Statement of Colorado Agriculture Commissioner John Stulp
Before the House Committee on Natural Resources
Subcommittee on Water and Power
University Center, University of Northern Colorado
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Madam Chair, and Committee Members:

I am Colorado Agriculture Commissioner John Stulp. Welcome to Colorado! It is an honor and a pleasure to appear before this committee to discuss this issue that is so important to Colorado and to the Western United States.

Madam Chair, it is appropriate that you chose Greeley for the site of this hearing because Weld County and the communities along the South Platte River depend heavily on irrigated agriculture. Weld County produces over $1.5 billion of agricultural commodities. Within the county's borders are grown 14 million bushels of corn and a quarter of a million tons of sugar beets, a host of vegetables and other field crops, and this is home to 73,000 milk cows and over a half million beef animals.

Only 14 inches of precipitation falls on Weld County in an average year. For that reason, Colorado's pioneer families constructed a fabulous system of dams, irrigation canals, laterals and ditches to deliver additional water to farms along the valley floor. There are about a million acres of cropland in Weld County, and this irrigation infrastructure serves fully one third of those acres. That explains the enormous productivity of Weld County agriculture.

Water Conservation

Colorado is home to over five million people, and 80 percent of them live along the east slope of the Rocky Mountains, what we call the Front Range, which extends from Fort Collins just north of here to Pueblo, 175 miles to the south. Denver is situated about in the middle. Demographers expect that population growth will most likely be concentrated along the Front Range, mostly in the South Platte Basin. Estimates are that

another two million people may be in Colorado in the year 2030. With so much irrigation water in the South Platte River system, it is inevitable that some of that water will be used for landscape and in-home uses in the future. The huge question facing Colorado is, "How much irrigated agriculture can we save and still accommodate a growing population?"

You will hear more about the possible alternatives to "Buy and Dry" that have been thought about, and some have been developed or are pilot projects. These alternatives include:

- water banking where farmers dedicate a portion of their irrigation water to a pool from which cities can draw in times of short water supplies;
- rotational fallowing where farmers sell or lease long term a portion of their irrigation supply to cities and rotate the "dried" portion of their farm from field to field to maintain soil tilth and proper soil chemistry;
- interruptible water supply agreements in which a farmer commits all or a portion of their water supply to a city for use in times of short supply in return for a financial payment.

There are other ideas and any number of permutations of the above. The common theme is that irrigated agriculture would continue to exist in a region where urban areas are growing.

Population growth is the principal demand on east slope irrigation water, but there are others. Additional in-stream flows for fish habitat and kayaking are also competing for water. Growing demand for electricity can increase demand for water as well.

Not all these new demands need to be met by drying irrigated agriculture. We are working to conserve water used on landscape and in the home through water use education programs, water conserving devices, and xeric landscapes. The extreme drought we saw beginning in 1999 and culminating in the disastrous drought of 2002

helped bring the need to change water-use habits into clear focus. More can be done, of course, but we are making progress.

Undoubtedly, reducing per capita water consumption through water saving appliances and fixtures, reduced landscape watering, and improvements to the water infrastructure (repairing leaking water pipes) will reduce urban demand for irrigation water. But there is a perception that future urban needs can be met if only farmers would practice water conservation as well. It certainly seems logical that lining ditches to avoid seepage, reducing water runoff, etc. would free water for urban needs.

However, while there are opportunities for water conservation in agriculture, the efforts will not produce significant amounts of water because of the uniqueness of Colorado water law as well as physical factors. Colorado water law dictates that the owner of a water right has rights to only that amount of water that is consumed by a beneficial use. In agriculture, the plant or the cow consumes the water necessary to produce an ear of corn or a pound of beef. Any other water must be returned to the system for the next downstream priority user.

Likewise, if a water right owner decides to sell his or her irrigation rights to a city, the only water that he can sell is that which is actually consumed by the corn or hay. He cannot sell all the water that is diverted because a portion of that water is returned to the hydrologic system as either runoff or water that seeps into the aquifer. In addition, if a farmer adopts a more efficient method of irrigation that reduces runoff or seepage, that farmer cannot sell the conserved water because he is not entitled to more than the beneficial historical consumptive use.

