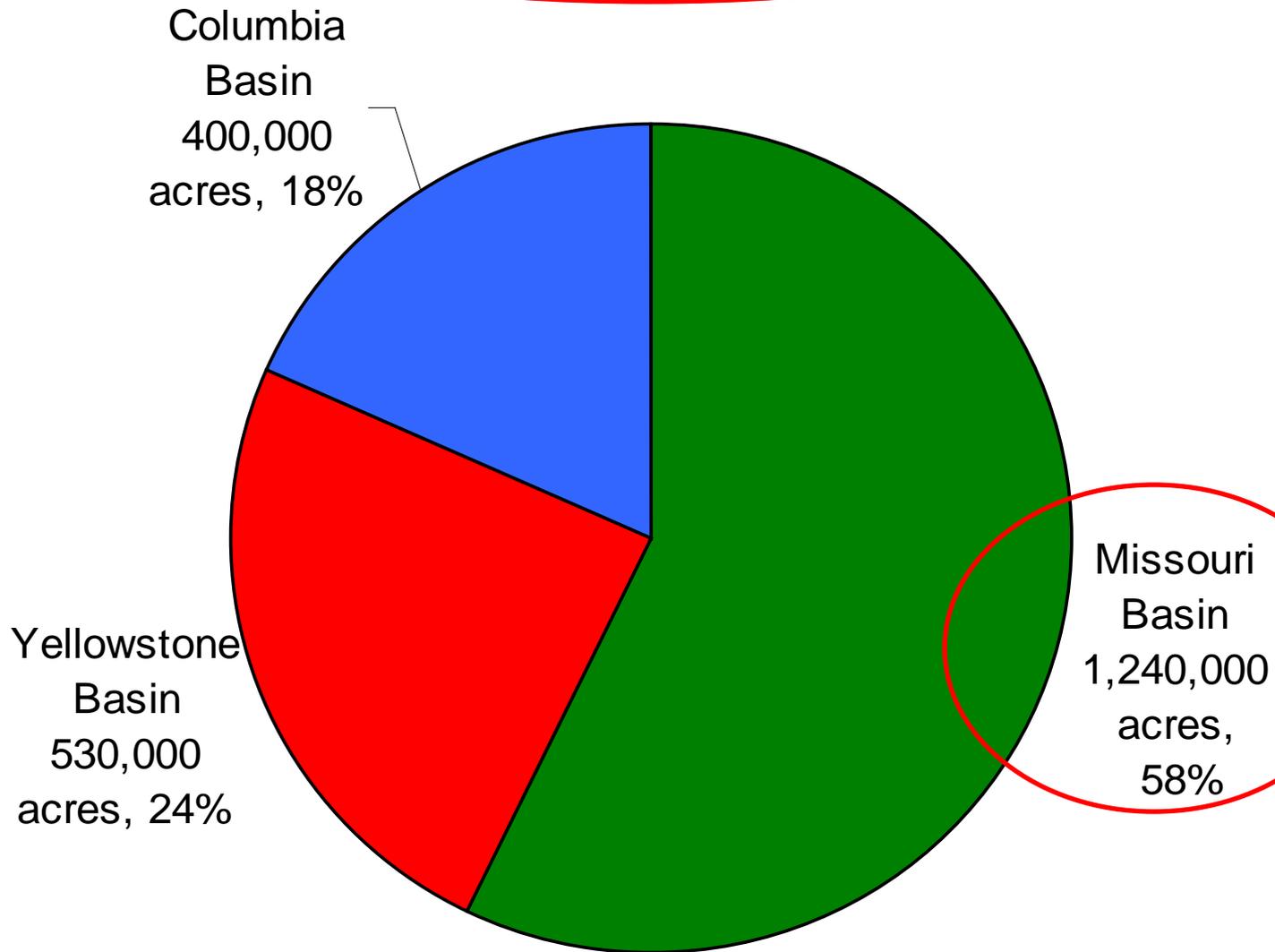


Upper Missouri Basin Agricultural Water Use An Overview

Acres Irrigated in Montana by River Basin

(2,170,000 acres total)





How Big Is 1,240,000 Acres ?

