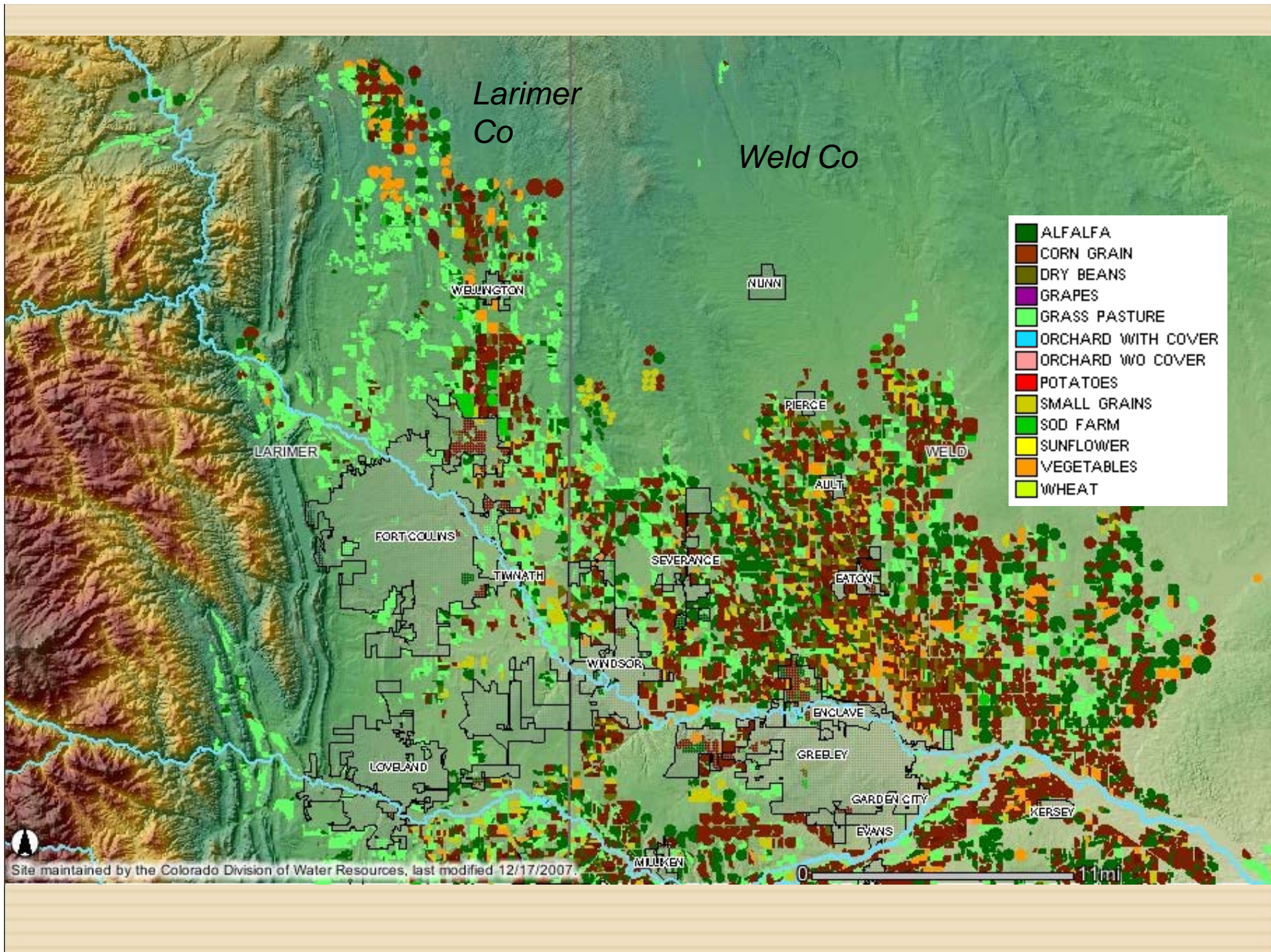


Agriculture to Urban Water Transfers





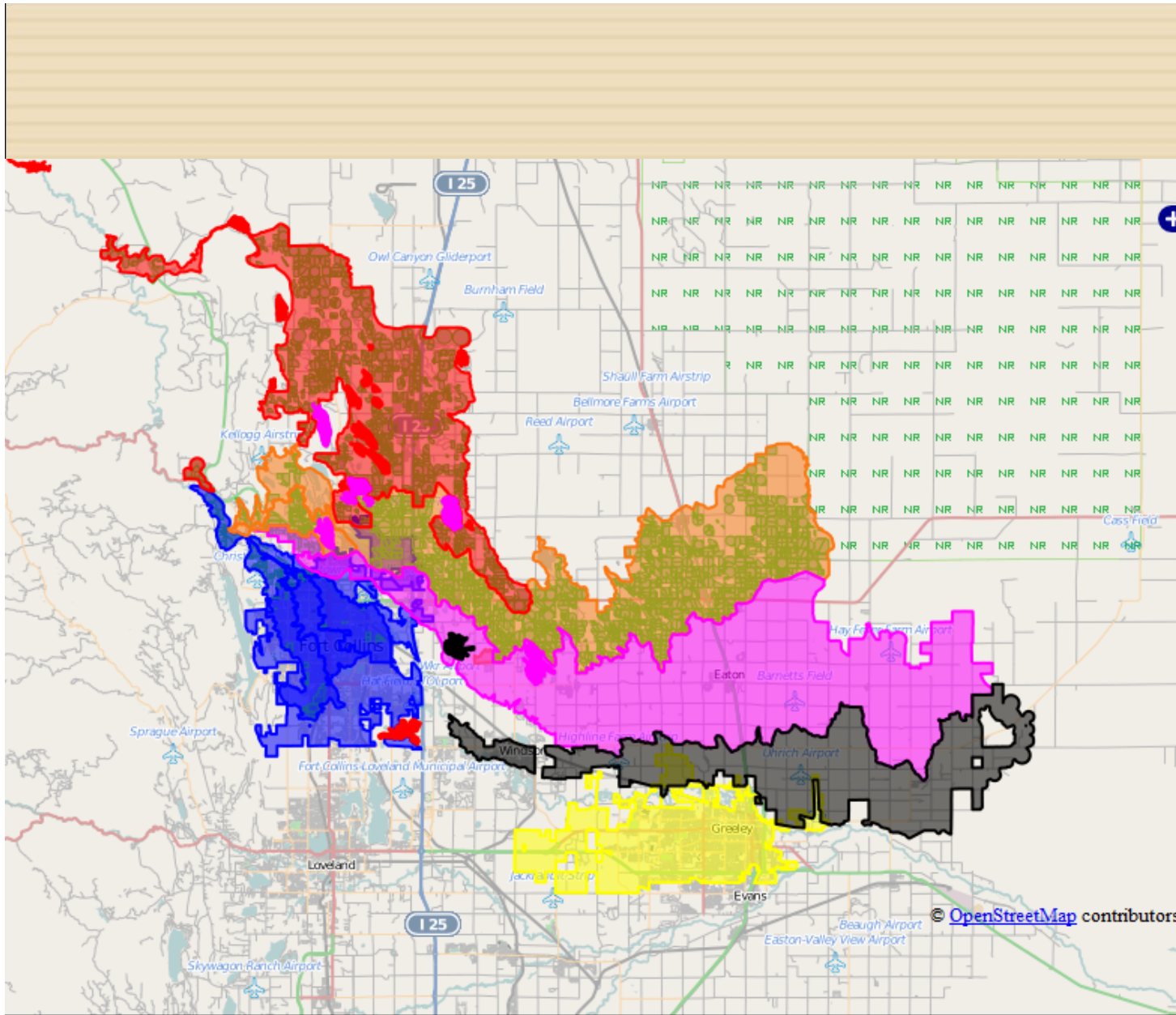
Larimer
Co

Weld Co

- ALFALFA
- CORN GRAIN
- DRY BEANS
- GRAPES
- GRASS PASTURE
- ORCHARD WITH COVER
- ORCHARD W/O COVER
- POTATOES
- SMALL GRAINS
- SOD FARM
- SUNFLOWER
- VEGETABLES
- WHEAT

Site maintained by the Colorado Division of Water Resources, last modified 12/17/2007

