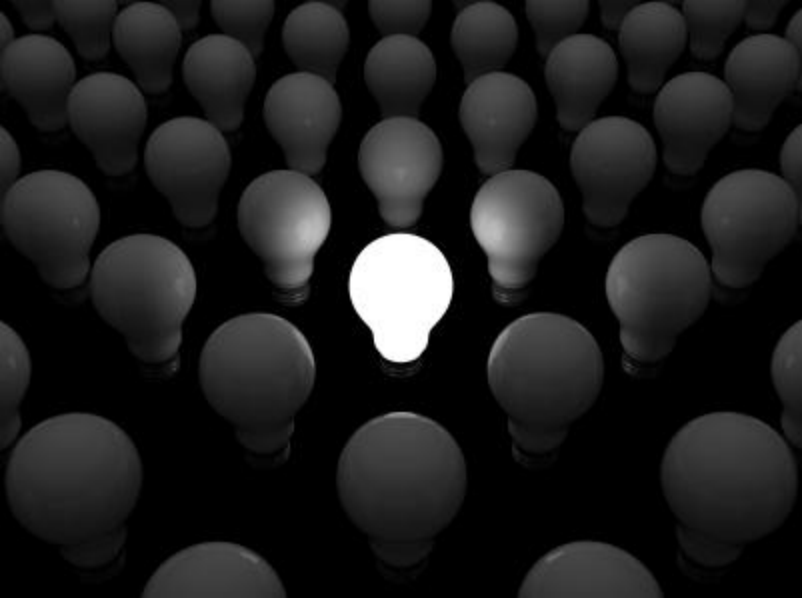
2. Over-engineering natural systems (e.g., forestry plantations)

3. EP to maintain not benign (e.g., disease)

4. Economic arguments will outweigh noneconomic arguments (e.g., what about spp. without $$ values?)

5. Winners and losers in markets/competition for ES (e.g., who holds the rights/access to ES)

6. Markets don’t exist for most ES (e.g., ES not amenable to pricing)



1. 3/4ths of Earth degraded

2. Degraded lands produce few ES

3. Expanding pop. and consumption placing new demands on ES

4. Compelling reasons for stewardship and restoration

5. More fair accounting of ecosystem attributes and services

5. New revenue streams for landowners

6. Build connections between rural and urban communities (e.g., foodsheds, airsheds, watersheds, etc.)

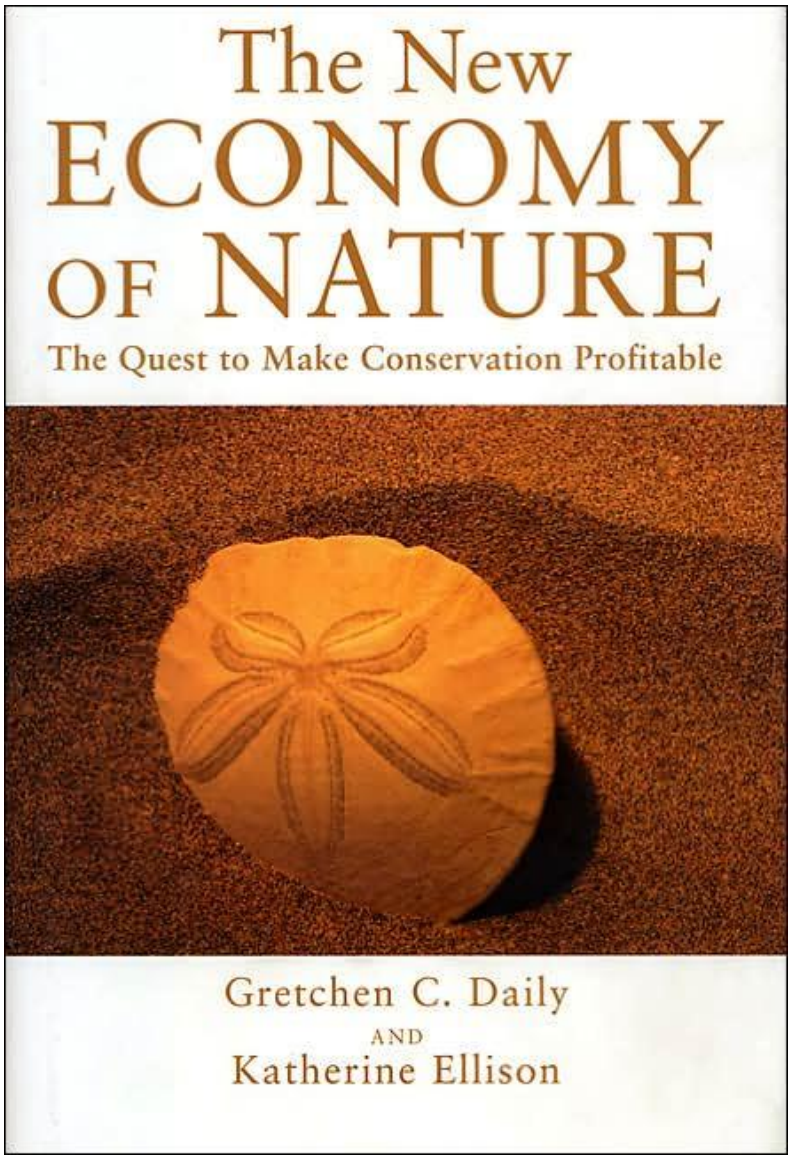
7.Ecology and economics may finally share a common space

"< 10% of U.S. ecosystems remain…Restored lands offer 31% to 93% of native land benefits within a decade after restoration…"

Dodds et al. 2008. BioScience 58:837-845.

