SLIDES: The Myth of Certainty: Water, Law, and Climate

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The Myth of Certainty:
Water, Law, and Climate

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“God speed the plow.... By this wonderful provision, which is only man's mastery over nature, the clouds are dispensing copious rains ... [the plow] is the instrument which separates civilization from savagery; and converts a desert into a farm or garden.... To be more concise, Rain follows the plow.”

Charles Dana Wilber
Groundwater

“The secret, changeable and unknowable character of underground water in its operations is so diverse and uncertain that we cannot well subject it to the regulations of the law, nor build upon it a system of rules, as in done in the case of surface streams.”

Colorado River Basin
– US & Mexico
Estimated Sources of Salinity in Waters at Hoover Dam

- Reservoir Evaporation: 12%
- Irrigation: 37%
- Exports: 3%
- Municipal & Industrial: 1%
- Natural Sources: 47%
Colorado River Flow at Lee Ferry

- 400 YEAR FLOWS (TREE-RING STUDIES)
- 10 YEAR AVERAGE VIRGIN FLOW
- 10 YEAR AVERAGE HISTORIC FLOW
- AVERAGE VIRGIN FLOW

Million acre-feet

Water year

ALLOCATED
Pecos River – Brantley Dam
TRENDS IN WATER WITHDRAWALS BY CATEGORY

TRENDS IN FRESHWATER WITHDRAWALS BY CATEGORY
BILLIONS OF GALLONS/DAY

175
150
125
100
75
50
25

THERMINELECTRIC
IRRIGATION
INDUSTRY
PUBLIC SUPPLY
RURAL

Western Water Law Should --

- Open Decision Processes Climate Change Information
  - Comprehensive Planning
  - Water Development
  - Discretionary Decisions
  - Technical Decisions

- Reexamine Social Goals of Water Policy
Some Conclusions:

- Water policy calls on the natural world to achieve social goals.
- Nature is inherently uncertain.
- Water policy must apply the best of science to understand the natural world.
- Scientific knowledge about nature is necessarily uncertain.
- Scientific knowledge comes from experience.
- Good water policy incorporates scientific knowledge and adapts to experience.
- Neither science nor water policy can deliver certainty.