0 11 mi



Click the + sign to toggle which layers are

Fort Collins



Greeley

North Poudre Irrigation Company

Larimer-Weld Irrigation Company

Water Supply and Storage Company

New Cache la Poudre Irrigation Company

Irrigated lands

Agriculture to Urban Water Transfers

- ❑ Originally 85 % of the CBT Water was allocated to and owned by agriculture
- ❑ Currently, only 34% of CBT water is owned by agriculture

-
- ❑ For example, 72% of the 10,000 shares of the North Poudre Irrigation Company stock is now owned by cities and water districts (Ft. Collins Has 35.5%, Tri- Districts about the same)

Changing the Way we Think About the Water Used by Agriculture

- At 80%, ag is using more than their share
- Water transferred from ag will be a main source of base supply for urban use
- “Buy and dry” is necessary for having a secure urban supply
- We can import food and fiber from elsewhere
- Much of this water returns to urban areas as milk, meat, grain, vegetables
- Water sharing with ag can provide drought year firming without permanent transfer
- We can develop secure long term agreements for water sharing
- Be local, buy local, food security, food safety etc.

Benefits Provided by the Irrigated Landscape

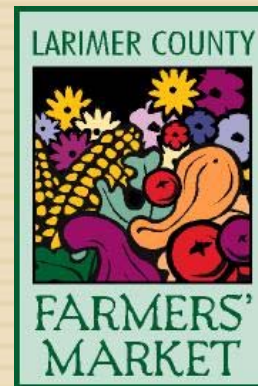


- **Locally-grown food/fiber**
- **Open space**
- **Community separators**
- **Wildlife habitat**
- **Robust economic activity**
- **Potential for water sharing**
- **Ground water recharge**
- **Flood surge control**
- **Boating flows in July/Aug**
- **Agricultural tourism**

Local Food Supplies are in Greater Demand

Rapidly growing interest in:

- ❑ Farmers' markets
- ❑ Community-supported ag (CSAs)
- ❑ Knowing where food comes from
- ❑ Knowing when food is safe
- ❑ Buying from within the region
- ❑ Reducing carbon footprint of food production & transport
- ❑ Direct sales are way up



Irrigated Agriculture in Larimer Co Produces a Wide Range of Crops

- ❑ Livestock, poultry,
- ❑ Dairy products
- ❑ Grains and forage
- ❑ Vegetables and fruit
- ❑ Landscaping and nursery stock
- ❑ Specialty crops, herbs, flowers



Larimer County Farms, Ranches Provide Open Space

- **Public-private entities have chosen to invest millions in open space**
 - **Yet most private land open space is provided free by ag**
 - **Farms and ranches without needed water are likely to be sold and subdivided**
- \$\$ It takes millions more to replace that lost open space**