- It's about 2,000 Square Miles
- It's about 5.6% of the total surface area of the basin
- It's about 50% of the total farmed area in the basin

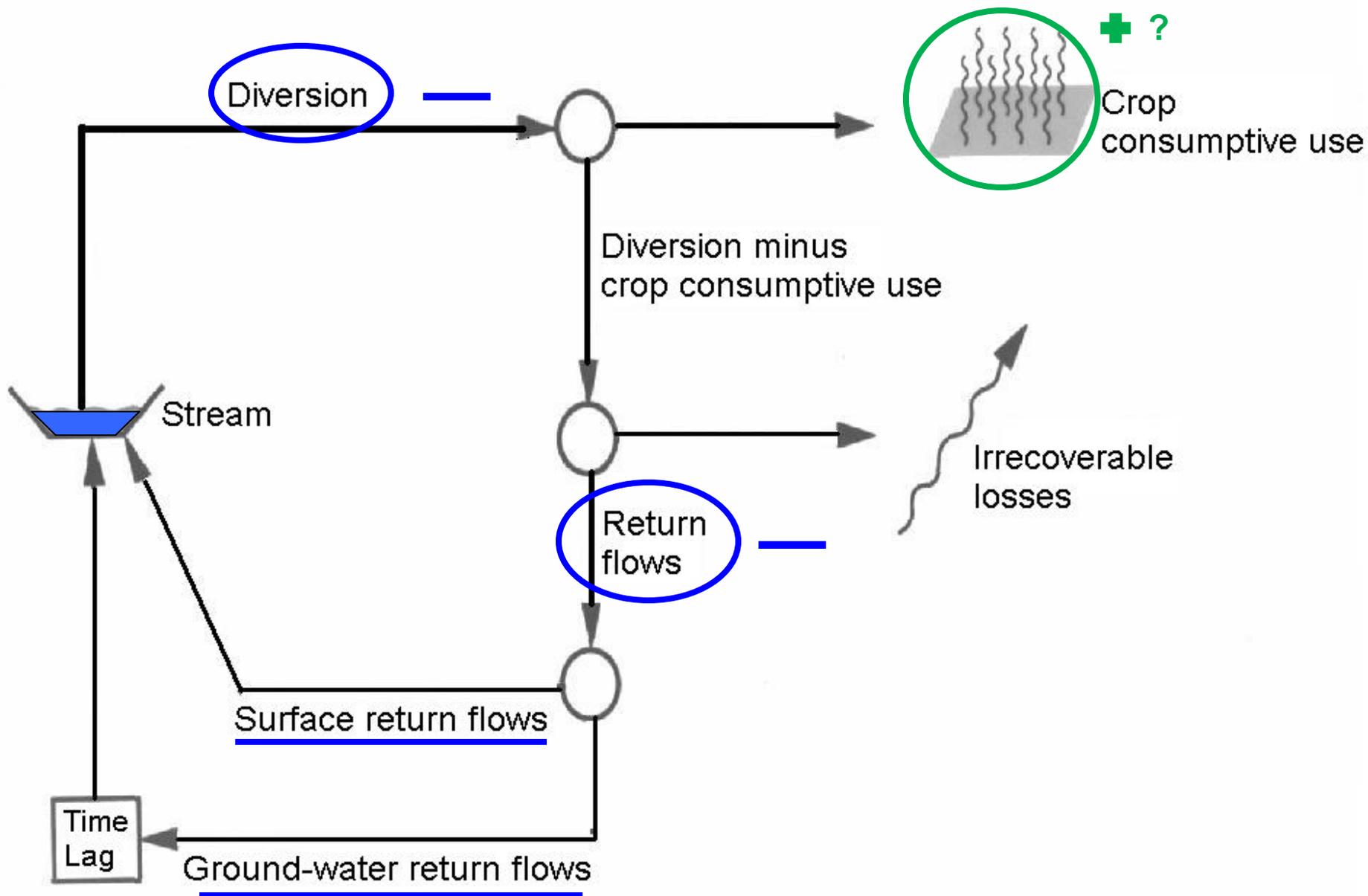






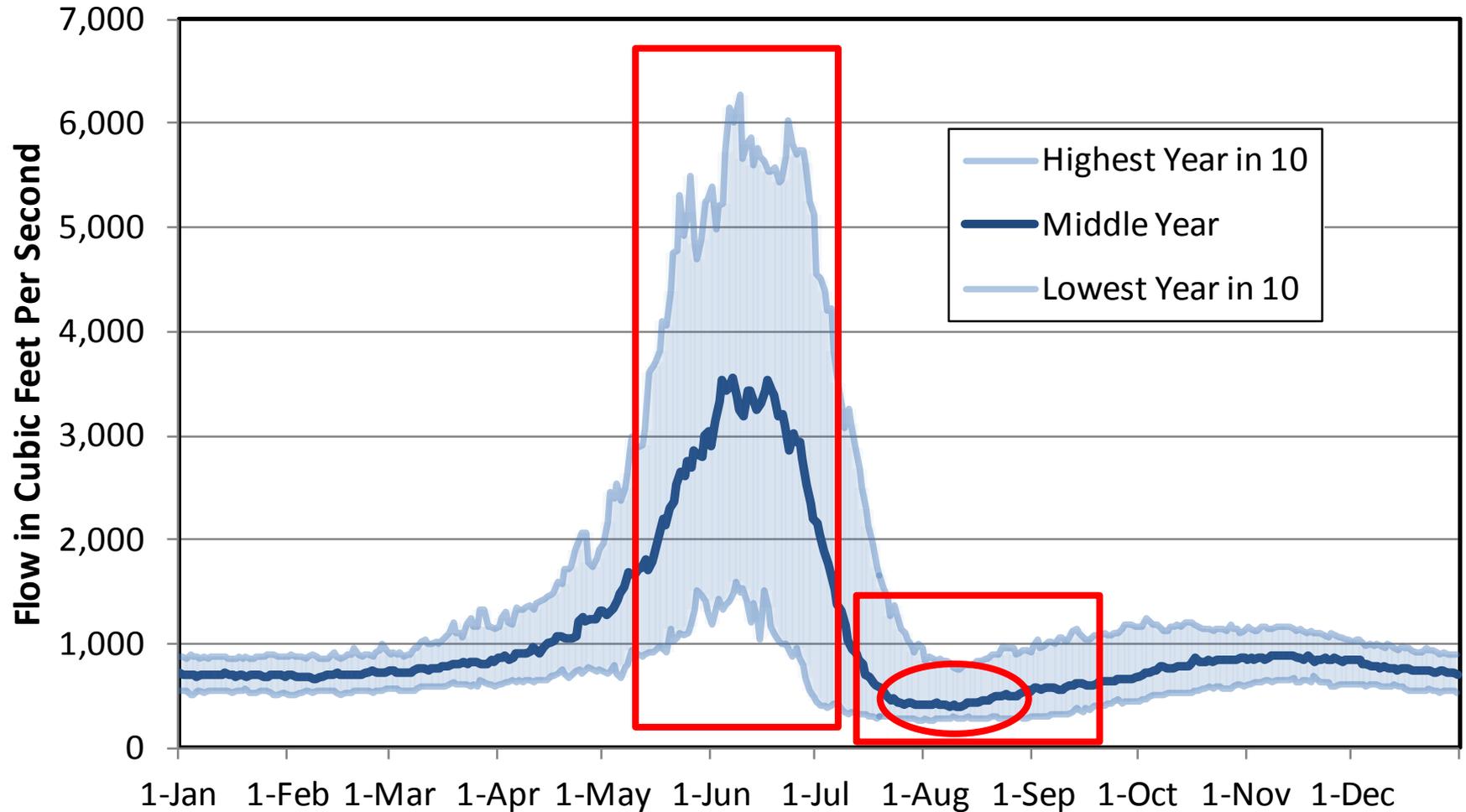






