

[www.larimer.org/foodassessment/](http://www.larimer.org/foodassessment/)

### Natural Resources Overview

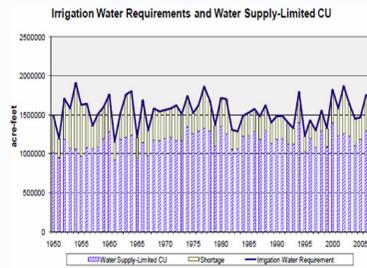
Land and water are the primary categories for natural resource inputs in Northern Colorado's food system. We find that land use for agriculture is slightly decreasing over time and many areas of quality farm land (based on soil) are near urban boundaries. Water consumption has become increasingly dependent on groundwater to make up surface water shortages in both Weld and Larimer counties. While groundwater-use efficiency has increased over time, surface water-use efficiency has remained relatively constant despite increasing transition from sprinkler to flood irrigation.

### Key Facts

- Surface water consumption is diminishing both in overall amount and as a percentage of total irrigation acres when compared to ground water.
- In the North Poudre Irrigation Company, 33% of water shares remain in agricultural ownership. Forty percent of the water shares in the Water Supply and Storage Company are in agricultural ownership.
- 29% of the land in Larimer county, 81% of Weld county land and 29% of Boulder county land was used as farm or ranch land as of 2007. While Larimer County agriculture land use has declined over the last 8 years, Boulder and Weld counties have remained steady or increased.

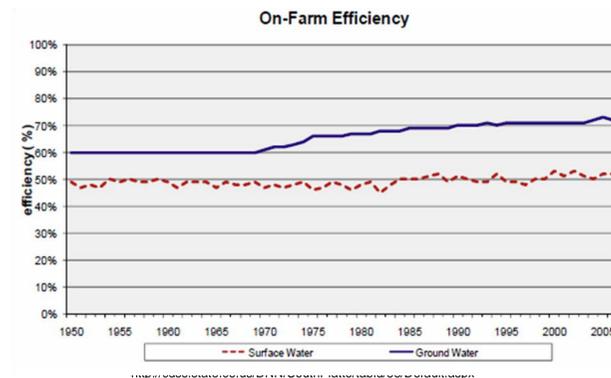
### Consumptive Use (CU) - South Platte Basin

Most variability in the South Platte Basin over the past 50 years has been due to drought and seasonal water cycles. As shown on the right, surface water does not typically supply enough water in a given season to meet suggested water application for agriculture. The gap between the solid line and the bottom striped bar represents the gap in acre-feet between water supplied by surface water and water needed, according to the Colorado Decision Support Systems Water Budget model.



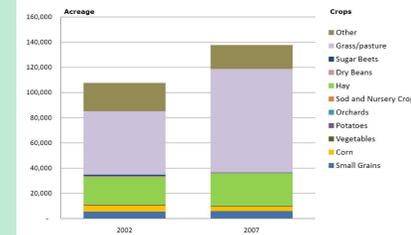
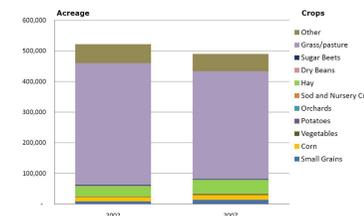
### Water Efficiency in Northern Colorado

- Surface water usage has gained little efficiency over time. Although a slight increase in efficiency took place in the early 80's due to producers switching from flood to sprinkler irrigation, the trend has remained small over the last 55 years.
- Ground water use efficiency has improved over this same time period. With an increasing number of acres being irrigated from ground water sources and users increasingly substituting ground water for surface water in times of drought, the efficiency of ground water use shows an upward trend over the past 55 years
- The graphic shows water use efficiency as a percentage of water that reaches the plant from the original water source in the South Platte Basin.

