

Transformational Solutions

Where Should We Go From Here?

Middle Rio Grande Water Assembly
June 28, 2014

Howard Passell, Bruce Thomson

Background

- Transformational Solutions for Water in the West Conference
 - Sept. 2013 at UNM
 - SNL, Atlantic Council of the US, NM WRRRI
- Premise: we aren't on track to meet demand
 - Looking for non-linear, out of the box solutions
 - Are there any? If not, then what?
- Discussion has continued . . .
- Where should we go from here?

21st Century Water Management in New Mexico

- Eliminate Prior Appropriation
- Increase management authority at OSE
 - Change qualifications & appointment method of SE
- Create new legislation and regulations to guide OSE
- Fund it all with money from NM Permanent Funds

Eliminate prior appropriation

- Without adjudication it is 'alive but irrelevant' (Benson, 2012)
- Waiting for adjudication creates administrative and financial uncertainty
- Adjudication is expensive, time consuming, controversial
- No incentive for conservation – or shortage sharing
- Senior users aren't protected from cumulative impacts of many domestic wells (Bounds)
- Disregards economic, cultural, social, environmental benefits

Replace prior appropriation with . . .

- Financial compensation for losses
- Adaptive water resources management (AWRM) 'on steroids' (Thompson, 2014)
- Greater authority at OSE to enforce a new body of 21st century water legislation and regulations

21st Century Legislation and Regulations

- Provide for instream flows
- Mandate bosque 're-creation'
- Formalize water markets for sales and transfers
 - Require transparency in sales and costs
 - Cap and trade permitting
- Legislate shortage sharing in ag

21st Century Legislation and Regulations, 2

- Establish mandatory links between water planning and implementation
 - 5, 15, and 30 year milestones and performance metrics
 - Create incentives and penalties
- Establish mandatory link between planning for water, land use, and transportation

21st Century Legislation and Regulations, 3

- Incentivize high value use of water
 - Invite green industry
- Formalize values for recharge, habitat, green belt, food security
- Establish severance tax on water
 - Make it progressive
 - Make it sectoral (municipal vs agriculture)

21st Century Legislation and Regulations, 4

- Modify compact and reservoir operations rules
 - Change Article VII in Rio Grande Compact
 - Reduce/eliminate storage at EB (10 ft/yr evap)
 - Or for starters just store the minimum in EB and make deliveries from upstream
 - Increase storage at Cochiti (7.3 ft/yr), Abiquiu (6 ft/yr), El Vado (4 ft/yr), Heron (4 ft/yr), and in aquifers
- Share responsibility among all compact states for endangered species

Consider adaptation vs. mitigation

- Accept that change will occur
 - River discharge will decrease
 - Bosque will shrink
 - Ag will shrink
 - Population will increase
- Make much more proactive planning, shape the future
 - Dedicate ag/bosque zones and parks
 - Preserve those via incentives and let the rest go with compensation for losses
 - Go vegan . . .

Transition to Steady State Economy

- NM (and global) economy is growth oriented
 - Requiring new homes, highways, and ever more consumption
- In a world of finite resources, constant growth is logically absurd
- Target ‘optimal’ human population and consumption level, design incentives to reach and maintain them
- Grow intentionally and thoughtfully, not mindlessly
- Many short term losers . . .

Steady State Economy

An economy with constant stocks of people and artifacts, maintained at some desired, sufficient levels by low rates of maintenance 'throughput', that is, by the lowest feasible flows of matter and energy from the first stage of production to the last stage of consumption.

Daly, Herman. 1991. *Steady-State Economics, 2nd edition*. Island Press, Washington, DC. p.17.

A steady state economy is an economy with stable or mildly fluctuating size. The term typically refers to a national economy, but it can also be applied to a local, regional, or global economy. An economy can reach a steady state after a period of growth or after a period of downsizing or degrowth. To be sustainable, a steady state economy may not exceed ecological limits.

Center for the Advancement of the Steady State Economy
<http://steadystate.org/discover/definition/>

Change Hearts and Minds

(Dr. Brian Czech, President, CASSE)

- First and most important step: Raise public awareness of the problems of constant economic growth
- Fiscal policies emerge
- No great examples exist -- Bhutan's Gross National Happiness (as opposed to GDP) is one step toward a SSE
- Achieving a steady state economy is revolutionary (TOO transformational) but moving toward it is possible

Invest in Natural Capital

(Dr. Bob Berrens, UNM Dept. of Economics)

- SSE = non declining stream of benefits
- NM's Permanent Funds = \$19 billion
 - Land Grant, Severance Tax, Tobacco Settlement, and Water Trust Permanent Funds
 - Invest more of that in natural capital to assure non declining benefit stream
 - Water conservation and reuse
 - Aquifer recharge technology
 - Bosque restoration
 - Ag conversion
- Bob's transformational solution: invest in early childhood education

Where should we go from here?

- Use democratic, collaborative, cooperative processes to decide what we want this valley to look like in decades to come.
- Use the best science available to simulate, quantify, and evaluate alternatives and tradeoffs
- Establish management objectives and strategies, and work toward them.

Thanks

Howard Passell

hdpasse@sandia.gov

505 550 5752