Irrigation Water Supply Considerations

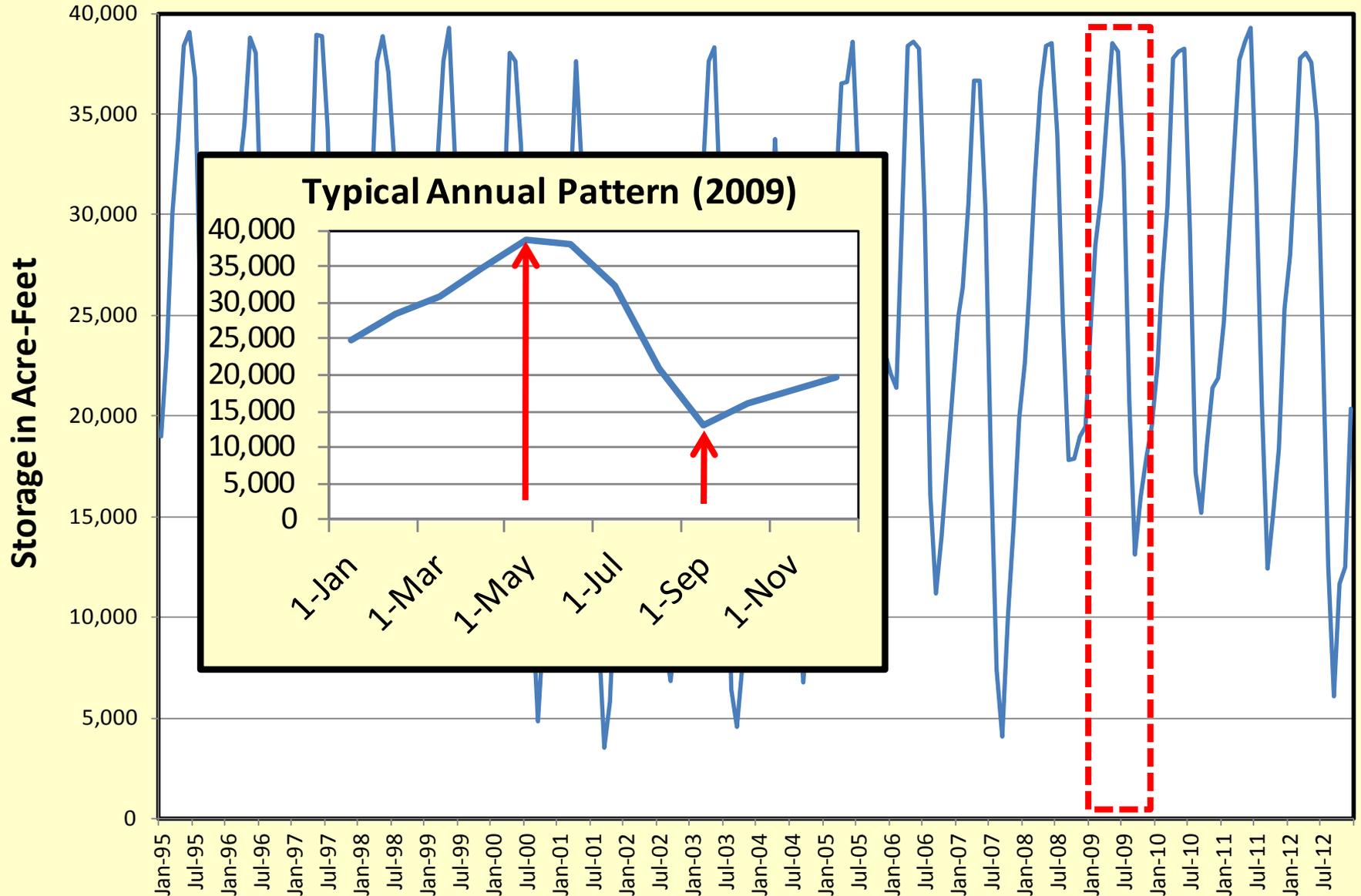
Gallatin River at Logan Normal Range of Flow



