

Vegetation Monitoring Report – Pre-treatment

Greater Rio Grande Watershed Alliance

Valencia SWCD Project Site

Belen

August 2012

Background:

Vegetation monitoring was conducted at these sites on January 12 and February 7, 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). The sites are on the east side of the Rio Grande, between the drain and the river. The project was sponsored by the Valencia Soil and Water Conservation District. Restoration goals are to restore the area for wildlife use and to remove non-native woody invasive plants. (Miller, undated). Five sites were identified for treatment. Belen site 5 (B_5) was not surveyed due to schedule changes in the treatments. The site was treated before monitoring could occur.

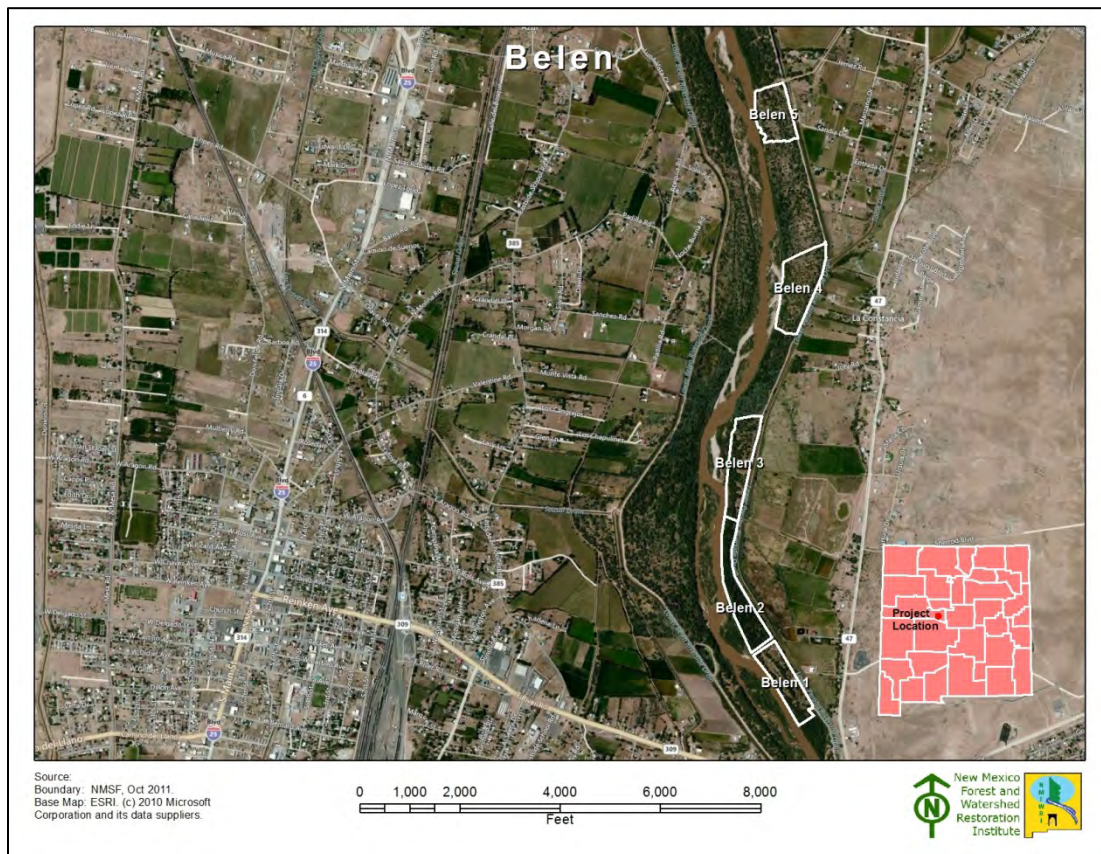


Figure 1. Project Locations

Persons contacted:

Charlie Lujan Valencia SWCD

Madeline Miller Valencia SWCD

2600 Palmilla Rd
Los Lunas, NM 87002
(505) 865-5807

Monitoring team:

Joe Zebrowski New Mexico Forest and Watershed Restoration Institute

Jill Wick New Mexico Department of Game and Fish (Sites B1 and B2)

Dave Lightfoot SWCA Environmental Consultants (Sites B3 and B4)

Cody Stropki SWCA Environmental Consultants (Sites B3 and B4)

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 ground cover within the 1/100 plot. Overstory canopy cover was estimated using a concave spherical densitometer, with measurements made in four cardinal directions, approximately mid-way between plot center and the edge of the 1/100 acre plot. This method provides an estimate of canopy cover for a 1/10 acre area centered on the plot. A Hink & Ohmart structure class determination was made using a worksheet developed by SWCA Environmental Consultants (see Figure 3 below). Finally, plant species observed within the 1/10 area around the plot were recorded, as were other comments document conditions at the plot.