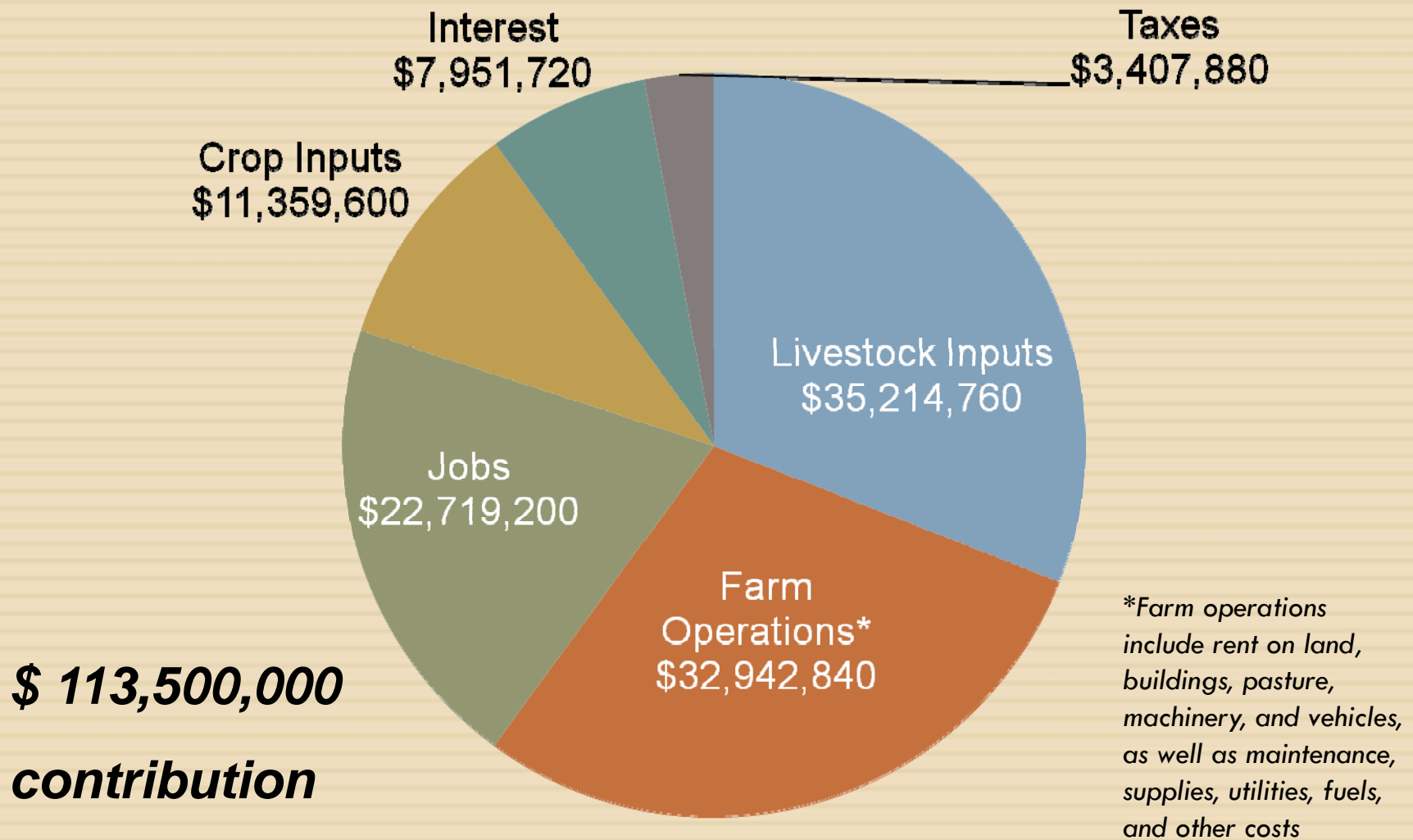


Irrigated Ag Provides Wildlife Habitat

- Removing water from ag removes habitat across a large landscape
- Migratory waterfowl depend on the combination of irrigation reservoirs, wetlands and nearby crops



Larimer County Production Expenses from 2007 USDA Census of Agriculture





95% of all farms in Larimer County are family owned and provide us with a knowledge base that crosses generations



Irrigated farmscapes are reservoirs

They can provide water in dry years if water-sharing agreements are developed

Site Specific Partnerships: initial ideas

Irrigators can forgo some rental water and trade or lease some owned water to urban areas in drought years ...

... in return, they would want to be able to count on stable decrees for ag water, and on rental water for full production in normal years



... We can also develop and share “conserved water”

Basin Working Group: Members and Funding

- **Irrigation companies:** North Poudre, Larimer Weld System, Water Supply and Storage, (New Cache 2014)
- **Water Utilities:** City of Fort Collins Water Utility, City of Greeley Water & Sewer, Tri-Districts, West Fort Collins, (Northern Water 2014)
- **Consultants:** Open Water Fdn. (data base), Lawrence, Jones, Custer and Grasmick Law Firm (legal agreements), CSU Human Dimensions of Natural Resources Dept.(surveys)
- **Facilitation:** CSU Colorado Water Institute
- **Funding:** Colorado Water Conservation Board – interested in alternative transfer methods to buy and dry