Gibson Reservoir Near the End of the Irrigation Season



Ruby Reservoir Storage Through Time





July 11, 2007



August 13, 2007

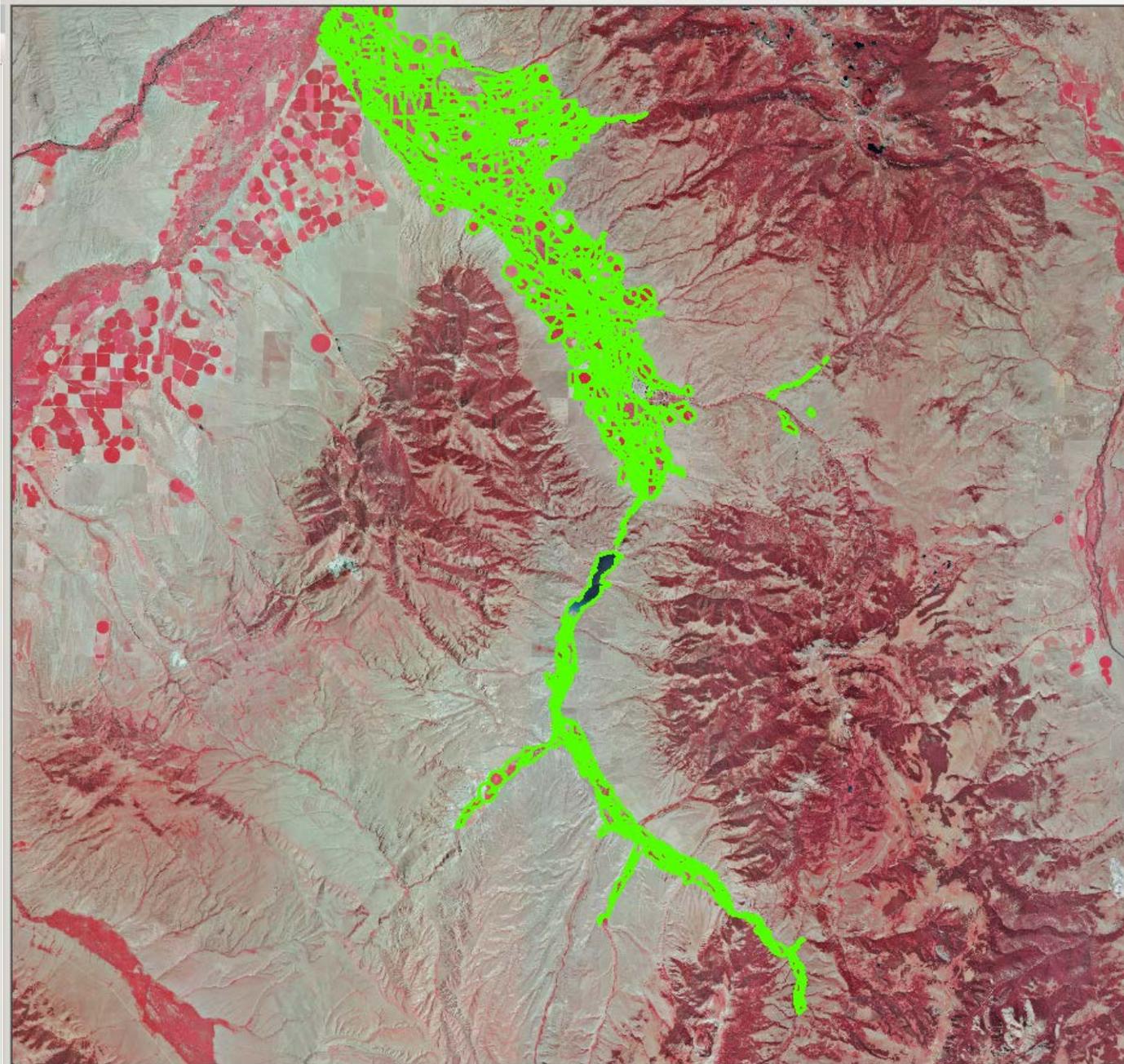




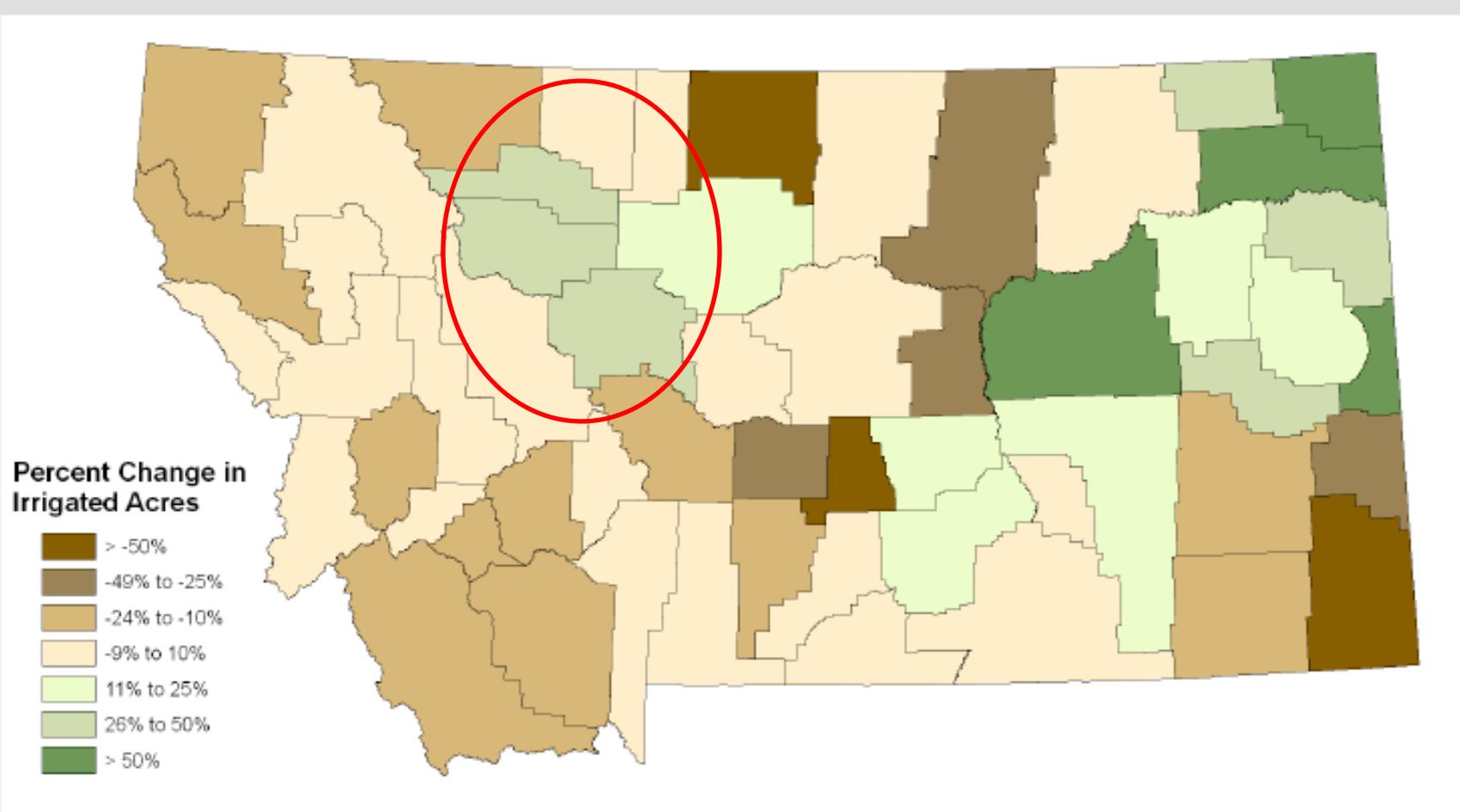
