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TO: Colorado Water Conservation Board Members
FROM: Steve Miller, Interstate, Federal & Water Information Section
DATE: November 19-20, 2014 Board Meeting
AGENDA ITEM: 7. Update on SB14-195 – Phreatophyte Studies

Background:
SB14-195 entitled "*Concerning a Study of Phreatophyte Growth Along the South Platte River in the Aftermath of the September 2013 Flood*", was signed into law on June 6, 2014. It directs the Board to:

> Conduct at least the preliminary stages of a comprehensive study to evaluate the growth and identification of phreatophytes along the South Platte River in the aftermath of the September 2013 flood. … The objectives of the study are:
> (i) to evaluate a portion of the watershed … that was affected by the … flood to determine the relationship between high groundwater and nonbeneficial consumptive use by phreatophytes; and
> (ii) utilizing the data compiled (in i) develop a cost analysis for the removal of unwanted phreatophytes along the South Platte River.

Funding for the study is to come from the Board's existing Phreatophyte Control Cost-sharing Program which currently has an unencumbered balance of approximately $280,000. About $100,000 of that balance has already been committed to additional control projects in the planning stages. The study final report is due to the General Assembly by December 31, 2016, with a progress report due to the House and Senate Natural Resource Committees during the 2016 session.

Plan of Study:
In April, 2014, Staff particiapted in preparation of the fiscal note for SB14-195. In the fiscal note analysis, Staff made significant assumptions as to the level of detail and scope of the study required under the bill. A summary of the tasks envisioned at that time is attached. Since passage of the bill, Staff has: 1) met with the Phreatophyte Subcommittee of the South Platte Basin Round Table; 2) discussed the study objectives with relevant departments at Colorado State University; 3) conferred with experts in CWCB's flood section; and, 4) contacted the State Weed Manager and the Tamarisk Coalition. At this time, Staff thinks that a more abbreviated and cost-effective set of tasks will meet all of the study objectives. Much of the anticipated field work was either unecessary or the data was available from other work in progress. While the bill speaks of phreatophytes in general, the study must focus on woody, invasive phreatophytes, in particular tamarisk and Russian olive, since those species represent the only realistic control opportunities. In addition, timely completion of the cost analysis section is extremely important so that funding can be secured and work can begin on the actual control work needed to address invasive phreatophyte issues in the basin. Staff is in the process of refining a final plan of study and budget so the study can get under way early next year.

Staff recommendation: This item is informational only. As always, Staff seeks comments and suggestions from the Board.

SB14-195 Fiscal Note Tasks	
Task description	**Est. Cost**
1. Evaluate a portion of the watershed along the South Platte River that was affected by the September 2013 flood to determine the relationship between high groundwater and non-beneficial consumptive use by phreatophytes.	
1a. Complete a literature review regarding flood hydrology and its impact on invasive phreatophyte spread and establishment.	$5,347
1b. Assemble existing data from non-study sources on groundwater elevation changes due to flooding	$5,347
1c. Create GIS layers of water table information and 2013 flood inundation, and using existing research, identify likely areas of new phreatophyte establishment	$8,467
1d. In consultation with local weed control agencies, select 20 sites of approximately 10 acres each for intensive field assessment of new phreatophyte growth. Install shallow groundwater monitoring wells at each site.	$75,773
1e. Analyze site information to determine short- and long-term effects of high water tables and inundation on the spread of invasive phreatophytes.	$10,695
2. Utilize compiled data to develop a cost analysis for the removal of unwanted phreatophytes along the South Platte River.	
2a. Present findings to local communities and land owners to assess interest levels for phreatophyte removal.	$5,126
2b. Improve the existing inventory of phreatophyte coverage using existing aerial and satellite images. Perform sufficient ground truthing (collect data in the field to compare with satellite images) to assure 80-90% accuracy. Create GIS layers showing phreatophyte density and land ownership as public or private.	$12,925
2c. Determine the most effective phreatophyte control strategies and costs for three to five categories of stand density, location, and land ownership.	$2,674
2d. Design suitable re-vegetation standards and costs.	$1,337
2e. Using updated inventory data, develop control project costs by county or watershed reach.	$2,674
TOTAL	**$130,365**