Problems are We Trying to Address Together

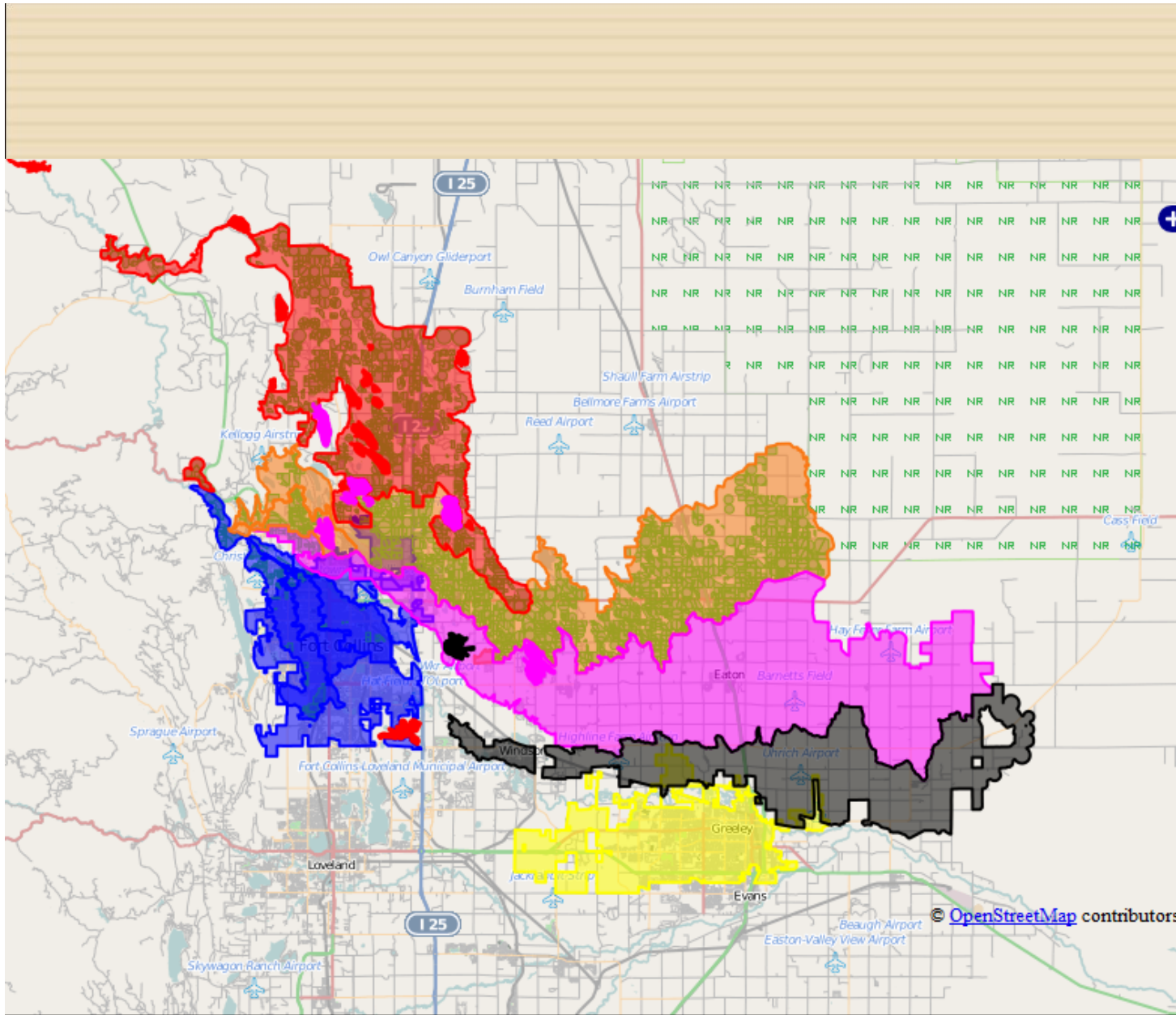
Water Utilities:

- Need for water supply security during drought, drought recovery, flood, fire, infrastructure repair or other unforeseen problems
- Need for additional storage
- Need additional raw water to meet future demands

Irrigated Agriculture:

- Many wish to minimize permanent transfers from ag to urban ownership (“buy and dry”)
- Instead, look for alternative transfer mechanisms for sharing water with utilities (ATMs)
- Hope to achieve more rental water security (especially NP irrigators)

