

Vegetation Monitoring Report – Pre-treatment

Greater Rio Grande Watershed Alliance

Valencia SWCD Project Site

Willie Chavez Park South - Belen

September 2012

Background:

Vegetation monitoring was conducted at this site on January 12, 2012 as part of a restoration project targeting non-native phreatophytes scheduled for winter 2011 – 2012. The project is located within Valencia County, NM, east of the city of Belen (see Figure 1 below). It is on the west side of the Rio Grande, between the levee road and drain. The project was sponsored by the Valencia Soil and Water Conservation District. Restoration goals are to restore the area for wildlife use, address fire fuels and access concerns, and to remove non-native woody invasive plants. (Miller, 2008).

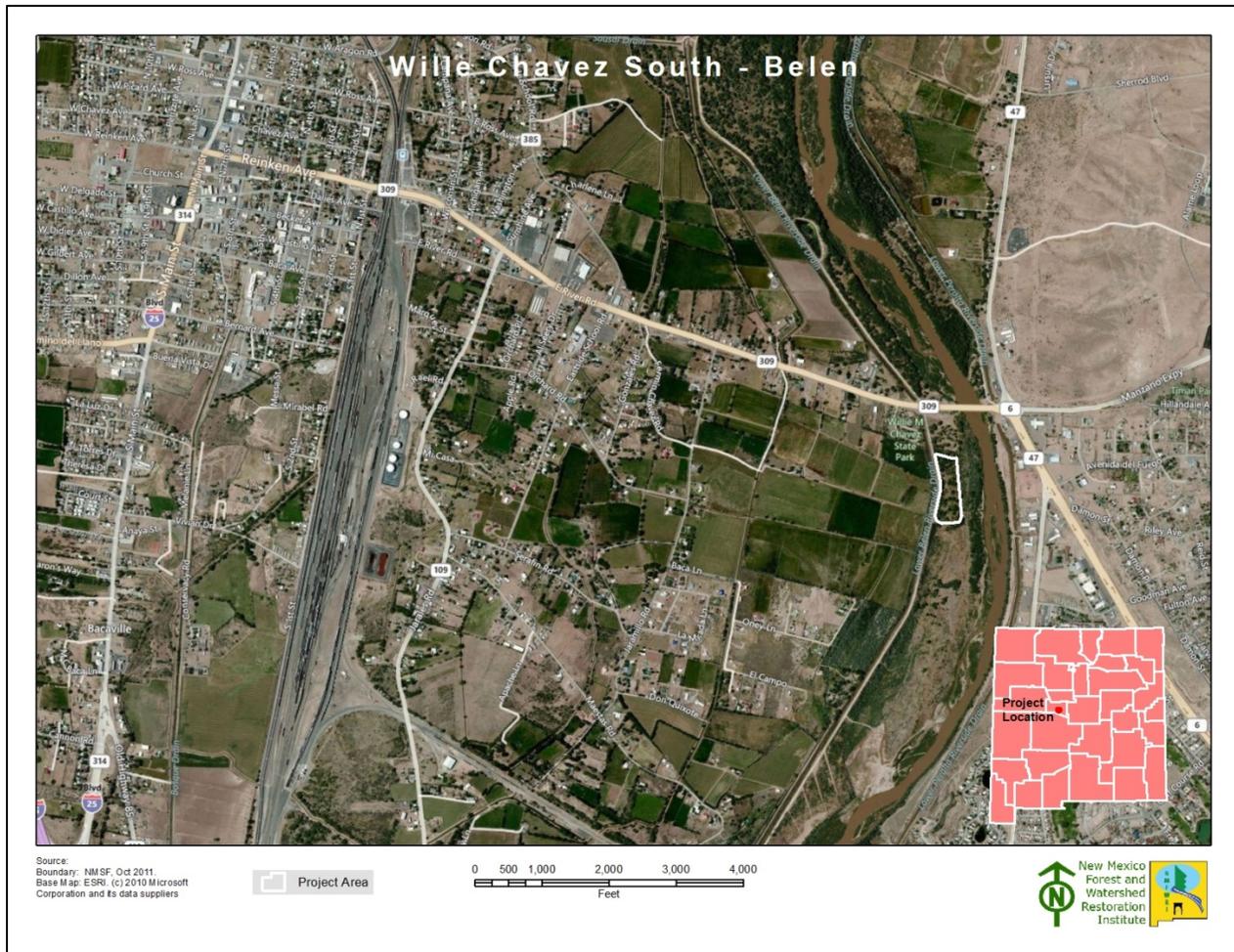


Figure 1. Project Location

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Monitoring team:

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Procedures:

Due to the short timeframe between project selection and implementation, only a narrow window was available to perform monitoring and that window was outside the optimum season for performing vegetation monitoring in this type of landscape. For that reason, a hasty monitoring protocol was developed. This protocol was based on placing photo point plots at locations distributed across the project area and representative of the diversity of the project area. In addition, an estimate of ground and canopy cover by percent within a 1/10 acre circular plot centered at the photo point was determined using ocular estimates. Overstory canopy was determined for a 1/10 acre circular area, also centered at the photo point. Finally, a Hink & Ohmart style vegetation structure assessment was performed. Vegetation species that were observed at each plot and in the project area were recorded. The plot size and density of observations limit the utility of this monitoring for describing overall site conditions or for generating any meaningful statistics.