Date: _____ Recorder: _____		UTM • E _____ N _____		Polygon ID _____ Waypoint _____		H&O Classification: _____	
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	TYPE 1	TYPE 2	TYPE 3	TYPE 4
40'				
35'				
30'				
25'				
20'				
15'				
10'				
5'				

SPECIES: A = False Indigobush ATX = Fourwing Saltbush B = Baccharis (seep willow) BD = Broom Dalea C = Cottonwood CAT = Cattail CR = Creosote CT = Catalpa CW = Coyote Willow HL = Honey Locust HMS = Honey Mesquite J = Juniper LC = New Mexico Locust LY = Wolfberry MB = Mulberry NMO = New Mexico Olive RO = Russian Olive SB = Silver Buffaloberry SBM = Screwbean Mesquite SC = Salt Cedar SE = Siberian Elm SS = Sand Sage TH = Tree of Heaven TS = Threeleaf Sumac TW = Tree Willow		TYPE 5	TYPE 6
	15'		
	10'		
	5'		

Figure 3. Hink & Ohmart Structural Class Worksheet (courtesy SWCA)

Bosque Ecological Monitoring Program Sites

Two Bosque Ecological Monitoring Program (BEMP) monitoring sites were located at the northern end of project area Belen 1 and the southern portion of project area Belen 2. These sites were likely disturbed during the treatment activity. Future GRGWA monitoring should strive to integrate BEMP monitoring into the overall project monitoring scheme.

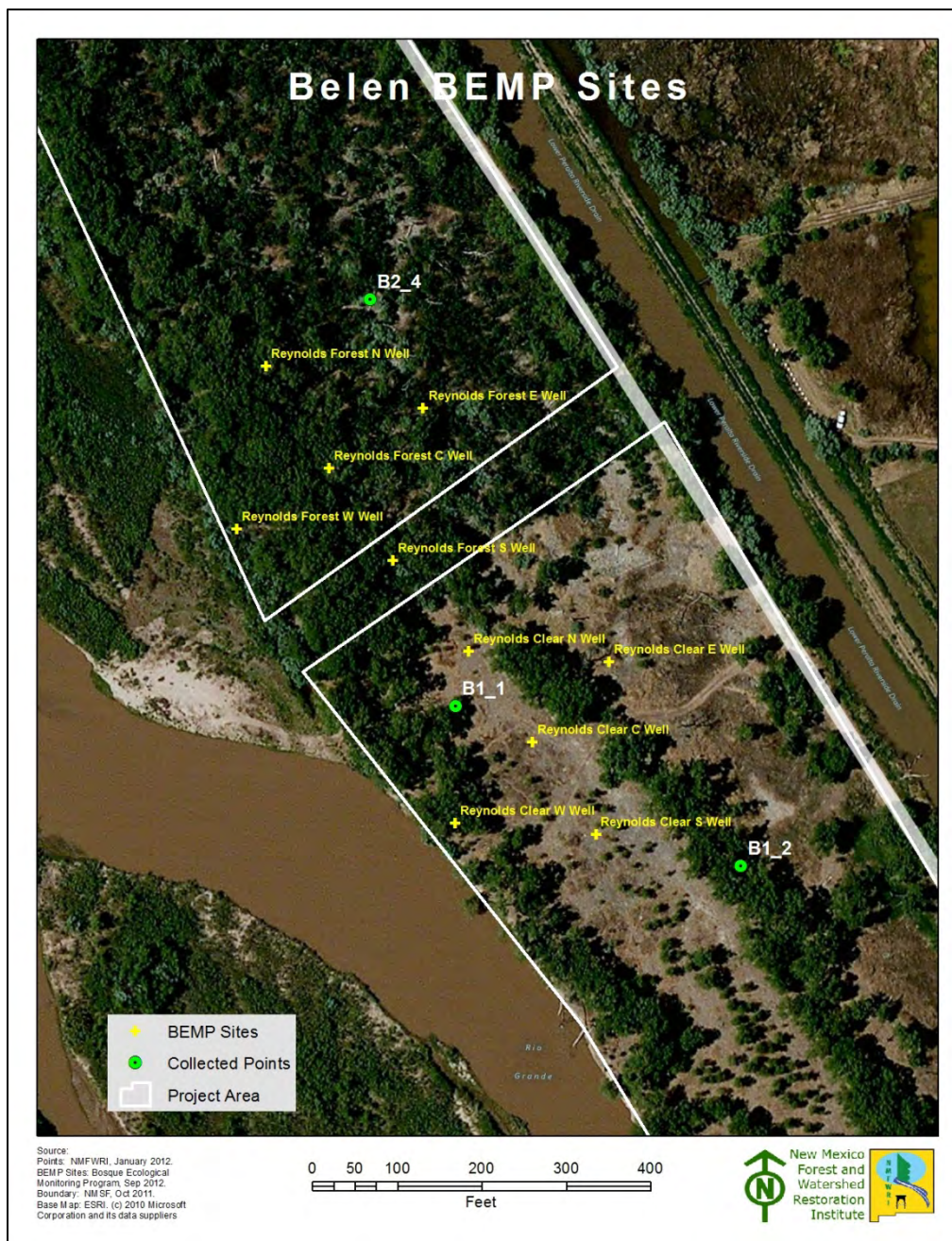


Figure 4. BEMP Sites.

