

# Irrigation Water Conservation in the Henrys Fork

*April 2011*



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## Key Terms

Crop Water Use or **Evapotranspiration** (ET)

Evaporation – water evaporated from wet soil and plant surface

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Transpiration - water used by a crop for growth and cooling purposes

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## Key Terms (continued)

**Irrigation Water Requirement (net)** =  
ET – rainfall (during growing season)

**Net Irrigation** =  
Gross Irrigation / Irrigation Efficiency

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## Key Terms (continued)

**Irrigation efficiency** – Defined by Location

**On-farm irrigation efficiency** – farm turnout to crop

**System irrigation efficiency** – point of diversion to crop

## Key Terms (continued)

Gross Irrigation =

Crop ET

+

Losses

- Wind Drift – Evaporation
- Conveyance Seepage – Pipeline or Canal
- Non Uniformity – Most often Deep Percolation
  - Runoff – Surface and Sprinkler
- Over Irrigation – Most often Deep Percolation
  - Non Crop ET – Canal Banks, etc.

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# Conservation Practices Which Reduce Losses

Loss <sup>1</sup>	Conservation Practice
Conveyance Seepage	Pipeline, Canal Lining
Over Irrigation (early spring)	Irrigation Water Management
Non Uniformity (surface irrigation)	Sprinkler Irrigation
Runoff (surface irrigation)	Sprinkler Irrigation
Non Crop ET	Pipeline, Canal Lining
Wind Drift	LESA (low elevation sprinkler application), Irrigation Water Management

<sup>1</sup>Listed in order of magnitude in the Henrys Fork Watershed

## Incidental Recharge

Legislation approving the ESPA CAMP contained the following language –

*The CAMP implementation plan shall include measures that recognize the benefits of incidental recharge, and that will encourage water users and canal managers to continue their historic surface water diversion practices.*

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## Evaluation of Conservation Alternatives with Consideration of Incidental Recharge

Will require team modeling effort:

Reclamation

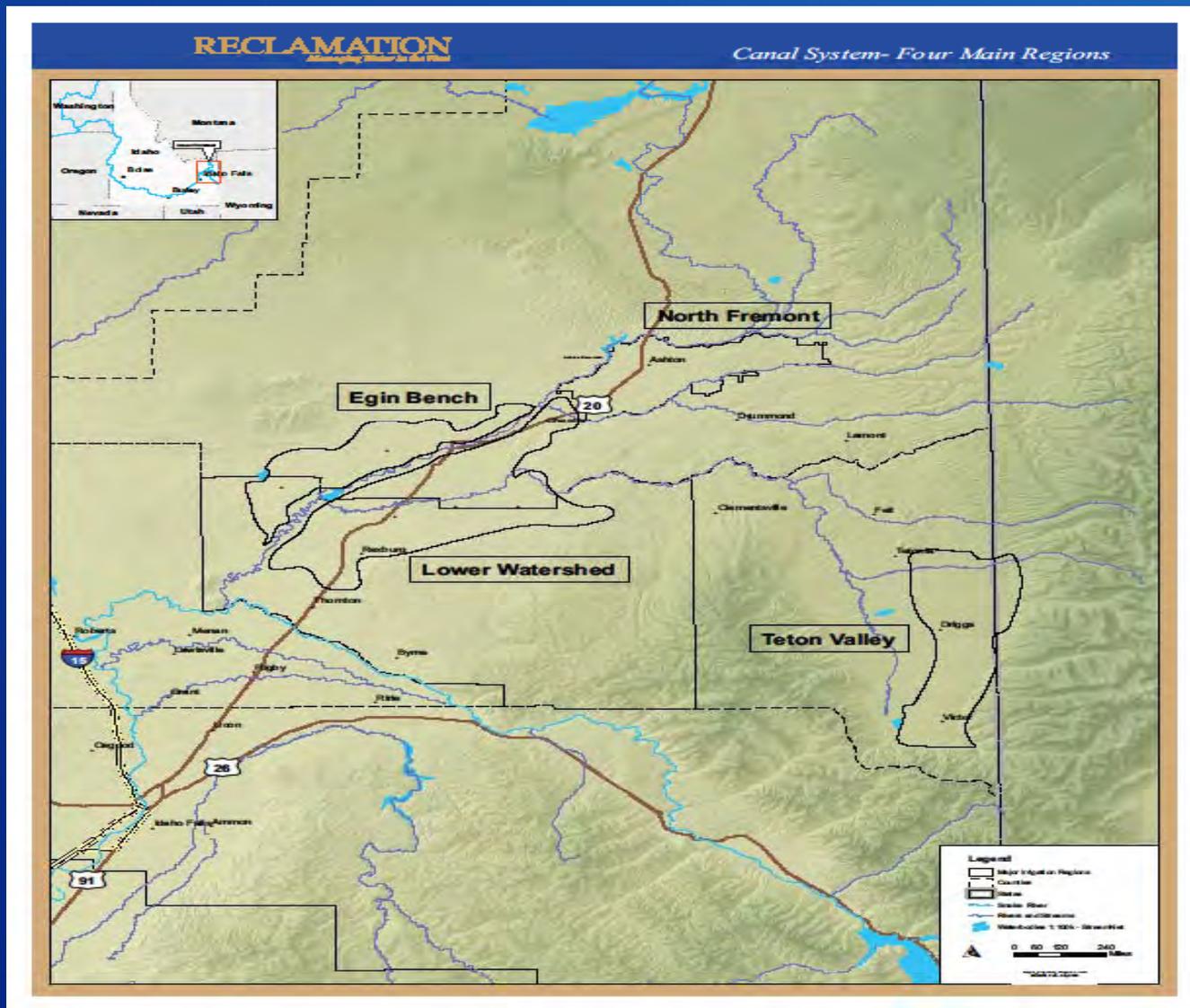
Department of Water Resources

CH2M HILL

Dr. Van Kirk (Humboldt State University)

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# Alternative Conservation "Projects"



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## Alternative Conservation “Projects”

Four Alternatives – Two Scenarios Each Alternative

<b>Irrigated Region</b>	<b>Complete Conversion to Sprinkler</b>	<b>Complete Conversion to Pipeline and/or Canal Lining</b>
North Freemont	√	√
Teton Valley	√	√
Egin Bench	√	√
Lower Watershed	√	√

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# Evaluation of Conservation Alternatives

## Key Points –

- Areas selected are large scale. This may lead to smaller projects within area.
- Areas selected correspond to Dr. VanKirk's modeling work. Data sets are already (mostly) existing.
- Analysis of conservation alternatives will focus on impact to water budget and Study goals.