Colorado’s Rapidly Increasing Population
Impacts on our Land and Water
Preface

Land is Colorado’s most fundamental natural resource. It captures, transports and cleans our water. It produces our food and most of our energy, and offers us recreation and solace.

Colorado must manage a substantial increase in its population in the next 30 years. Many more people will need what our land provides. The following is an overview of the challenges and opportunities facing Colorado as we balance the needs of new citizens with the stewardship of our exceptional natural and open lands.

This report summarizes data we collected from various sources on Colorado’s projected population growth. Please review the full report at www.coloradoconservationtrust.org. We welcome your comments.

Colorado’s land conservation community plays a crucial role in the management of the state’s land assets. Colorado Conservation Trust is dedicated to assisting the earnest women and men who labor in this important work.

Colorado Conservation Trust wishes to express its gratitude to National Geographic and Mr. Robert Kunzig in particular for their assistance with this analysis. Over forty organizations and individuals were interviewed or contributed to this study. These sources are listed at the end of this summary. To all who aided us, thank you.

Sincerely,
Colorado Conservation Trust staff
Colorado’s population will grow.

We’ll be joined by 3 million new citizens in the next 28 years -- that’s equivalent to the current population of Chicago.

Source: Colorado State Demography Office
Colorado’s population will grow faster than the world and U.S. populations in the next 30 years. Most of that growth will come from in-migration (56%).

**Projected change in World, U.S., and Colorado Populations, 2010-2040**

Source: U.S. Census Bureau; Colorado State Demography Office
The Front Range will grow larger.

In 2040, **80% of Coloradans** will live in 12 Front Range counties.

**Colorado counties with largest projected populations, 2040**

- Larimer
- Weld
- Boulder
- Broomfield
- Denver
- Adams
- Arapahoe
- Jefferson
- Douglas
- Teller
- El Paso
- Pueblo

Source: Colorado State Demography Office
The rest of the state will grow faster.

Eleven counties will **double their populations** by 2040, including Elbert, Weld, Garfield, Park, Summit and Grand.

**Colorado counties with largest percent change in population by 2040**

All Colorado counties will gain population in this time period.
Growth will increase demand for water.

Colorado will need an additional 190,000 to 630,000 acre feet of water annually for municipal and industrial users by 2050. At the high end, that's more than twice the water annually supplied by the state's largest water utility, Denver Water.

**Colorado Water Projected Supply Gap, 2050**

- 2050 shortage: high estimate
- 2050 shortage: low estimate

For context: this bar represents current annual usage by all Denver Water customers.

Source: Colorado Water Conservation Board's Statewide Water Supply Initiative 2010; Denver Water
It’s possible to meet that demand.

Conservation: Brisbane, Australia has one of the lowest per capita water use rates in the world—36 gallons per day, compared with 98 gallons per person per day in the U.S. and 121 gallons per person per day in Colorado.

Recycling: Denver and Aurora are recycling wastewater with innovative projects like Prairie Waters.

Sharing: Ag/urban sharing proposals could supply upwards of 100,000 acre feet annually.

Source: American Rivers; U.S. Geological Survey; City of Aurora; Western Resource Advocates
Growth will target ag land.

Between 1950 and 2010, Colorado’s ag land shrank by 7.4 million acres—an area the size of Massachusetts.

Colorado could lose an additional 3 million acres of ag land in the next 10 years—an area nearly the size of Connecticut. That’s equivalent to losing more than 3,500 average-sized Colorado farms and ranches.
Growth will target ag land.

Demand for land contributes to significant land appreciation, which encourages sales, and on the other hand, makes generational transfer difficult due to estate taxes.

In a decade of infamously low investment returns, the value of Colorado farm and ranch land increased 72% between 2000 and 2011.

<table>
<thead>
<tr>
<th>Colorado Farm and Ranch Land Appreciation 2000-2011</th>
<th>Colorado Farmers and Ranchers under the age of 34, 2000-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>+72%</td>
<td>-30%</td>
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</tbody>
</table>

Source: U.S. Department of Agriculture

A report by Colorado Conservation Trust
Growth will also target ag water.