Belen Site 1 Observations:

The project area is moderately to heavily wooded, with a light to moderately dense, multi-tiered understory. It had been treated in the mid-2000s. Much of the area consists of grassy openings. Since monitoring was done so late in the fall, sparse forb and grasses cover may be attributed to seasonal dormancy. The plots were assessed to fall in Hink & Ohmart Structure Classes 1, 2, and 6. Identification of forb, grasses and some shrub species was also impacted by the limited plant identification skills of the monitoring team and by the season.



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

PT_ID	Horz_Prec (meters)	Std_Dev	Northing	Easting	Longitude	Latitude
B1_1	1.4	0.000488	3836696	340336	-106.742437	34.659778
B1_2	2.9	0.000618	3836638	340439	-106.741300	34.659274
B1_3	2.1	0.001004	3836527	340473	-106.740908	34.658274
B1_4	2	0.000694	3836462	340557	-106.739974	34.657704
B1_5	1.9	0.000463	3836362	340561	-106.739917	34.656800
B1_6	1.7	0.000295	3836334	340605	-106.739435	34.656563
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.						

Plot coordinates.

Species observed:

Grasses		Forbs	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Sporobolus Wrightii</i>	Giant Sacaton	<i>Anemopsis californica</i>	Yerba mansa
		<i>Salsola tragus</i>	Russian Thistle

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>Forestiera neomexicana</i>	New Mexico Olive	<i>Elaeagnus angustifolia</i>	Russian Olive
		<i>Tamarix Chinensis</i>	Salt Cedar
		<i>Salix gooddingii</i>	Goodding Willow

Species observed.

Project: Valencia SWCD
Project Unit: Belen 1
Plot: B1_1

Date:	1/12/2012
Time:	0952
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5' / 5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
48	1	0	0	2	0	3	95	2	0	0	0

Hink & Ohmart Class: 2

Species observed:

Grasses	Forbs	Shrubs	Trees
			<i>Populus deltoides</i>

Comments:



B1_1 Plot Photos



2010 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: Belen 1
Plot: B1_2

Date:	1/12/2012
Time:	1012
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
79	0	0	0	0	0	10	89	1	0	0	0

Hink & Ohmart Class: 2

Species observed:

Grasses	Forbs	Shrubs	Trees
	<i>Anemopsis californica</i>		<i>Populus deltoides</i>

Comments:



B1_2 Plot Photos



2010 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: Belen 1
Plot: B1_3

Date:	1/12/2012
Time:	1032
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
59	0/5	0	0	0	0	2	96	2	0	0	0

Hink & Ohmart Class: 2

Species observed:

Grasses	Forbs	Shrubs	Trees
			<i>Populus deltoides</i>

Comments:

Large down woody debris, masticated/mulched material present.



B1_3 Plot Photos



2010 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: Belen 1
Plot: B1_4

Date:	1/12/2012
Time:	1048
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
26	0	0	0	0	0	95	5	0	0	0	0

Hink & Ohmart Class: 2/6

Species observed:

Grasses	Forbs	Shrubs	Trees
?	<i>Salsola tragus</i>	<i>Forestiera neomexicana</i>	<i>Salix gooddingii</i>

Comments:



B1_4 Plot Photos



2010 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: Belen 1
Plot: B1_5

Date:	1/12/2012
Time:	1107
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
85	0	0	2	8	5	3	91	1	0	0	0

Hink & Ohmart Class: 1

Species observed:

Grasses	Forbs	Shrubs	Trees
?		<i>Forestiera neomexicana</i>	<i>Populus deltoides</i>
			<i>Elaeagnus angustifolia</i>

Comments:



B1_5 Plot Photos



2010 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: Belen 1
Plot: B1_6

Date:	1/12/2012
Time:	1125
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
63	0	0	0	0	8	3	89	0	0	0	0

Hink & Ohmart Class: 1/2

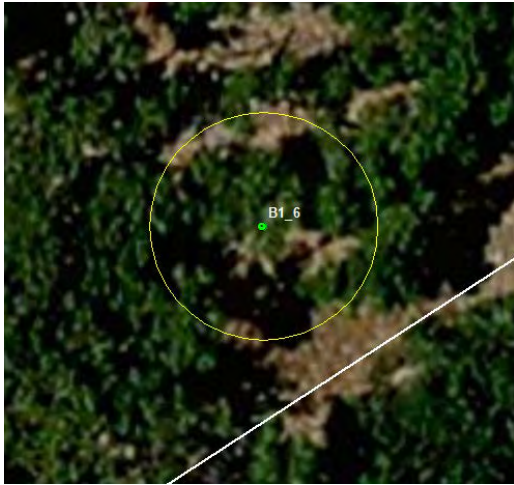
Species observed:

