Patterns of Irrigated Agricultural Land Conversion in Henry's Fork Watershed: Implications for Water Consumption and Future Land Use

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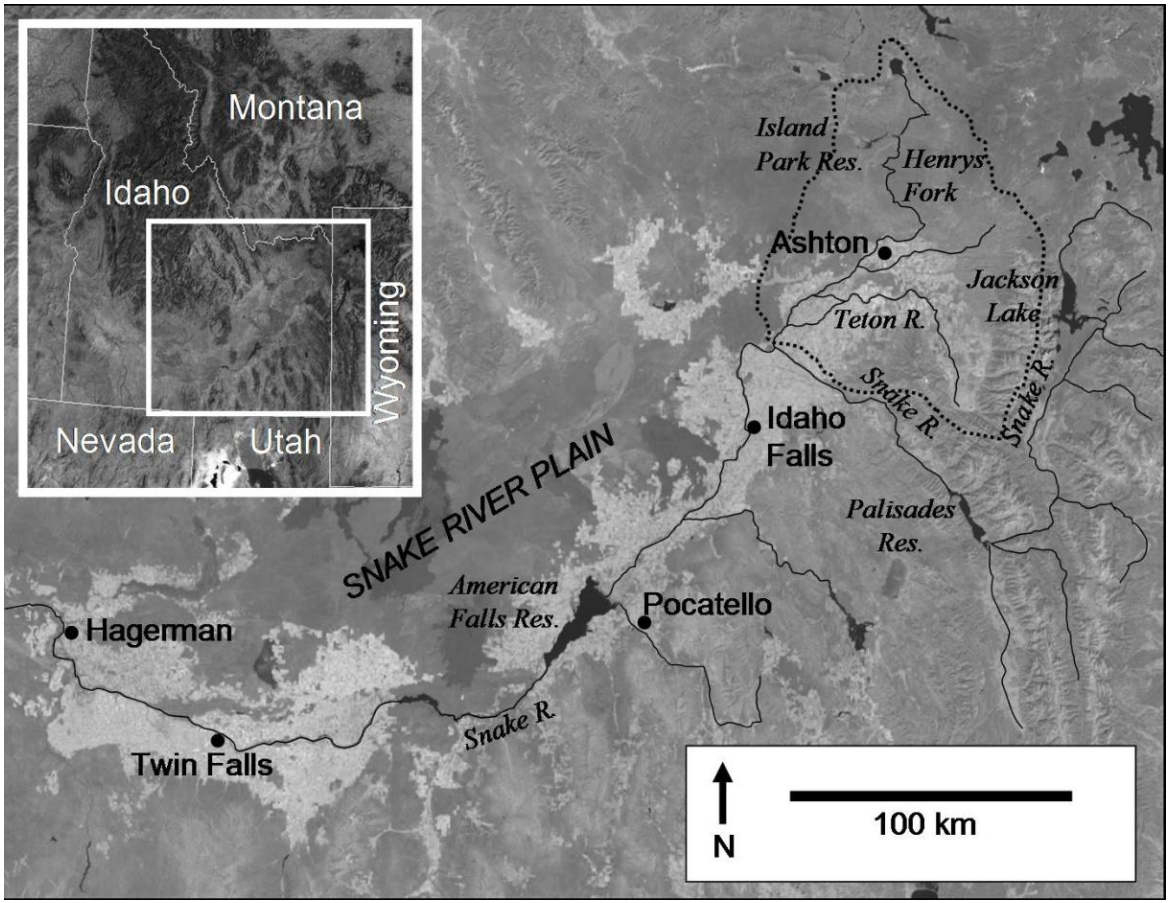
Henry's Fork Watershed



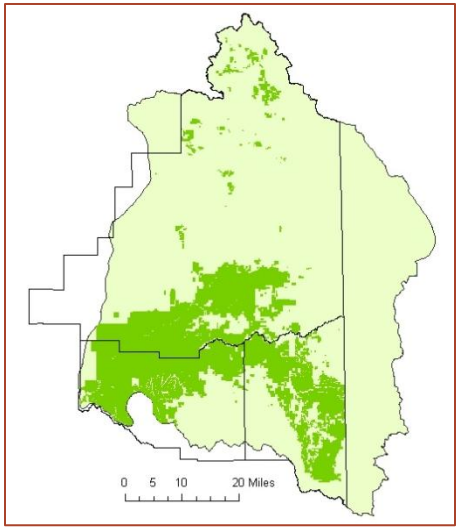
- Arid to semi-arid climate
- 3,200 sq. mi.
- Majority of irrigation uses **surface water** not ground water
- 1.2 million acre-feet diverted/year
- 200,000 acres irrigated w/surface water
- Changing demographics, increasing development