Both: We want to keep Poudre River water in the Poudre Basin



Click the + sign to toggle which layers are

Fort Collins



Greeley

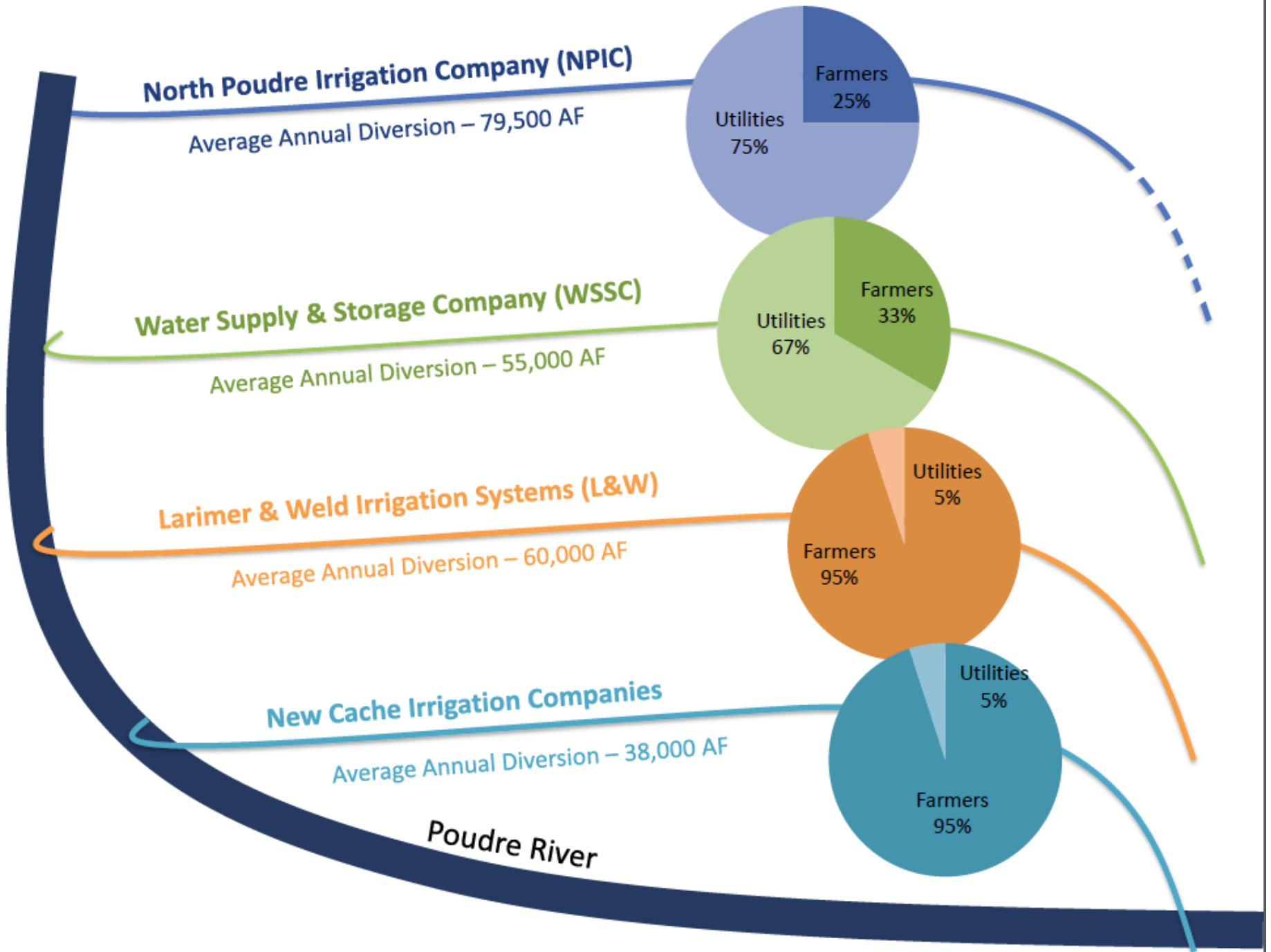
North Poudre Irrigation Company

Larimer-Weld Irrigation Company