Grasses	Forbs	Shrubs	Trees
<i>Sporobolus wrightii</i>		<i>Forestiera neomexicana</i>	<i>Populus deltoides</i>
			<i>Elaeagus augustifolia</i>
			<i>Tamarix chinensis</i>

Comments:



B1_6 Plot Photos



2010 Aerial View, Circle = 1/10 acre



Plot Center from North



Looking East from Plot Center



Looking South from Plot Center



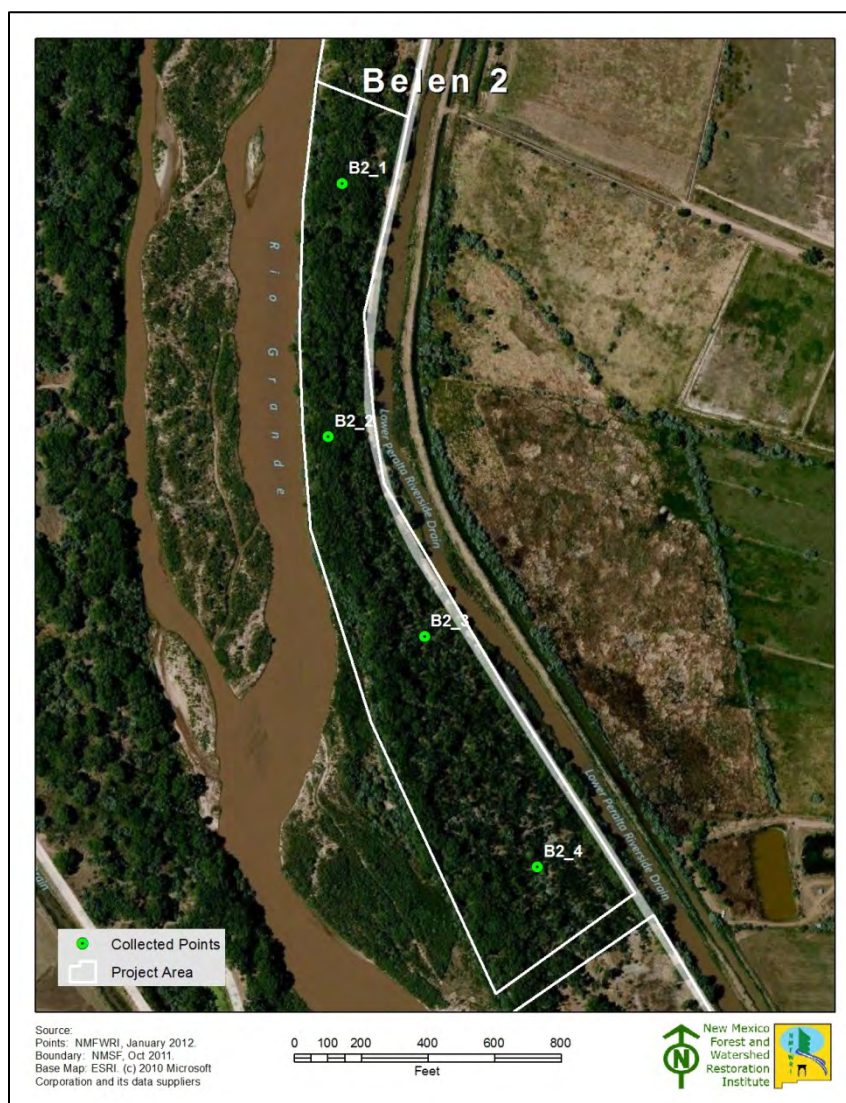
Looking West from Plot Center



Looking North from Plot Center

Belen Site 2 Observations:

The project area is densely wooded, with an abundance of fallen trees and tree limbs. No shrubs or herbaceous plants were observed in the understory. The site does not show evidence of having been treated. Jetty jacks, joined by cables, also traverse the site in the vicinity of plot B2_1. Since monitoring was done so late in the fall, lack of forb and grasses cover may be attributed to seasonal dormancy. The dense overstory canopy and large amount of coarse woody debris may also contribute to the sparse understory. The plots were assessed to fall in Hink & Ohmart Structure Classe 2. Identification of forb, grasses and some shrub species was also impacted by the limited plant identification skills of the monitoring team and by the season.