Irrigation Systems

Research Questions

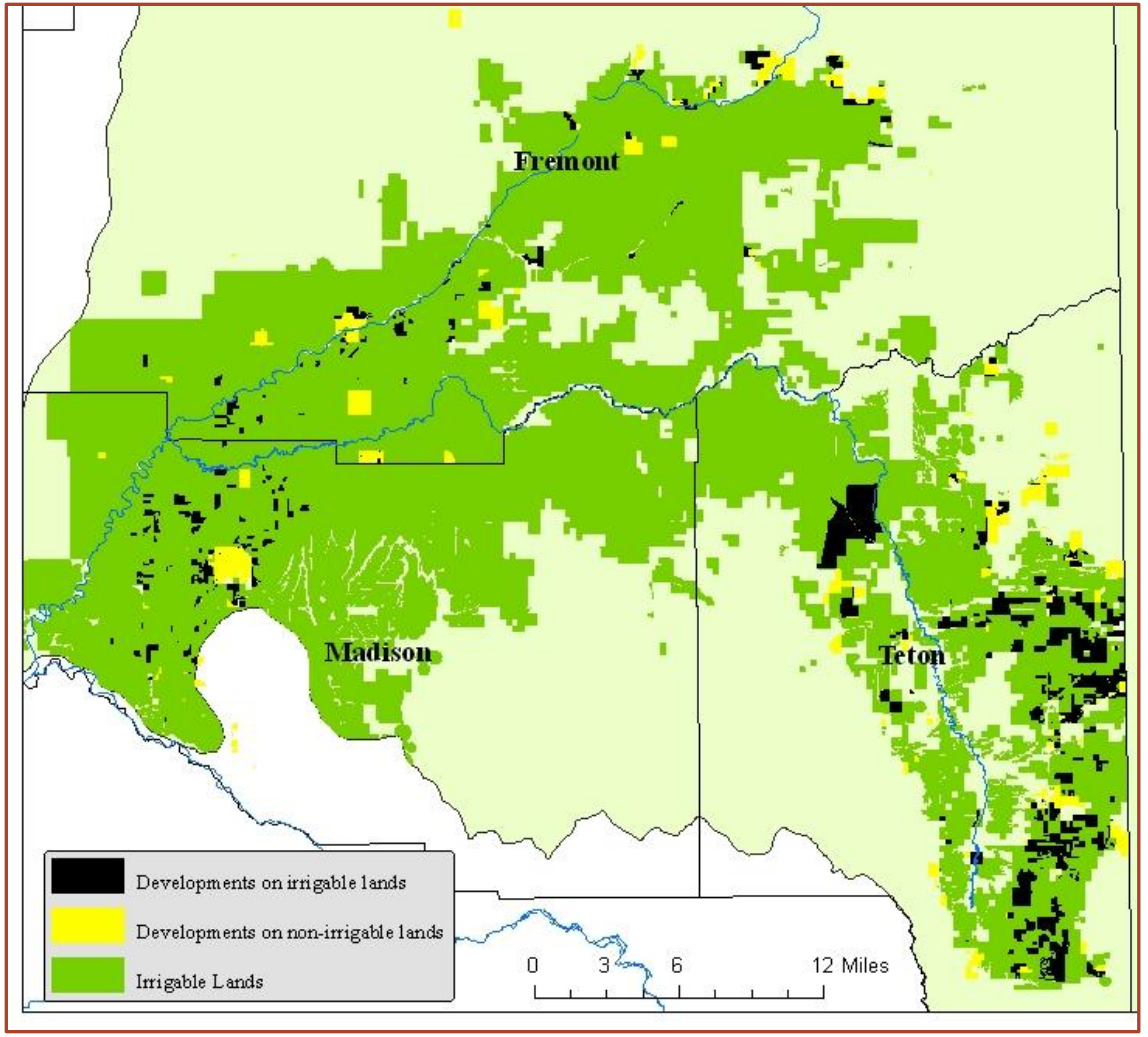
1. What are the effects of land use conversion on water resources and water management?
2. How are new developments using and consuming water resources?
3. How do changing demographics affect land use planning and water management?

Effects of Land Conversion on Water Resources & Management



Water Rights Possession

1. Retained
2. Sold
3. Transferred



Changes in Water Use and Consumption

- Canal system intact, but not designed for irrigating smaller parcels
- **Fragmentation** makes it more difficult for remaining farmers to flood or sub-irrigate
- Access to surface water does not guarantee use
- ET the same for crops or lawn
- Impervious surfaces not a major area of concern
- **Increase in the number of wells for culinary uses**

Changing Demographics

1. Land use planning and water management values and priorities vary by county
2. IDWR's water management authority ends at POD
3. Loss/change of water management knowledge
4. Canal companies face monetary and physical challenges in an urbanizing landscape

Hydrologic Implications

- Urbanization uses groundwater resources
- Earthen canals lose up to **50%** of surface water due to seepage
- Earthen canals contributing to groundwater recharge
- **If canals are removed from landscape, groundwater recharge capabilities could be damaged/lost**

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Henry's Fork Watershed Council

Friends of the Teton River

HFF Henry's Fork Foundation

Fremont-Madison Irrigation District

For more information, go to:
www.humboldt.edu/henrysfork