Protect Irrigated Farmland

All this is to say that agricultural water conservation cannot satisfy future urban demands. Only by growing more crops that use less water or by growing fewer bushels of corn can agricultural water conservation meet growth demands. It is inevitable that water for

future urban growth must come from agriculture or another existing use. Unless profits from agriculture rise substantially in the future, the modest margins earned by farmers will never match the ability of cities to outbid agriculture.

The same is true for farmland. But while there are many programs in Colorado and throughout the nation to preserve farmland in perpetuity, I am aware of only a few efforts to place a conservation easement on agricultural water. I would propose that future purchases of perpetual conservation easements on irrigated farmland require a concomitant easement or assurance that irrigation water be preserved for that use as well. Madam Chair, I would urge that federal farmland protection programs allow for or even require the purchase of irrigation water whenever a conservation easement is purchased on an irrigated farm.

Wildlife Habitat

Until the development of irrigation projects in Colorado, the only wetlands that existed in the state were those that were naturally created along river bottoms, intermittent streams and high mountain valleys.

With the advent of surface irrigation came runoff pools at the base of farmlands. And as irrigation water percolated below irrigated acres, alluvial aquifers were repeatedly replenished and served as a source of additional summer water flows. Historical accounts of the South Platte Basin describe a river that dried up in the summer when the snowmelt from the mountains was over. These days, the river runs year-round because of the accretions that occur from groundwater moving toward the river.

It stands to reason that if irrigated agriculture in the basin is reduced substantially, the river will return to an intermittent stream at times of the year. The states of Nebraska, Wyoming and Colorado have forged an agreement to make sure that sufficient water remains in the river to support fragile populations of piping plover, whooping cranes and

pallid sturgeon in the lower reaches. This agreement would not be possible without a year-round flowing river.

Climate Change

The threats to Colorado's irrigated agricultural economy are only heightened by the specter of a drier, hotter climate in the future. In Colorado, we are concerned about a shorter, warmer winter because it will endanger our ski industry and because lower snowpack means less runoff which, of course, means less water to fill reservoirs and more reliance on precipitation as rainfall, rather than runoff.

Reduced runoff and early runoff poses particular problems for irrigated agriculture. In the spring, rains are more likely, and reliance on irrigation is somewhat reduced. But if all the runoff occurs when farmers don't need it, the importance of water storage is obvious. We have considered how to store more runoff, and I am intrigued by the possibility of utilizing underground storage. Storing water underground reduces the potential for water-based recreation, but it also eliminates water loss due to evaporation.

Madam Chair, I call on your subcommittee to consider additional ways to store water in the West in such manners as to not imperil the environment or wildlife. I suggest more attention be given to underground storage and that additional research be conducted on how to "impound" this water to assure proper ownership and recovery.

Continued Development of Technology

The late Norman Borlaug, the father of the Green Revolution, predicted that the world's farmers will have to produce as much food in the next 50 years as was produced in the previous 10,000 years. To meet that challenge, the world's farmers will need access to all the technology science can deliver. Among that technology is the potential of crops that tolerate stress, drought and salinity along with other adaptive management efforts to deal with climate change.

Technology can also help us better manage our irrigation resources. We can learn much from the Australians who have adapted to the realities of prolonged drought. They have developed so-called SCADA technology to help deliver scarce water to thirsty crops. SCADA stands for Supervisory Control and Data Acquisition; this technology controls canal and lateral head gates for precise water measurement and on-demand delivery technology.

Conclusion

Madam Chair, You and I know that the surest method for protecting farmland and irrigation supplies is increased profitability in agriculture. But absent market forces that steer resources into food production, we must develop other incentives to keep land and water for food production. Some of these incentives currently exist, but others are necessary if we are to meet the challenge identified by Dr. Borlaug.

I would be remiss if I did not point out the need for more rural jobs to help smaller commercial farms with off-farm employment opportunities. Such off-farm jobs supply needed cash flow during periods of low commodity prices, crop failure or enhanced income certainty. Quality rural jobs are difficult to find in normal economic times; one can only imagine how difficult it is now in this current economy.

I appreciate the efforts of this subcommittee to bring about public policies that support and affirm the future of irrigated agriculture. Thank you again for this opportunity to share my thoughts.