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

PT_ID	Horz_Prec (meters)	Std_Dev	Northing	Easting	Longitude	Latitude
B2_1	3.6	0.003218	3837468	340126	-106.744865	34.666703
B2_2	2.2	0.001994	3837236	340113	-106.744964	34.664616
B2_3	1.5	0.001076	3837054	340201	-106.743968	34.662982
B2_4	2.1	0.001198	3836843	340305	-106.742801	34.661096
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.						

Plot coordinates.

Species observed:

Grasses		Forbs	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
Shrubs		Trees	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Forestiera neomexicana</i>	New Mexico Olive	<i>Populus deltoides</i>	Cottonwood
		<i>Elaeagnus angustifolia</i>	Russian Olive
		<i>Tamarix Chinensis</i>	Salt Cedar

Species observed.

Project: Valencia SWCD
Project Unit: Belen 2
Plot: B2_1

Date:	1/12/2012
Time:	1210
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
96	0	0	0	0	0	0	100	0	0	0	0

Hink & Ohmart Class: 2

Species observed:

Grasses	Forbs	Shrubs	Trees
			<i>Populus deltoides</i>
			<i>Elaeagus augustifolia</i>

Comments:

Heavy downed woody debris, jetty jacks.



B2_1 Plot Photos



2010 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: Belen 2
Plot: B2_2

Date:	1/12/2012
Time:	1236
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
96	0	0	0	0	0	0	100	0	0	0	0

Hink & Ohmart Class: 2

Species observed:

Grasses	Forbs	Shrubs	Trees
			<i>Populus deltoides</i>
			<i>Elaeagus augustifolia</i>

Comments:

Heavy downed woody debris, jetty jacks.

Densiometer lost en route to this plot, canopy based on visual estimate.



cover

B2_2 Plot Photos



2010 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: Belen 2
Plot: B2_3

Date:	1/12/2012
Time:	1313
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
96	0	6	0	0	0	0	100	0	0	0	0

Hink & Ohmart Class: 2

Species observed:

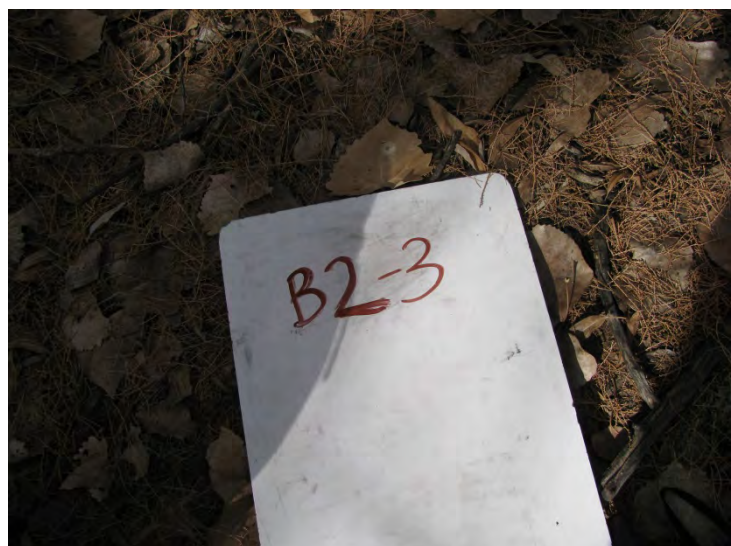
Grasses	Forbs	Shrubs	Trees
			<i>Populus deltoides</i>
			<i>Elaeagus augustifolia</i>
			<i>Tamarix chinensis</i>

Comments:

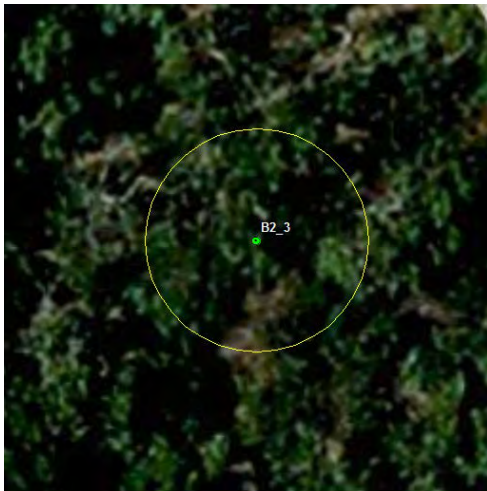
Heavy downed woody debris, jetty jacks.

Hummingbird nest (old).

Densiometer lost , canopy cover based on visual estimate.



