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Resolving Water Use Conflicts by "Walking-in-the-Shoes" of Others: The Case of Tuttle Creek Lake

Robert Sheeder
University of Nebraska-Lincoln, rsheeder@bigred.unl.edu

GARY D. LYNNE
University of Nebraska-Lincoln, GLYNNE1@UNL.EDU

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Institute of Agriculture & Natural Resources
Department of Agricultural Economics
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Market Report	Yr Ago	4 Wks Ago	8/15/08
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	$90.17	$97.22	$99.63
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	136.14	112.84	*
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	119.10	108.15	116.36
Choice Boxed Beef, 600-750 lb. Carcass	144.39	170.77	164.26
Western Corn Belt Base Hog Price Carcass, Negotiated	67.12	77.47	85.98
Feeder Pigs, National Direct 50 lbs, FOB	58.20	24.77	50.49
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	72.37	82.28	93.75
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct	104.00	111.62	102.87
National Carcass Lamb Cutout, FOB	255.27	278.32	278.57
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	5.70	7.40	7.70
Corn, No. 2, Yellow Omaha, bu.	3.16	5.60	5.10
Soybeans, No. 1, Yellow Omaha, bu.	7.40	14.28	12.07
Grain Sorghum, No. 2, Yellow Dorchester, cwt.	5.05	9.23	7.71
Oats, No. 2, Heavy Minneapolis, MN , bu.	2.52	*	*
Feed			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	135.00	190.00	190.00
Alfalfa, Large Rounds, Good Platte Valley, ton.	85.00	77.50	77.50
Grass Hay, Large Rounds, Premium Nebraska, ton.	*	*	85.00
Dried Distillers Grains, 10% Moisture, Nebraska Average.	*	179.00	170.00
Wet Distillers Grains, 65-70% Moisture, Nebraska Average.	40.25	65.25	57.00

***No Market**

In Nebraska, surface water is most typically used for irrigation and recreation. Yet these same rivers and streams also sometimes provide valuable drinking water, both locally and in communities downstream in other states, especially in Kansas. Given the role that both ground and surface water play in sustaining and shaping the Nebraska way of life, it perhaps comes as no surprise that conflict and controversy often mar any attempt to regulate behaviors or change property rights in regard to the uses of this water. This is clearly evident in the case of the Republican River Compact, a case in which Kansas contends that Nebraska has failed to send enough water downstream in accordance with the orders of that compact.

While the conflict between Nebraska and Kansas over the Republican River rages on, a potential new disagreement may be starting to emerge between the two states regarding a different watershed. Namely, stake-holders in both Nebraska and Kansas are beginning to vocalize concerns over uses of the Big Blue River Watershed. Unlike the water *quantity* dispute over the Republican River, the emerging disagreement over the Blue River Watershed is mostly focused upon water *quality* concerns, albeit these issues are intertwined. At the center of this dispute is Tuttle Creek Lake, a reservoir created by a U.S. Army Corp of Engineer dam on the Big Blue River near Manhattan, Kansas. The concern is over the adequacy of the lake for providing water to users further downstream in places like Lawrence, Kansas and Kansas City.

The historical presumption in the watershed has been that farmers and others living upstream of Tuttle Creek Lake, in both Nebraska and Kansas, have had the privilege to allow chemicals and sediments to enter into rivers and streams that feed the lake. Upstream users have not been required to be concerned with downstream water users' rights to clean water. In effect, the downstream water users historically had essentially no rights other than to accept substandard water quality, although the Federal Clean Water Act and various state legislative actions have been slowly changing this situation.

In fact, Tuttle Creek Lake is currently on the Clean Water Act Section 303(d) list as impaired for siltation, eutrophication, atrazine and alachlor. Substantive loads of suspended solids and nutrients enter the lake during spring and summer storm events, and excessive siltation has impacted the upper third of the

reservoir's conservation pool. Recent estimates have shown that siltation has reduced the volume of the reservoir's conservation pool by 30 to 50 percent, pointing to the intricate relationship between water quality and water quantity. There are also several observations during the period of record where atrazine concentrations in Tuttle Creek Lake exceeded both the aquatic life and public drinking water standards of 3 µg/L as mandated by the Clean Water Act. Observations of the lake also show nitrogen and phosphorous levels to be quite high at the deep water site, which potentially leads to eutrophication.

Obviously, the emerging conflict between upstream agricultural producers and downstream water users has not yet reached the same level as the dispute over the Republican River. So if we begin to work toward a solution to the dispute now, it is possible that the conflict can be resolved without mandates and regulation from state and/or federal government, and without lawsuits. The key to this type of agreement will be the extent to which empathy ("walking-in-the-shoes" of others) and sympathy (asking "how would I wish to be treated if I were in their shoes" and then evolving a shared unity with a shared vision for a better lake) by both upstream and downstream water users is conditioning both economic and community choices. In other words, is there a sufficiently large shared other-interest in greater amounts of higher quality water in the lake? We can reasonably expect such shared interests would work to temper the individual self-interest by inhabitants in the watershed, leading to a willingness by both sides to give a bit and compromise in potential negotiations.

As part of a survey regarding the motivations of farmer soil and chemical management behavior, farm operators in Gage and Jefferson Counties in Nebraska, and Marshall and Washington Counties in Kansas, were asked to answer several agree/disagree questions. They measured an individual's capacity and willingness to empathize, as well as an individual's ability to be "in sympathy with" a shared vision and goals with downstream water users about the quality and quantity of the water in the lake. Both measures were scored using a seven-point scale, with scores of one indicating tendencies that are least empathetic/sympathetic, and scores of seven indicating tendencies that are most empathetic/sympathetic. Intriguingly, we found the mean empathy score of the region to be 5.06 units with a standard deviation of 0.80 units, while the mean sympathy score of the region was 4.74 units with a standard deviation of 1.08 units (see figures below). So given the results of the empathy and sympathy measures in the region, we found support for the idea that farmers are willing to walk in the shoes of those downstream and perhaps buy into a shared vision of the lake as a potable water source for areas in Kansas.

Given the relatively high empathy and sympathy scores that were observed in the region upstream from Tuttle Creek Lake, we can conclude that a long, drawn-out dispute over water quality in the Blue River and Tuttle Creek Lake could possibly be avoided. However, in order for this hypothesis to become a reality, we would also need to find a willingness from inhabitants of areas downstream to empathize and sympathize with the plight of the upstream farmer. Unfortunately, we have no data at this time that can either confirm or reject that residents downstream of Tuttle Creek Lake have the willingness to empathize and/or sympathize with farmers upstream of the lake. Also, ways would have to be found to bring all parties to the common ground represented in a shared vision for the lake. Ultimately, though, it does appear that there is potential for a peaceful resolution of the water quality and quanity conflict emerging in the Blue River/Tuttle Creek Lake Watershed.

Robert Sheeder, (402) 472-9143
Graduate Research Assistant
Department of Agricultural Economics
University of Nebraska–Lincoln
rsheeder@bigred.unl.edu

Gary D. Lynne, (402) 472-8281
Professor
Department of Agricultural Economics
University of Nebraska–Lincoln
glynne1@unl.edu