Ruby River
May 1, 2013



Ruby River Watershed Irrigated Lands



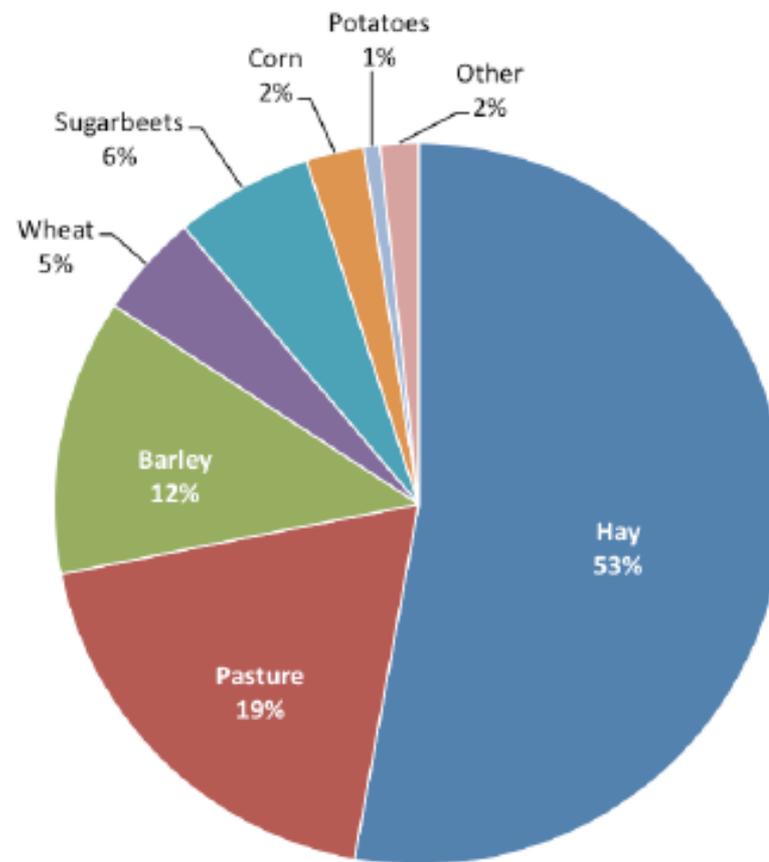
Changes in Percent of Irrigated Acres by County: 1987-2002



Source: ECONorthwest, with data from U.S. Department of Agriculture, National Agriculture Statistics Service (2004a). See *Technical Memorandum 2.3 – Net Impacts of Irrigation in Montana* for more detail.