B2_3 Plot Photos



2010 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: Belen 2
Plot: B2_4

Date:	1/12/2012
Time:	1340
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
60	0	6	0	0	0	0	99	1	0	0	0

Hink & Ohmart Class: 2

Species observed:

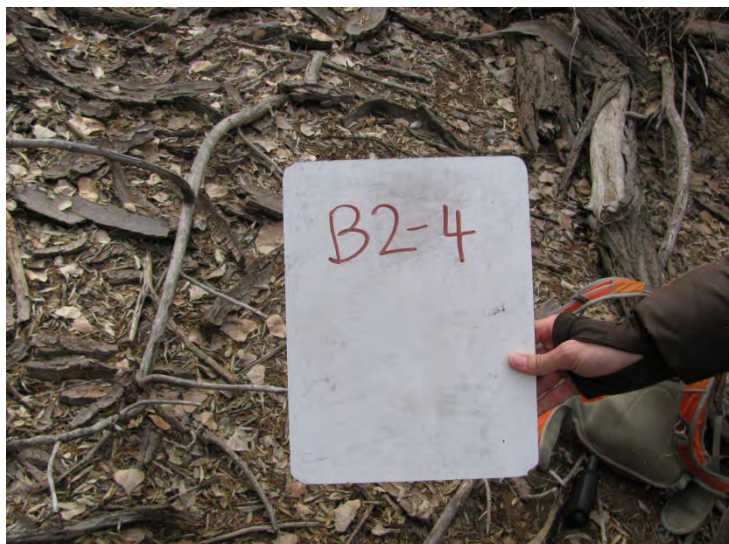
Grasses	Forbs	Shrubs	Trees
			<i>Populus deltoides</i>
			<i>Elaeagus augustifolia</i>
			<i>Tamarix chinensis</i>

Comments:

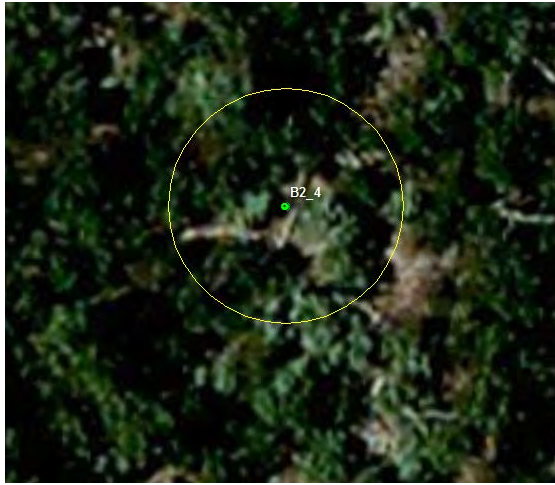
Heavy downed woody debris, lots of bark on the ground.

Cottonwood snags

Densiometer lost , canopy cover based on visual estimate.



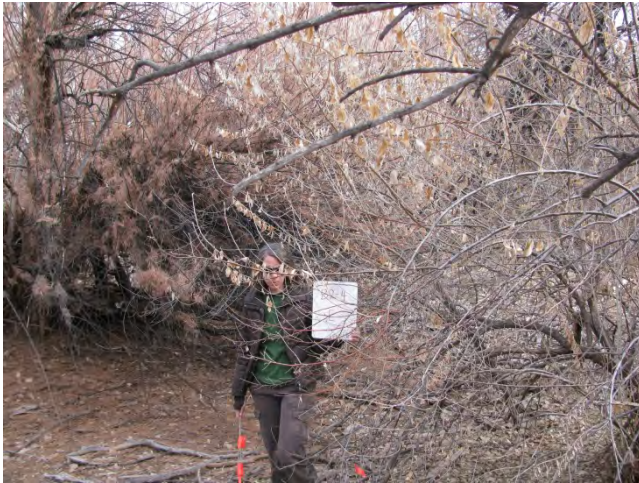
B2_4 Plot Photos



2010 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

Belen Site 3 Observations:

The project area is moderately wooded, with a light multi-tiered to mostly open, understory. Wetland areas exist in the northern portion of the project area. It had been treated in the mid-2000s. Much of the area consists of grassy openings. Since monitoring was done so late in the fall, sparse forb and grasses cover may be attributed to seasonal dormancy. The plots were assessed to fall in Hink & Ohmart Structure Classes 1, 2, and 3.



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

PT_ID	Horz_Prec (meters)	Std_Dev	Northing	Easting	Longitude	Latitude
B3_1	1.5	0.000438	3838067	340227	-106.743882	34.672123
B3_2	2.6	0.000989	3837836	340137	-106.744819	34.670022
B3_3	2.4	0.00077	3837656	340158	-106.744552	34.668406
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.						

Plot coordinates.

Species observed:

Grasses and Sedges		Forbs	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Sporobolus airoides</i>	Alkalai Sacaton	<i>Opuntia spp.</i>	Prickly Pear
<i>Carex spp.</i>	Sedge	<i>Cylindropuntia spp.</i>	Cholla
<i>Juncus spp. ??</i>	Rush	<i>Melilotus spp.</i>	Sweet Clover
		<i>Anemopsis californica</i>	Yerba Mansa
Shrubs		Trees	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Baccharis salicina</i>	Seep Willow	<i>Populus deltoides</i>	Cottonwood
<i>Salix exigua</i>	Coyote Willow	<i>Elaeagnus angustifolia</i>	Russian Olive
		<i>Tamarix Chinensis</i>	Salt Cedar

Species observed.