Transferring water to meet demand in growing urban areas could dry up 500,000-700,000 irrigated acres by 2050.

Projected Loss of Irrigated Acres, 2010-2050

Source: Colorado Water Conservation Board’s Statewide Water Supply Initiative 2010
Losing ag land has economic consequences.

Agriculture contributes more than $40 billion to Colorado’s economy and helps sustain more than 170,000 Colorado jobs.

In 24 Colorado counties, 1 in 10 jobs are tied to the agriculture and food industry.

GLOBAL CONTEXT:
More food will have to be produced in the next 50 years than was produced in the past 10,000 years combined.

Source: Colorado Department of Agriculture; America’s Farmers Campaign
Losing ag land has ecological consequences.

Colorado’s 37,000 farms and ranches cover nearly half the state’s total land area, and provide important ecological benefits, such as water storage, wildlife habitat and migration corridors, carbon sequestration, and scenic vistas and open space.

47% of Colorado is farm and ranch land.

Source: Colorado Ownership Management and Protection (COMAP); USDA Natural Resource Conservation Service; Colorado Department of Agriculture
Despite enduring one of the harshest droughts in more than 50 years, Colorado’s agriculture industry faired remarkably well in 2012 with net farm income projected at $1.44 billion – a level some $120 million less than year ago estimates but still the second highest on record.
- 2013 is expected to be the 8th time in the last ten years that Colorado net farm and ranch income will surpass $1 billion - a level first exceeded as recently as 2004.
- According to a National Agricultural Statistics Service report, the 2012 average value of cropland in Colorado was $1,450 per acre, up 8.2 percent from 2011 and a 63 percent increase over the 2004 value of $891 per acre.
- Exports of Colorado food and agriculture products have never been higher and are expected to top $2 billion in 2013.
- Ongoing efforts by the U.S. government to expand market access for beef exports to China and Japan and fresh potato shipments to Mexico hold potential to further boost Colorado exports.
- Some estimates suggest that an easing of restrictions on fresh potato shipments to Mexico could increase exports from Colorado by as much as $30 million annually.
## Value Added by the Agriculture Sector & Farm Income

### 2002 --- 2013

<table>
<thead>
<tr>
<th>Year</th>
<th>Livestock</th>
<th>Crops</th>
<th>Total Value of Production</th>
<th>Value of Services and Forestry¹</th>
<th>Government Payments²</th>
<th>Gross Value of Farm Revenue</th>
<th>Total Farm Production Expenses</th>
<th>Net Farm Income</th>
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<tr>
<td>2002</td>
<td>$3,208.1</td>
<td>$1,280.9</td>
<td>$4,489.0</td>
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<td>$211.0</td>
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<td>$4,705.1</td>
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<td>$1,293.0</td>
<td>$4,818.9</td>
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<td>$221.2</td>
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</table>

1) Includes sales of forest products, custom feeding fees, custom harvest fees, and other farm income.
2) Includes farm program payments directly to producers.
3) Estimated.
4) Forecast.

Sources

American Rivers
America’s Farmers Campaign
City of Aurora
Colorado Department of Agriculture
Colorado Governor’s Energy Office
Colorado Ownership Management and Protection (COMaP)
Colorado Oil and Gas Association (COGA)
Colorado Open Space Alliance (COSA)
Colorado State Demography Office
Colorado Water Conservation Board’s Statewide Water Supply Initiative 2010
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Land Trust Alliance National Land Trust Census 2010
Natural Resource Council of Maine
Smart Growth America, Measuring the Health Effects of Sprawl (2003)
State of the Rockies Project “Conservation in the West” poll
Trust for Public Land
U.S. Census Bureau
U.S. Department of Agriculture
U.S. Energy Information Administration
U.S. Geological Survey
USDA Natural Resource Conservation Service