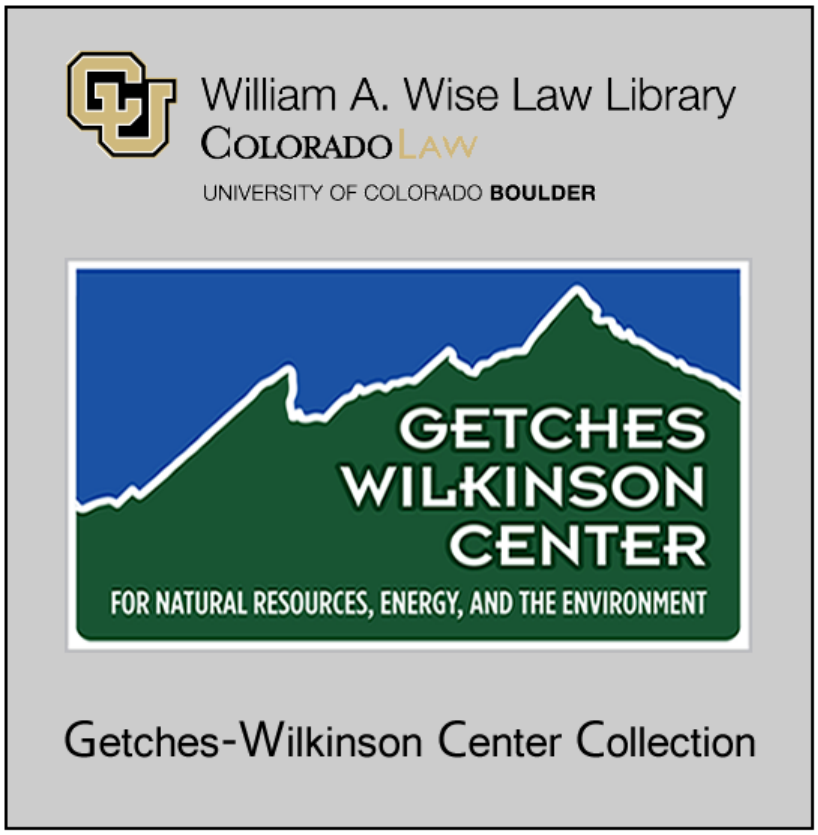
Agricultural Water Use Efficiency

Gordon McCurry



Gordon McCurry, *Agricultural Water Use Efficiency*, *in* TWO DECADES OF WATER LAW AND POLICY REFORM: A RETROSPECTIVE AND AGENDA FOR THE FUTURE (Natural Res. Law Ctr., Univ. of Colo. Sch. of Law, 2001).

Agricultural Water Use Efficiency

Dr. Gordon McCurry
Camp Dresser & McKee

**TWO DECADES OF WATER LAW AND POLICY REFORM:
A RETROSPECTIVE AND AGENDA FOR THE FUTURE**

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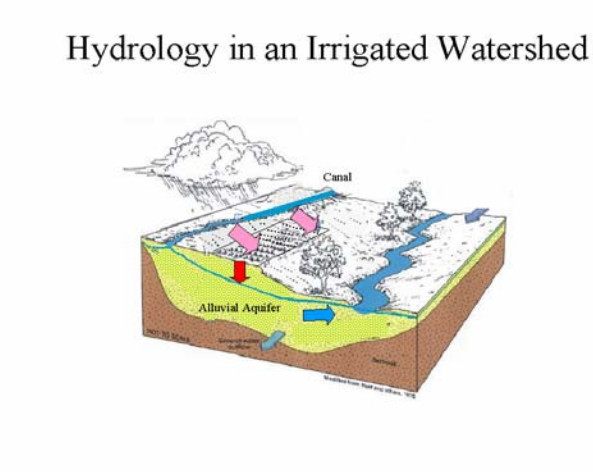
Natural Resources Law Center
University of Colorado School of Law
Boulder, Colorado

Outline of Comments

- Hydrology of an Irrigated Watershed
- Irrigation Efficiency and Return Flow
- Effects of Increasing Irrigation Efficiency

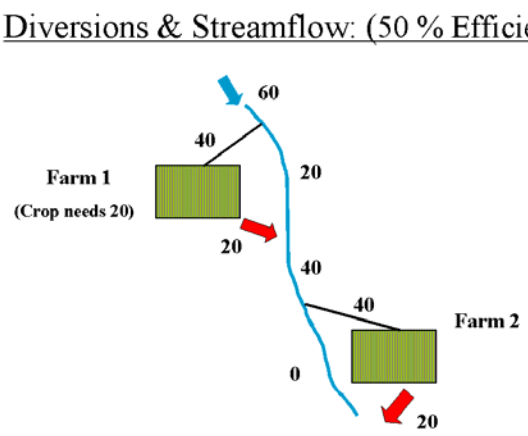
Hydrology in an Irrigated Watershed



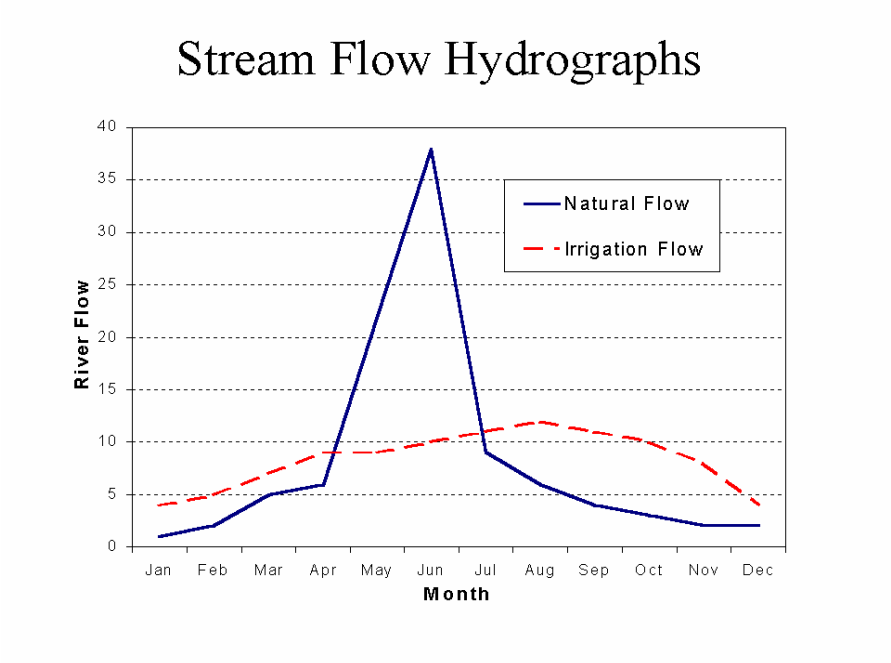
Irrigation Efficiency and Return Flow

- Irrigation Efficiencies
- Typical Efficiencies:
    - Furrow: 40 – 60%
    - Sprinkler: 70 – 80%
    - Drip: 85 – 95%
- Excess that percolates to water table and migrates in aquifer back to river

Diversions & Streamflow: (50) Efficiency)



Stream Flow Hydrographs



Effects of Increasing Irrigation Efficiency

- Lower percolation, recharge & return flow
- Less water in river in late season
- Fewer junior water rights receive water
    - More late-season calls on river by seniors
- Need for additional reservoirs, recharge projects
    - Cost, riparian impacts