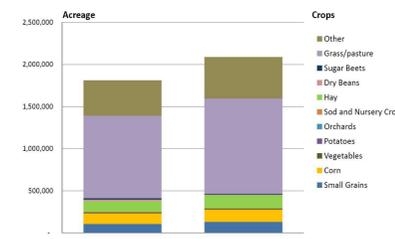


### Land Use Trends in Northern Colorado

**Larimer** Larimer County has seen a moderate decline in agricultural land use over the past decade. Irrigated, dry land and grazing land have all seen declines, despite an increase in isolated crop types (such as vegetables). Larimer had 1.68 million acres of agricultural land in 2007.



**Weld** Weld County has also seen an increase in agricultural land. The increase is primarily due to a steady increase of all crop and agriculture types with a notable increase in meadow and grass land. Weld County had 2.09 million acres of agricultural land in 2007.



### Local Natural Resource Related Organizations

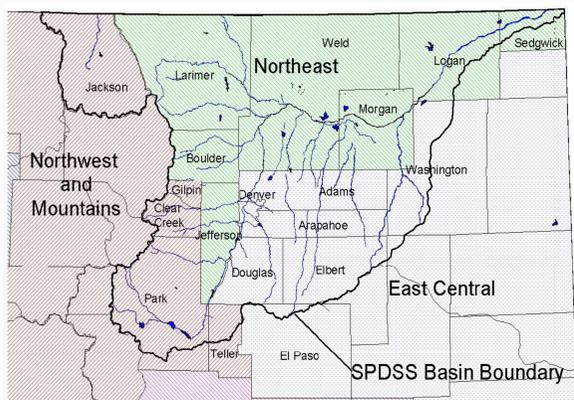
**Colorado Division of Water Resources** is a division of Colorado's Department of Natural Resources and is committed to providing services related to water supply, water quality, water rights and wildlife issues pertaining to water resources in Colorado. They issue reports and research to provide water users and managers with better data for resource use.  
<http://water.state.co.us>  
Local Offices: Greeley

**Colorado Water Resources Research Institute** is an institution sponsored by Colorado State University and funded by Congress which strives to provide expertise, research and education connections for water managers and users in issues dealing with Colorado water.  
<http://www.cwi.colostate.edu/default.asp>  
Local Offices: Fort Collins

**COLORADO OPEN LANDS** is a non-profit organization committed to assisting working farms, ranches and natural heritage sites in the state of Colorado. They have participated in 225 projects for land conservation throughout the state of Colorado.  
<http://www.coloradoopenlands.org>  
Local Offices: Lakewood

**Northern Water** is a public water provider for agricultural, municipal, domestic and industrial water users in Northern Colorado. They consist of over 1.6 million acres and was originally established as the local agency for the Colorado-Big Thompson project.  
<http://www.ncwcd.org>  
Local Offices: Berthoud

**NRCS Natural Resources Conservation Service** is a division of the U.S. Department of Agriculture and focuses on conservation of private lands. They form partnerships with land owners, ranchers and farmers for whom they provide technology and expertise in order to better manage and preserve natural resources.  
<http://www.nrcs.usda.gov>  
Local Offices: Fort Collins, Greeley and Longmont



This map shows the South Platte Basin as defined by the Colorado Decision Support System website. Although the basin covers an area much greater than just Boulder, Larimer and Weld counties, most water-related trends that hold true for the basin also hold true for these three counties. The exception to this is the trend in ground water use. Although ground water has been increasingly used in Larimer and Weld counties to make up for surface water shortages, Boulder county has not seen significant increases in ground water use.

### Key Findings

- Surface water does not meet the consumptive use needs of South Platte basin farmers and ranchers.
- Ground water use in Larimer and Weld counties is increasing in order to make up for this gap in water requirements.

### References

- Colorado Decision Support System – <http://cdss.state.co.us/DNN/SouthPlatte/tabid/58/Default.aspx>
- Natural Resources Conservation Service Soils – <http://soils.usda.gov>
- No Action Alternative Report for NISP Project – <http://gladereservoir.org/Docs/2010.04.22%20NISP%20NAA%20Report.pdf>
- Northern Colorado Water Conservancy District – <http://www.ncwcd.org>

### Acknowledgement

Funding for this project through Colorado Department of Local Affairs Heritage Planning Grant #00192 is gratefully acknowledged.