Figure 10. Percent of Irrigation Water Applied by Crop^a in Montana, 2003



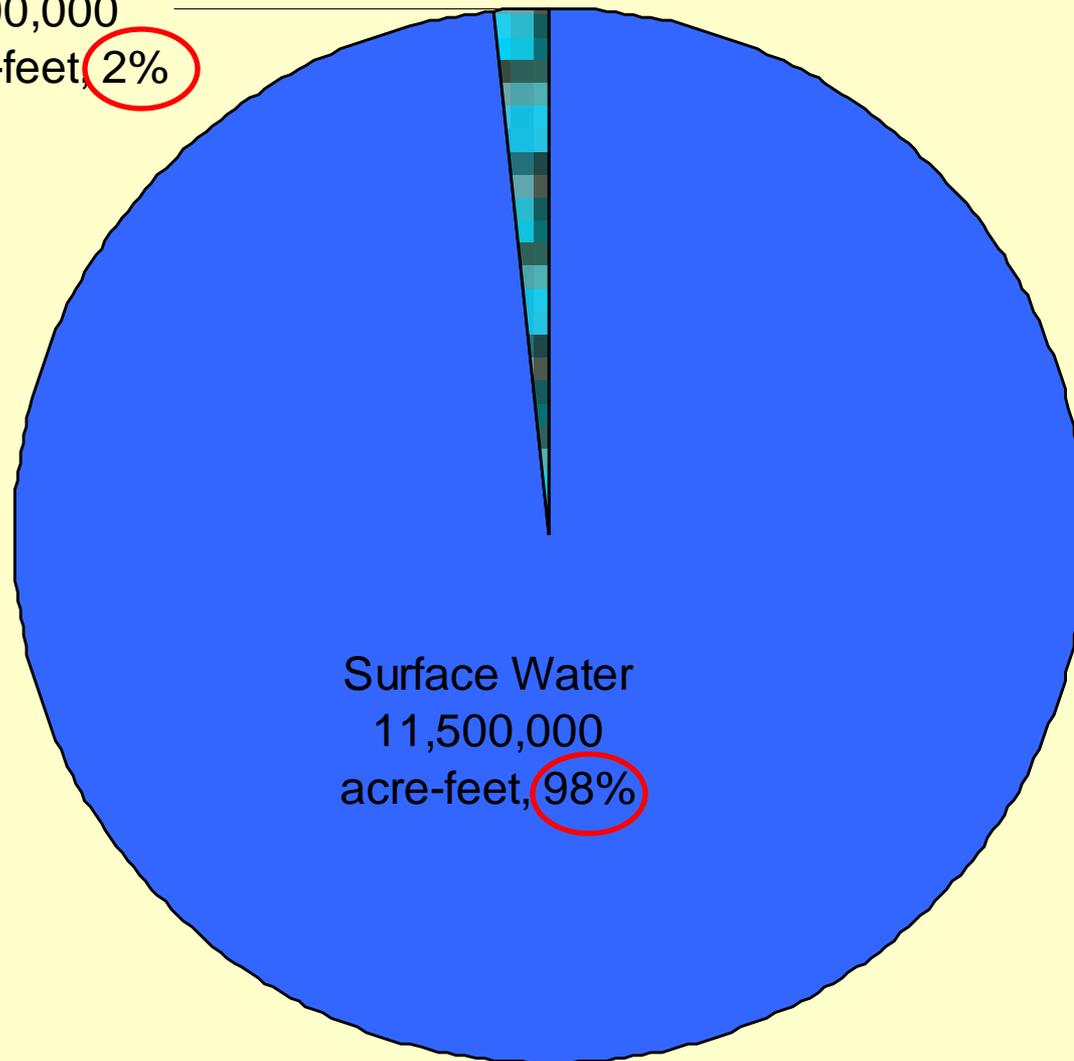
Source: ECONorthwest, with data from USDA, National Agricultural Statistics Service (2004b). See *Technical Memorandum 2.3 – Net Economic Impacts of Irrigation in Montana* for more detail.

^a Hay includes alfalfa and other hay varieties; Corn includes seed and silage varieties; Other includes soybeans, dry edible beans, other grains, vegetables, orchards, and other crops.



Water Diverted for Irrigation by Source (11,700,000 acre-feet in total)

Groundwater
200,000
acre-feet, 2%



Source Data: USGS, 2004

**IRRIGATION IN MONTANA:
A PRELIMINARY INVENTORY OF INFRASTRUCTURE CONDITION**



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January 2009









JUL 22 2005



2007/11/15

Charlie Atkins



A center pivot irrigation system is shown in operation over a vast, green agricultural field. The system consists of a long, straight metal wheel line supported by a series of truss-like structures. Each structure has two legs that extend to the ground, with the legs painted in a bright orange color. From the wheel line, multiple arms extend outwards, each ending in a pivot point that supports a long, horizontal pipe. This pipe is perforated with numerous small nozzles, which are spraying a fine mist of water across the field. The water droplets are captured in mid-air, creating a shimmering, ethereal effect. The background features a flat horizon under a clear, bright blue sky with a few wispy clouds. In the distance, several utility poles are visible on the right side. The overall scene conveys a sense of modern agricultural technology in a rural setting.

Questions/Discussion?