

Update on Vegetation Clearing and Control Costs on the Republican Congressman Tom Osborne

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This is a follow up to our phone conversation of January 25, 2006. As I indicated in our phone call I have been putting together information about the costs of clearing woody riparian vegetation in the Republican basin. I have also developed some rough numbers on evapotranspiration savings as well as woody acreage estimates.

I visited with a number of habitat managers on the Platte and received fairly consistent information; costs for clearing vegetation can be grouped into three main categories.

- large growth heavily forested
- thick brush (including willows)
- salt cedar and phragmites

The large growth is obviously the most expensive to clear costing in the range of \$800 to \$900 per acre. Brush clearing costs in the range of \$300 to \$400 per acre to clear. Salt cedar and phragmites, when chemically controlled, runs about \$200 to \$300 per acre. Experiments have been done harvesting the trees for lumber, however none of the operations on the Platte currently use this method. It's generally thought to be too expensive compared to mechanical removal and burning. Some interest exists in the basin to set up a portable logging operation.

This could provide some economic development for the valley and may be worth pursuing if the costs are no greater than mechanical removal.

I have been told by a number of people that the problems of salt cedar and phragmites have been overstated in the Republican basin, while the problem of Russian olive and common red cedar have been understated. My personal observations would tend to put me in agreement with these claims. Clearly all of these invasive species have a foothold and will create new demands on water if allowed to propagate.

Once the ground is cleared it must be maintained free of regrowth. Virtually all operations in the Platte use some form of disking to maintain clear areas. Some chemical controls may be needed as well. Maintenance estimates ranged from a low of \$30 per acre for one pass with a disk to a high of \$90 for multiple passes or chemical control. My guess is budgeting \$60 per year should get the job done.

There may be some additional costs for these projects. If federal money is used, an environmental assessment would likely need to be done and estimates run from \$100,000 to \$150,000 for this. If an Environmental Impact Statement has to be done the cost could be over \$1,000,000.00. Anytime you work along the river 404 and sometimes 401 permits are needed, though these permits shouldn't be hard to get. Most of the land along the Republican River is privately owned, so the cost of getting landowner permission could be significant. One idea that has been thrown out is that the land owners could "buy" into the logging project by donating their land making them a partner. Unless there is an incentive, the cost of access to the river could be a major additional input.

The Republican basin area covered with woody vegetation was estimated at 50,000 acres by Rand in 1973. This number is not likely to have changed much in the past years as equilibrium seems to have been achieved. We would obviously not attempt to clear this many acres. It is reasonable to assume that we

would want to focus our efforts on the eastern most parts of the basin. Net yield would be highest and transportation losses would be lowest if our efforts were concentrated there.

Environmental issues would also likely force us to leave certain areas undisturbed so species that require woodlands could continue to survive. In short 15,000 acres of clearing would probably cover the lower 33% of the river. If we assume \$650 per acre average cost, that part of the river could be cleared for ~ \$10,000,000.00.

New, not yet published research was given to me on the evapotranspiration of cottonwoods. This shows that the net return from clearing ground is ~14 inches of water per acre per year. If we use this hopefully conservative figure we should save about 17,500 acre feet of water per year. This new data shows far less savings from previous research; however after talking to a number of people I feel it may be the most accurate data available. Using these numbers, the cost per acre foot would be \$571.43 for clearing and the annual cost per acre foot for maintenance would be \$51.43.

I hope you find that this information is useful. I know that the water users in the basin appreciate your efforts for them and I would like to add my thanks as well. I am working on a paper about the Cooperative Agreement and will forward it to you when finished.