Cow Pie Pileup

The Story of how a problem that looks like this...

Turned into a solution that looks like ...
Beneficiaries contribute monetary, in-kind, and other donations to the Exchange to help them manage their needs related to nature’s benefits. Exchange matches the Beneficiaries’ needs for nature’s benefits with Stewards who can provide them.

Beneficiaries ("Buyers")

Exchange ensures production and delivery of certified nature’s benefits to Beneficiaries

Intermediaries
Technical Assistance: Technical experts work with Stewards to determine best management and restoration practices to produce nature’s benefits

Colorado Conservation Exchange

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Intermediaries

Fund Administration: Professional financiers, foundations and endowment managers provide assistance to the Exchange

Registry: Independent third party registry records production and transfer of certified nature’s benefits

Monitoring / Verification: Independent third party monitors verify the production of nature’s benefits

Stewards ("Sellers")
Farm, ranch and logging families; natural resource managers, public land managers; small acreage landowners; NGOs and volunteer groups

Payments for Ecosystem Services
Sylvan Dale Guest Ranch
66 Years in the Saddle ... 1946- 2012

David Jessup
Co-Owner
Dude Ranch Vacations, Retreats, Weddings, Reunions, B&B, Picnics, Meetings, Holiday Parties

www.sylvandale.com
Heart-J Beef, Natural, Pure Grass-fed
64 Cow-calf pairs, 54 Finishers, 10 Replacements. 3,200 Acres
2541 acres under Conservation Easements. 79% of 3200-acre total Value of Donations (after tax credits and partial sales) = $1 million
Colorado Conservation Exchange

Connects the beneficiaries of ecosystem services with landowners and natural resource managers who produce them.

**Example**

A water utility needs improved water quality and a rancher can provide that.
Pilot Projects

Roberts Ranch

Sylvan Dale Ranch
Roberts Ranch Pilot Project

4.8 million cubic yards of soil lost
Roberts Ranch
Roberts Ranch Pilot Project

The challenge

The restoration goal

Photo by Jonathan Stauffer, Eco-Hydro Consulting

Photo by Wildlands Restoration Volunteers
Roberts Ranch Pilot Project

Wildlife Restoration Volunteers
The Nature Conservancy
Roberts Ranch Ditch companies?

Photos and Map by Wildlands Restoration Volunteers
Sylvan Dale Ranch Pilot Project

Mount Manure
1. What to Do?

NRCS Three Options
Big Roof
Big Ditch
Less Confinement

Photo by David Jessup
2. How to Measure?

- Before and After
- Big Thompson Watershed Forum - Design
• Northern Water – Equipment
Sampling by BTWF and Sylvan Dale
Lab Work by City of Loveland
Water Flow Rate
3. How to do it? ($$$)

- Institute for Livestock and the Environment (CSU)
- New Belgium Brewery (Fat Tire)
- Sylvan Dale
4. Why do it?

Develop a Model for valuing improved practices of small livestock operations
What about the rest of the Watershed?

Can we establish a rule of thumb for other landowners? Given X no. of animals in X proximity to the River for X number of days, how many pounds of nutrients are discharged for every inch of rain that falls in a given time period?
Survey 16 Ranches, Laramie Foothills

Ranch Business Model

- Ranching only
- Outside Supplements
- Outside Income

No. of Ranchers
Reasons to Welcome P.E.S.

- Increasing Income
- Enhancing Conservation

Reasons to Question P.E.S.

- Unknown risk or cost
- Restrictions
- Transparency, trust
- Don't understand it
What is Needed Before Participating

- Social support, successful pilots
- Personal, time constraints
- Minimize effort, reporting
- Financial assurance
- More information, details
"I think you should be more explicit here in step two."

The Devil in the Details
Percent of Irrigation Farmers who have adopted Nutrient & Sediment Transport Management Practices, S. Platte Basin, Colorado

Colorado Nutrient Management Practices 1197-2011 – Costs and Technological Advances
Catherine Keske, Troy Bauder, Dept. of Soil and Crop Sciences, Colorado State University
Percent Using Fertilizer Application Method

- Broadcast: 80%
- Sidedress: 30%
- Topdress: 20%
- Fertigation: 20%
- Injection: 10%
- Foliar: 5%
- Subsurface Band: 5%
- Other: 5%
- Dribble: 5%
- No Commercial N...: 5%
% Farms Adopting BMP

Conservation Tillage
Crop Rotation
Irrigation Efficiencies
Cover Crops
None
Filter/buffer strips
Grassed Waterways
Linear Polyacrylamide
Other

0 5 10 15 20 25 30 35 40
Big Thompson River at Sylvan Dale Ranch