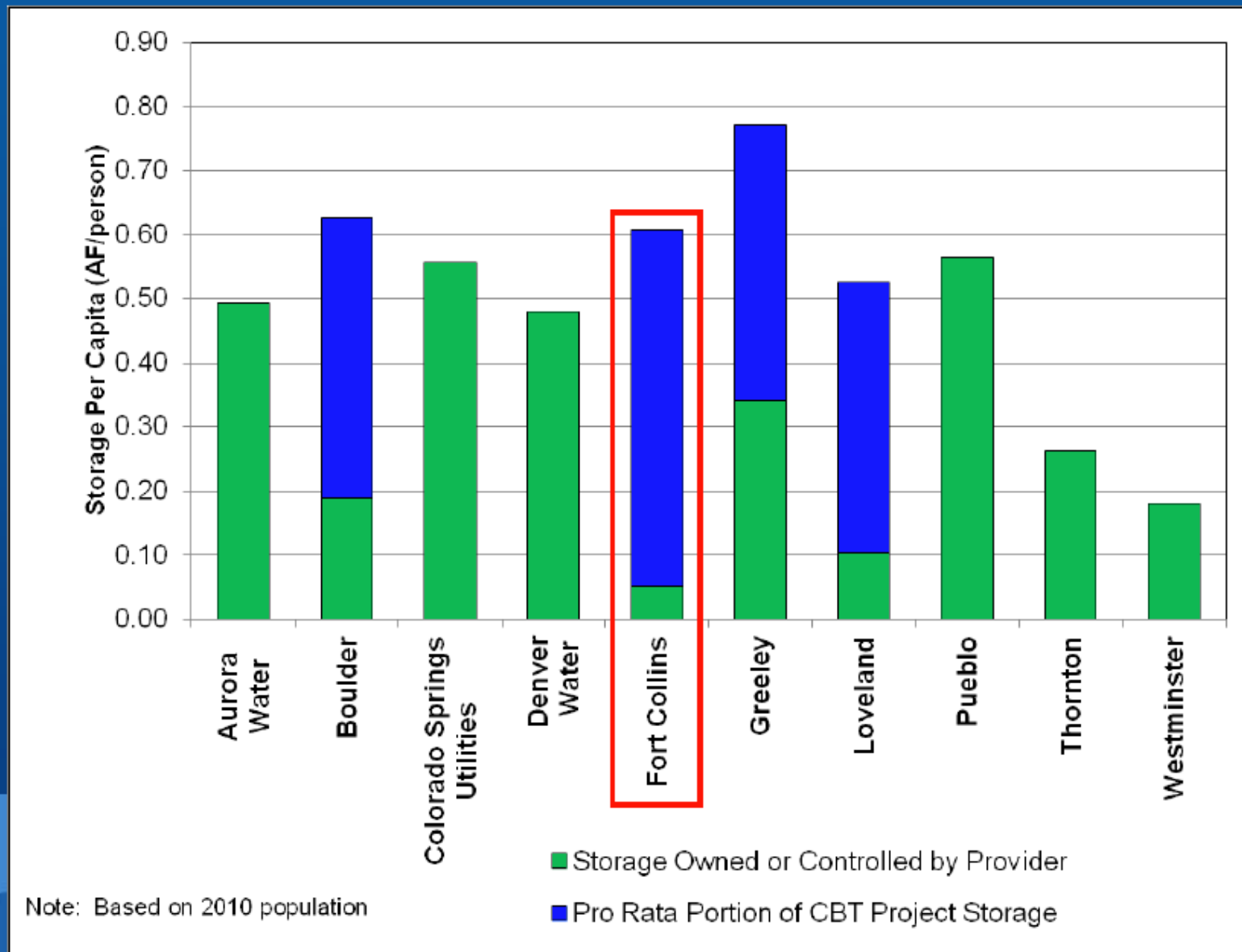
Water Supply and Storage Company

New Cache la Poudre Irrigation Company

Irrigated lands



Storage per Capita Comparison



Why are Alternative Transfer Mechanisms Important?