Project: Valencia SWCD
Project Unit: Belen 3
Plot: B3_1

Date:	2/07/2012
Time:	1025
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
10	0	0	0	5	87	5	8	0	0	0	0

Hink & Ohmart Class: 2/3

Species observed:

Grasses and Sedges	Forbs	Shrubs	Trees
<i>Sporobolus airoides</i>	<i>Anemopsis californica</i>	<i>Baccharis salicina</i>	<i>Populus deltoides</i>
<i>Carex spp.</i>	Composite?		<i>Elaeagus augustifolia</i>
<i>Juncus spp. ??</i>			

Comments:

Transition between H+O type 3 and 3. Wetland transition area. Gophers present.



B3_1 Plot Photos



2010 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: Belen 3
Plot: B3_2

Date:	2/07/2012
Time:	0955
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
95	0	0	0	0	1	1	91	7	0	0	0

Hink & Ohmart Class: 1

Species observed:

Grasses and Sedges	Forbs	Shrubs	Trees
<i>Sporobolus airoides</i>	<i>Melilotus spp.</i>	<i>Salix exigua</i>	<i>Populus deltoides</i>
			<i>Elaeagus augustifolia</i>

Comments:

Porcupine sign. Old beaver sign.



B3_2 Plot Photos



2010 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: Belen 3
Plot: B3_3

Date:	2/07/2012
Time:	0930
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
93	0	0	0	0	4	0	94	2	0	0	0

Hink & Ohmart Class: 2

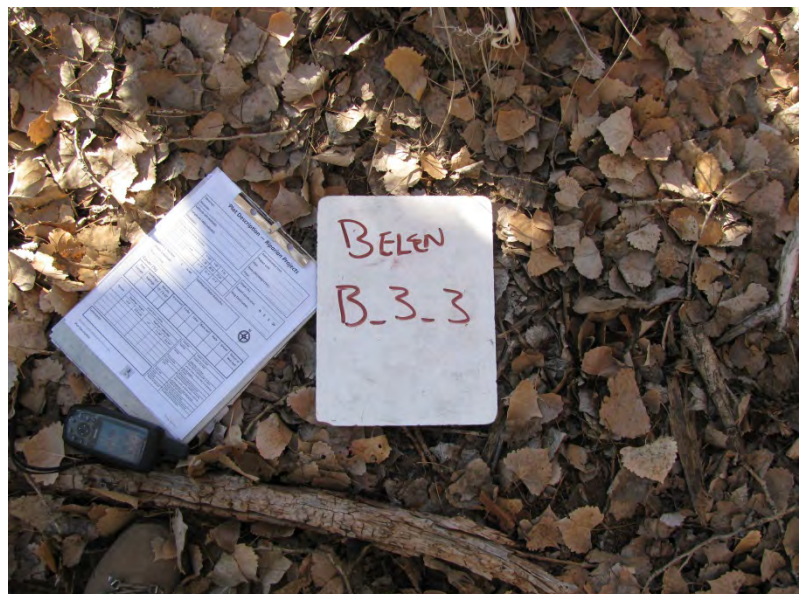
Species observed:

Grasses and Sedges	Forbs	Shrubs	Trees
<i>Sporobolus airoides</i>	<i>Opuntia spp.</i>		<i>Populus deltoides</i>
			<i>Elaeagus augustifolia</i>
			<i>Tamarix chinensis</i>

Comments:

Very open understory.

Russian Olive and Salt Cedar seedlings only (no mature plants)



B3_2 Plot Photos



2010 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

Belen Site 4 Observations:

The project area is moderately to lightly wooded, with a light multi-tiered to mostly open, understory. Wetland areas exist in the northern portion of the project area. It had been treated in the mid-2000s. Much of the area consists of grassy openings and scattered trees and shrubs. The soil is moist in some areas. Portions of the area are sandy with hummocks and salt on the surface. There is evidence of possible historic stream channels. Since monitoring was done so late in the fall, sparse forb and grasses cover may be attributed to seasonal dormancy. The plots were assessed to fall in Hink & Ohmart Structure Classes 2, 5, and 6.



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

PT_ID	Horz_Prec (meters)	Std_Dev	Northing	Easting	Longitude	Latitude
B4_1	2.4	0.001104	3839058	340574	-106.740287	34.681110
B4_2	1.7	0.000998	3838924	340551	-106.740507	34.679896
B4_3	1.8	0.000957	3838761	340509	-106.740938	34.678417
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.						

Plot coordinates.