Cover (%)											
Tree canopy	Seedlings/saplings <5'/5 - 15'		Shrubs		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil

Figure 2. Categories used for percent cover estimates.

A base map of the project location was constructed using project boundary data provided by New Mexico State Forestry. Planned photo points were selected by visual inspection of May 2011 true-color digital orthorectified aerial photography obtained from the United States Department of Agriculture (<http://datagateway.nrcs.usda.gov/>). A GIS file for the photo point plots was created using ArcGIS software. Coordinates were derived from the GIS file and loaded into a Garmin GPS 60 CSx Global Positioning System and a Trimble 2005 GeoXM Global Positioning System. The Garmin GPS was used to navigate to the general location of the planned photo point. The actual location of the photo point was determined by visual inspection of the area and selection was based on the ability to physically occupy a position at or near the planned point. The coordinates of the photo point were then collected using the more precise Trimble GeoXM GPS.

Once the plot location was determined, a 1/100 acre radius plot was established by placing pin-flags at 11' 9" from plot center in each cardinal direction. Photos were taken from plot center in each cardinal direction and from a distance north of plot center (66', where possible) toward plot center. Ocular estimates were made of understory canopy and

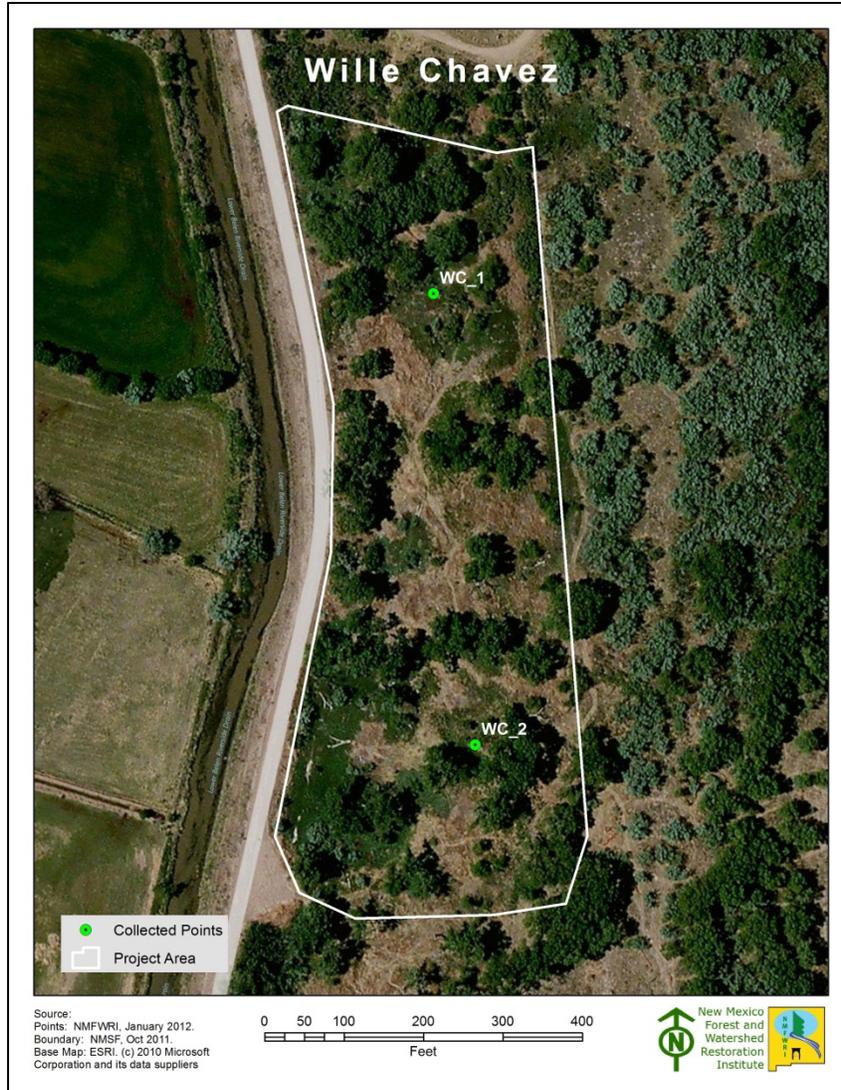


Figure 4. Close up view (pre-treatment) of project area showing plot locations.