- ❑ “Buy and Dry” is increasingly seen as unsustainable: (by the CWCB, Inter-basin Compact Committee, Basin Roundtables, Western Governors Assn., county advisory boards & many other groups.
- ❑ Agriculture is a key economic driver that supports local communities and links regions across the State
- ❑ People need water and food. There is increasing concern about supporting local agriculture, long-term food security & sustainability.
- ❑ Irrigated ag provides many other benefits
- ❑ Colorado Legislature has passed several laws to facilitate water sharing and the Governor wants a State Water Plan that includes water sharing

Types of Water Sharing/Trading Being Discussed by the Working Group*

- **Water Swaps** – trading multiple-use water (CBT) owned by irrigators for agricultural water owned by a utility
- **Short Term Leases** – ag water shares used for urban water supply in response to a crisis
- **Interruptible Supply Agreements** – longer term contracts to help utilities meet drought firming and recovery, emergencies, or to enable utilities to use ag water they own

Water Swaps, Trading

- 2013 successful example, NP Irrigators traded CBT water to Fort Collins for Ag/River Water (drought, fire, flood & water quality issues)
- Swaps are best done with trans-basin (foreign) water that has no return flow requirements (like NP shares)
- No water court or state approval required
- Irrigators get more water than they give as an incentive
- Could be done via longer-term agreements to provide more certainty for both parties

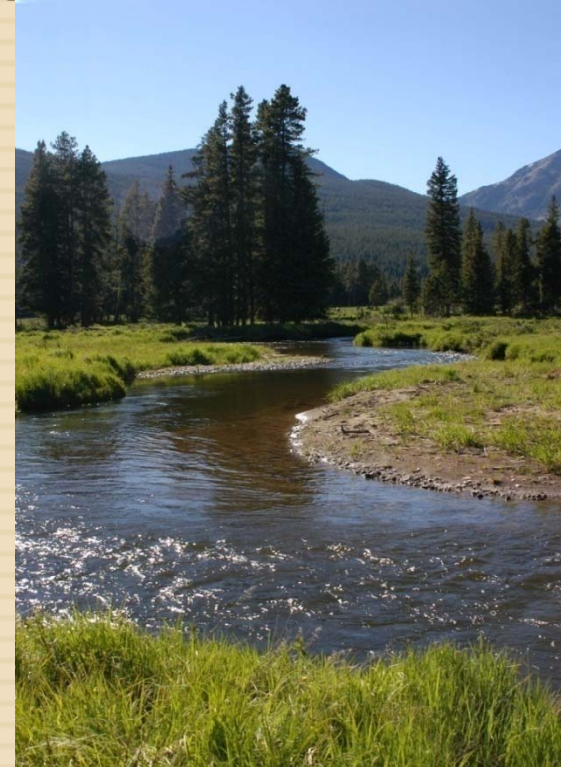
Short Term Leases

- Unexpected events (infrastructure failure, natural disasters, construction, water court delays etc.) can create short term need for water utilities (ie 2002, 2003, 2013)
- Those owning water with agricultural decrees can lease water for payment via short-term agreement.
- Substitute Water Supply Plan (administrative approval) is used (CRS 37-92-308)
- Basin-wide collaboration can anticipate and ensure reasonable pricing

Interruptible Supply Agreements

- **Standard** = Longer – term lease agreements, multi-year duration
- Limited water delivered to utilities and return flows provided during drought, drought recovery (CRS 37-92-309)
- Water made available via fallowing, deficit irrigation or planting drought tolerant crops to reduce consumptive use (on marginal lands etc)
- Incentives could combine payment, rental water guarantee during normal years
- **Variation** = irrigators enable utilities to use ag water they own by foregoing rental water, providing dry up (cover cropping) and return flow recharge areas

Partnerships: Ag, Open Space. Utilities?



Sustainability requires collaboration and thinking about the long-term together

Understanding perceptions of irrigators and water providers is a next step

- Most water sharing agreements would be between individual irrigators/shareholders and water utilities
- Individual or entity evaluation of sharing mechanisms
- Likelihood of participation in water sharing - what type
- Characteristics of farming operations/irrigation entity
- Survey being done by CSU -on-line and paper formats with shareholders and focus groups with water providers



The
POUDRE
Water Sharing Working Group

Potential Outcomes of Working Group in 2014

- Clear descriptions of water sharing mechanisms
- Perceptions of irrigators/shareholders/utilities
- Prototype agreements for each type of sharing
- An improved basin-wide data base to enable future collaboration

And beyond

- Pilot projects New partnerships “buy and supply”
- Future discussions/funding for sharing infrastructure, sharing storage, water banking, addressing multiple values being raised by other groups

Thank You. Questions?