Species observed:

Grasses		Forbs	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Sporobolus airoides</i>	Alkalai Sacaton	<i>Opuntia spp.</i>	Prickly Pear
<i>Sporobolus flexuosus</i>	Dropseed	<i>Cylindropuntia spp.</i>	Cholla
<i>Panicum obtusum</i>	Vine mesquite	<i>Artemesia Ludoviciana</i>	Louisiana Wormwood
<i>Agrostis gigantea</i>	Redtop	<i>Yucca spp.</i>	Yucca
<i>Muhlenbergia repens</i>	Creeping Muhley	<i>Helianthus annus</i>	Sunflower
		<i>Anemopsis californica</i>	Yerba Mansa
Shrubs		Trees	
<i>Scientific name</i>	Common name	<i>Scientific name</i>	Common name
<i>Forestiera neomexicana</i>	New Mexico Olive	<i>Populus deltoides</i>	Cottonwood
<i>Baccharis salicina</i>	Seep Willow	<i>Elaeagnus angustifolia</i>	Russian Olive
<i>Salix exigua</i>	Coyote Willow	<i>Tamarix Chinensis</i>	Salt Cedar
<i>Lycium spp.</i>	Wolfberry		
<i>Prosopis pubescens</i>	Screwbean Mesquite		

Species observed.

Project: Valencia SWCD
Project Unit: Belen 4
Plot: B4_1

Date:	2/07/2012
Time:	1155
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
46	0	3	15	0	20	3	69	8	0	0	0

Hink & Ohmart Class: 2

Species observed:

Grasses	Forbs	Shrubs	Trees
<i>Sporobolus airoides</i>	<i>Artemesia Ludoviciana</i>	<i>Lycium spp.</i>	<i>Populus deltoides</i>
<i>Sporabolus flexuosis</i>	<i>Yucca spp.</i>	<i>Prosopis pubescens</i>	<i>Elaeagus augustifolia</i>
<i>Panicum obtusum</i>	<i>Helianthus annus</i>		<i>Tamarix chinensis</i>

Comments:

Jetty jacks, very sandy, open hummocks, salt crust patches.



B4_1 Plot Photos



2010 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: Belen 4
Plot: B4_2

Date:	2/07/2012
Time:	1130
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
69	1	2	0	0	3	0	96	1	0	0	0

Hink & Ohmart Class: 2

Species observed:

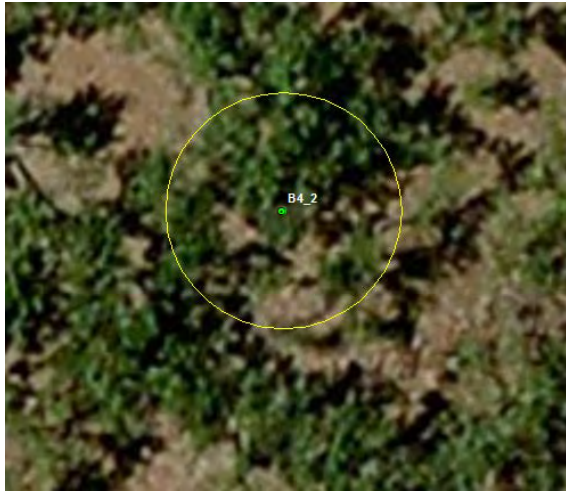
Grasses	Forbs	Shrubs	Trees
<i>Muhlenbergia repens</i>	<i>Artemesia Ludoviciana</i>	<i>Baccharis salicina</i>	<i>Populus deltoides</i>
<i>Agrostis gigantea</i>			<i>Elaeagus augustifolia</i>
<i>Panicum obtusum</i>			<i>Tamarix chinensis</i>

Comments:

Coarse Woody Debris, swale, old channel?, open understory



B4_2 Plot Photos



2010 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: Belen 4
Plot: B4_3

Date:	2/07/2012
Time:	1106
Plot size:	1/100

Cover (%)											
Tree canopy	Seedlings/saplings		Shrubs <5'/5 – 15'		Gramanoid	Forbs	Litter	Bare Soil	Rock	Gravel	Water or wet soil
36	1	0	0	0	90	0	10	0	0	0	0

Hink & Ohmart Class: 2/5/6

Species observed:

Grasses	Forbs	Shrubs	Trees
<i>Agrostis gigantea</i>	<i>Anemopsis californica</i>	<i>Baccharis salicina</i>	<i>Populus deltoides</i>
<i>Panicum obtusum</i>		<i>Foresteria neomexicana</i>	<i>Elaeagus augustifolia</i>
			<i>Tamarix chinensis</i>

Comments:

Transition area between H+O classes, swale/wetland, historic channels?, generally damp soil.



B4_3 Plot Photos



2010 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

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 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. The monitoring teams encountered monitoring sites established by the Bosque Schools Boasque Ecological Monitoring program. Better coordination with this program should be established.

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:

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