"the flurry of interest in ecosystem markets is out of step with the science and practice of ecological restoration… the only way to ensure that credits generated by restoration is to have a third-party entity verify that ecosystem functions were restored…

Palmer & Filoso. 2009. Science 325:575-576.



- Pollination - $1.17 trillion
- Erosion control - $5.76 trillion
- Climate regulation - $6.84 trillion
- Food production - $13.86 trillion
- Water supply - $16.92 trillion

Costanza et al. 1997. Nature.

For every $ spent on land conservation in Colorado, there is a $6 return on investment based on the value of the ecosystem services conserved. **$3.52 billion so far.**

A Return on Investment: The Economic Value of Colorado's Conservation Easements. 2009. The Trust for Public Land, Denver, Colorado.

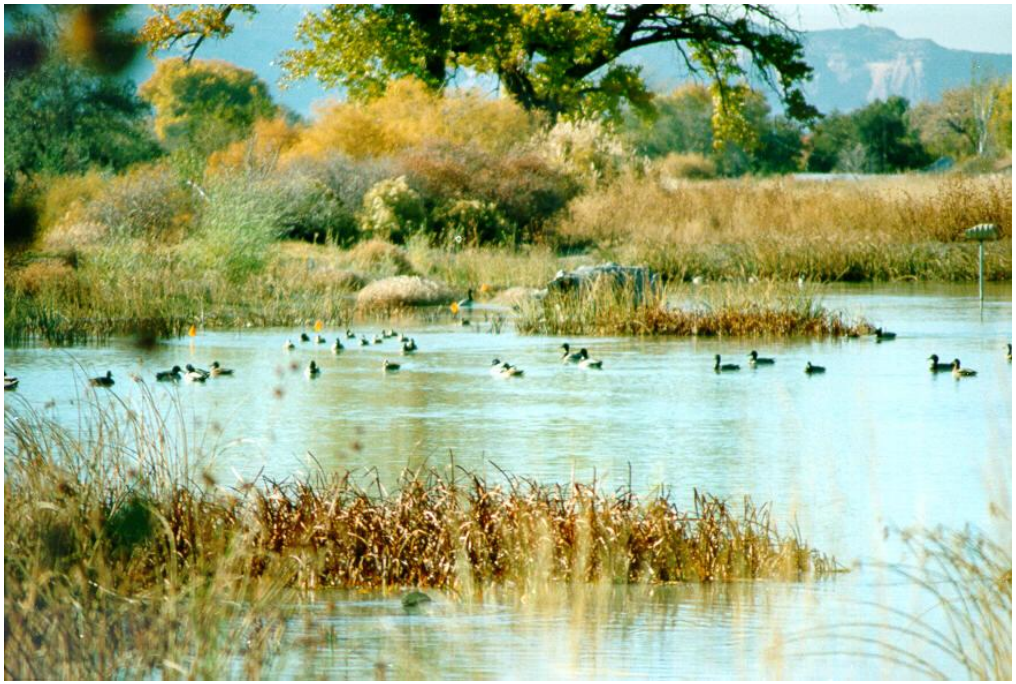
Wetlands

North Park, CO

76% wetlands from irrigation

Laramie Basin, WY

65% wetlands from irrigation



Biodiversity + Hay for cows + Open space + Inefficiencies

"Flood irrigation is critical to the existence, hydrology, and community types of most wetlands…" Peck et al. 2001. Wetlands 21:370-378

* Voters overwhelmingly recognize the vital benefits that nature has for people (90%)

*Voters believe calculating the value of ES benefits is a worthwhile endeavor (61%)

* Voters convincingly agree that ES benefit public health and safety (wetlands buffer storms and naturally clean water, etc.)

Metz. 2010. National opinion research on "ecosystem services." Fairbank et al. Associates.

“One thing is exceedingly clear: the vital link between vibrant ecosystems and human well-being.”

Mark Tercek. 2010. Nature Conservancy 60:2

Untangling the environmentalist’s paradox: why is human well-being increasing as ecosystem services degrade?

Raudsepp-Hearne et al. 2010. BioScience 60:576-589

"I plead for public encouragement, economic and moral, for the landowner that conserves the public values of which he is the custodian. The search for practicable vehicles to carry that encouragement is a soluble one…Those charged with the search for such a vehicle must first seek to intellectually encompass the whole situation. It may mean something far more profound that I have foreseen. A. Leopold, 1935, Land Pathology

What do you think?