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A Retrospective and Agenda for the Future
(Summer Conference, June 13-15)

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Agricultural Water Use Efficiency

Gordon McCurry

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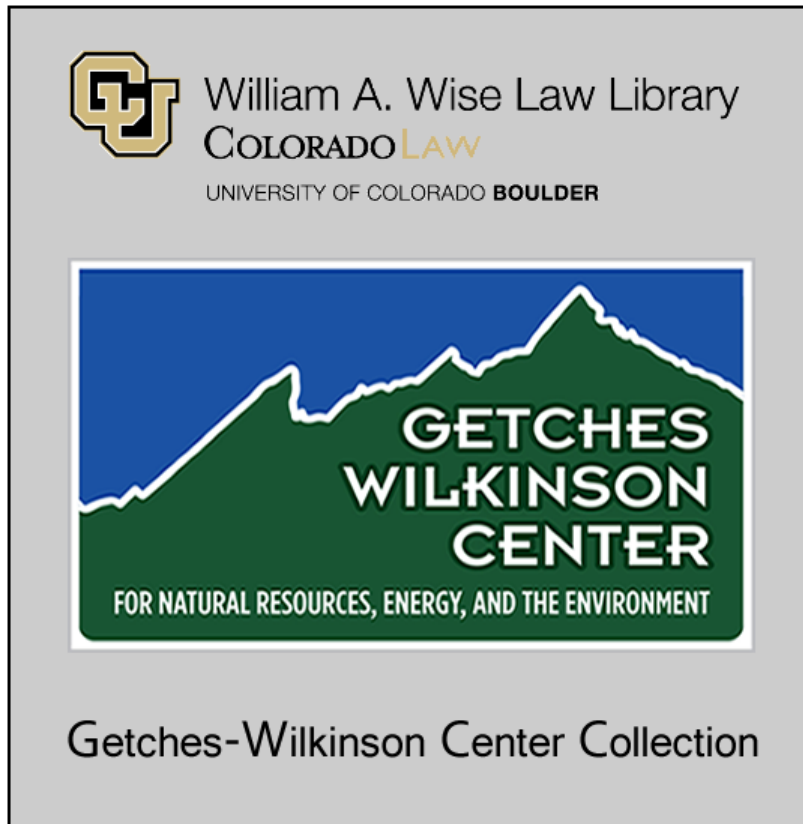


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Agricultural Water Use Efficiency

Dr. Gordon McCurry
Camp Dresser & McKee

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

June 13-15, 2001

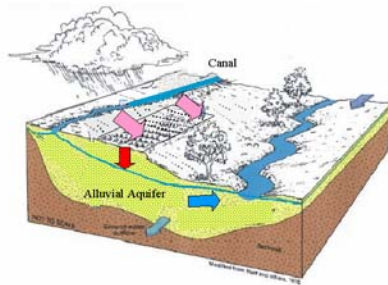
Natural Resources Law Center
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Boulder, Colorado

Outline of Comments

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

Hydrology in an Irrigated Watershed

Hydrology in an Irrigated Watershed

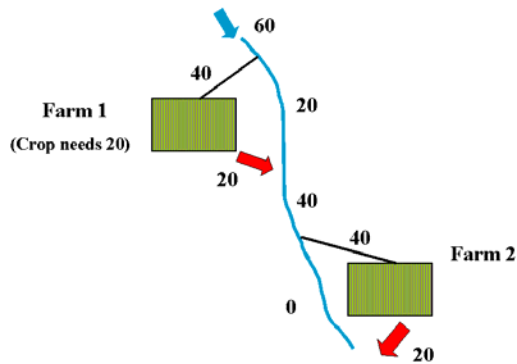


Irrigation Efficiency and Return Flow

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

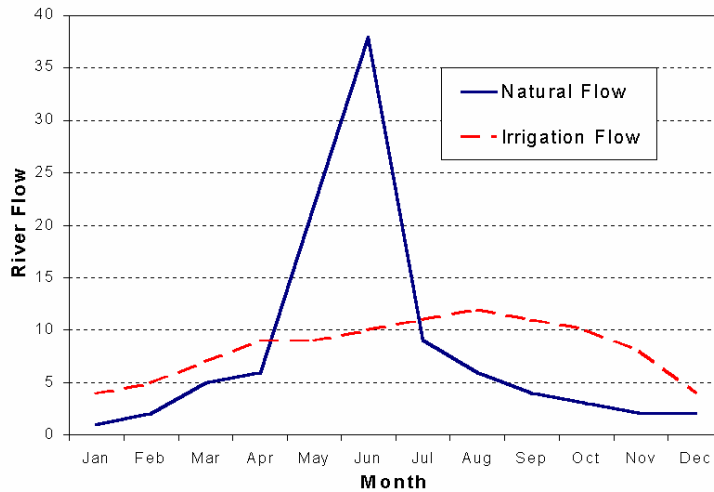
Diversions & Streamflow: (50) Efficiency)

Diversions & Streamflow: (50 % Efficiency)



Stream Flow Hydrographs

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