Agricultural Water Use Efficiency

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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
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
  o More late-season calls on river by seniors
• Need for additional reservoirs, recharge projects
  o Cost, riparian impacts