

Introduction to Land and Water Economics

Jay Lund

University of California - Davis

Land and Water Economics Interact

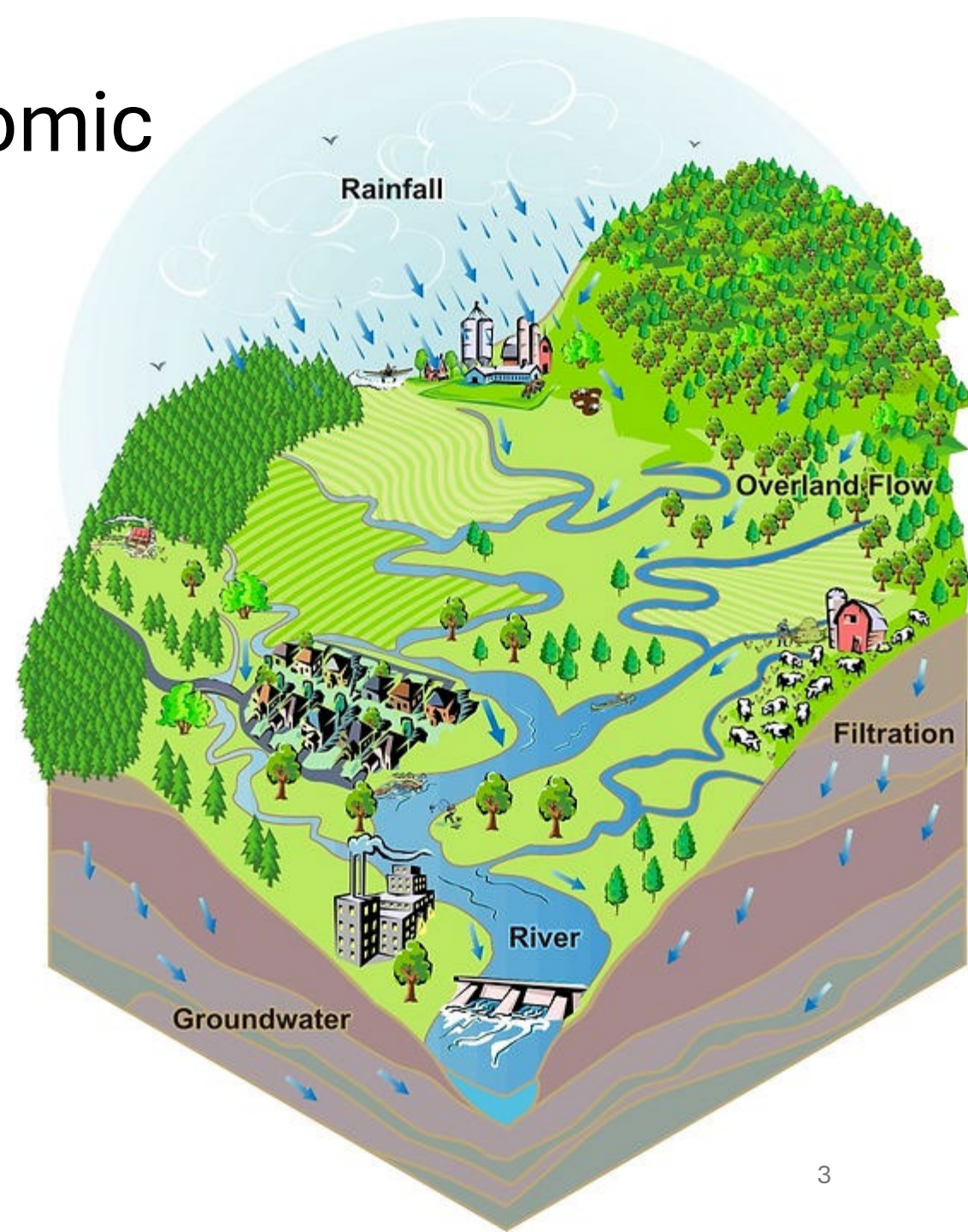
- Water increases (and decreases) land values
 - Water Supply (reliability, quality, cost) – direct use, firefighting, etc.
 - Proximity value (recreation, aesthetics, etc.)
 - Floods (potential damage and danger)
- History
 - Location of cities and irrigation: water supply, navigation, floods
 - Early Roman land and wetland development BCA
 - Economic value of semi-arid agricultural land with irrigation
 - Groundwater in regional economic development (Ramon Llamas)
 - Water quality, ecosystems, and land values



Ancient Mesopotamia

Current Water and Land Economic Issues

- Current issues:
 - Management for droughts
 - Groundwater over-draft
 - Contamination of aquifers – nitrate, salts
 - Contamination of rivers – pesticides, nitrate, nutrients
 - Water allocations among users
 - Managing with greater variability
- Decentralized management
 - State water laws and regulation
 - Federal, local, and state water projects
- Makes available water (and land with water) more valuable
- Higher quality has higher value



Western North America Examples

- Aridity challenges:
 - Long seasonal droughts every year
 - Multi-year droughts
 - Salination
 - Water and land competition (users and ecosystems)
 - Floods too!
- Solutions:
 - Extensive infrastructure to store and move water + groundwater development
 - Water demand management
 - Local and extensive water markets, transfer agreements, and contracts
- Successes:
 - California (CVP, SWP, local projects)
 - Colorado River cities and agriculture
 - Many smaller local projects
 - Every solution brings new problems, particularly for environment and sustainability₄



Conclusions

1. Water, land, money, and values interact
2. Water usually enhances land values
3. Water regulation and management affects land economics
4. Interactions have supported and ended civilizations for millennia
5. Western US has a colorful history of examples, challenges, and solutions

Jay Lund – Civil and Environmental Engineering, University of California –
Davis jrlund@ucdavis.edu <https://faculty.engineering.ucdavis.edu/lund/>

Next speaker is **Steve Suau on Integrated Watershed Management**