PT_ID	Horz_Prec (meters)	Std_Dev	Northing	Easting	Longitude	Latitude
WC_1	1.1	0.000289	3835634	340621	-106.739116	34.6502534
WC_2	1.4	0.000505	3835460	340637	-106.738908	34.6486933

Northing and easting; NAD 1983 UTM Zone 13
 Longitude and Latitude: World Geodetic System 1984 (WGS 84)
 Data collected with Trimble GeoExplorer 2005 GeoXM, post-processed with Trimble Pathfinder Office software.

Figure 5. Plot coordinates.

Species observed:

Grasses		Forbs	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Distichlis spicata (L.) Greene</i>	Salt grass	<i>Anemopsis californica</i>	Yerba mansa

Shrubs		Trees	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Salix exigua</i> Nutt.	Coyote Willow	<i>Populus deltoides</i>	Cottonwood
		<i>Elaeagnus angustifolia</i>	Russian Olive
		<i>Tamarix Chinensis</i>	Salt Cedar
		<i>Salix gooddingii</i>	Goodding Willow

Figure 6. Species observed.

Conclusions and Recommendations:

Monitoring of this and other Greater Rio Grande Watershed Alliance project sites was constrained by time and resource availability. Due to these constraints, it was determined that the hasty method described in the Procedures section above would provide the minimum information necessary to determine the effectiveness of these treatments. Plot photos, in particular, will provide a good reference for assessing post treatment conditions. Monitoring crew members had limited skills in plant identification and Hink & Ohmart Structure Class determination. Vegetation identification was further complicated by the fact that most of the grasses and forbs were dormant. Despite these limitations, the monitoring adequately described the tree species variety and the overall site characteristics. Supplemental pre- and post- treatment photos are included in Horizon Environmental Services, Inc. Claunch-Pinto Soil and Water Conservation District Greater Rio Grande Watershed Alliance Riparian Restoration Projects Final Report, attached. This report also includes a description of the work accomplished and the methods used. Reports such as this should be required for all projects.

New, more robust monitoring protocols are being developed by the New Mexico Forest and Watershed Restoration Institute. These new protocols will be used for post-treatment monitoring and on future Greater Rio Grande Watershed Alliance projects. Monitoring crews will be provided training in the use of these new protocols. Future crews should also be provided with training in riparian plant identification and Hink & Ohmart structure class determination.

References:

Cartron, J.-L., D.C. Lightfoot, J.E. Mygatt, S.L. Brantley, and T.K. Lowrey. 2008. *A Field Guide to the Plants and Animals of the Middle Rio Grande Bosque*. University of New Mexico Press, Albuquerque.

Horizon Environmental Services, Inc. 2012. *Claunch-Pinto Soil and Water Conservation District Greater Rio Grande Watershed Alliance Riparian Restoration Projects Final Report*.

Miller, M and A. Luna. 2008. Valencia SWCD Bosque Restoration FY2011 Conservation Plan Addition: Belen South Reach (Part 2 of Implementation of Valencia SWCD Bosque Restoration Conservation Plan Start June 2008). Valencia Soil and Water Conservation District, Los Lunas, NM.

Miller, M and A. Luna. Undated. *Valencia SWCD Bosque Restoration FY2011 Conservation Plan: Los Lunas to Belen Reach*. Valencia Soil and Water Conservation District, Los Lunas, NM.

United States Department of Agriculture, Natural Resources Conservation Service. 2012. *Plants Database* (<http://plants.usda.gov>)

Project: Valencia SWCD
Project Unit: Willie Chavez South
Plot: WC_1

Date:	1/12/2012
Time:	1442
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 - 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
0	0	0	3	10	0	90	10	0	0	0	0

Hink & Ohmart Class: 5

Species observed:

Grasses	Forbs	Shrubs	Trees
	<i>Anemopsis californica</i>	<i>Salix exigua</i> Nutt	<i>Populus deltoides</i>
			<i>Elaeagnus angustifolia</i>

Comments:

None.

WC_1 Plot Photos



May 2011 Aerial View, Circle = 1/10 acre



Plot Center from North



Looking East from Plot Center



Looking South from Plot Center



Looking West from Plot Center



Looking North from Plot Center

Project: Valencia SWCD
Project Unit: Willie Chavez South
Plot: WC_2

Date:	1/12/2012
Time:	1458
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 - 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
25	0	0	0	1	4	25	70	1	0	0	0

Hink & Ohmart Class: 1

Species observed:

Grasses	Forbs	Shrubs	Trees
	<i>Anemopsis californica</i>	<i>Salix exigua Nutt</i>	<i>Populus deltoides</i>
			<i>Elaeagnus angustifolia</i>
			<i>Salix gooddingii</i>

Comments:

None.

WC_2 Plot Photos



May 2011 Aerial View, Circle = 1/10 acre



Plot Center from North



Looking East from Plot Center



Looking South from Plot Center



Looking West from Plot Center



Looking North from Plot Center

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