

## **Wetland Inspection Report (Spring 2015)**

### **Vanadium Site OU-3 Remedial Action Town of Niagara, New York**

The first of four required inspections of the Site wetlands was conducted on May 29, 2015 for the Vanadium Site Operable Unit 3 (OU3) Remedial Action (RA) in the Town of Niagara, New York (Site #9-32-001). The inspection was attended by the following representatives:

**O'Brien & Gere** –James Bryk and Kyle Buelow  
**Sevenson** –Mike Welch and Jerry Castiglione  
**NYSDEC** – Michael Hinton

Three constructed wetland islands were inspected by Mr. Buelow during the visit on May 29, 2015, as shown on the attached figure. Specification Section 02930 – Live Plantings requires that the restored wetlands be monitored by a qualified wetland scientist twice annually (spring and fall) for a period of 2 years following the planting of the Site, which occurred during 2014. Inspection of the wetland was also performed to assess if seed planted in the wetland had grown and developed into an 85% ground cover

Monitoring included visual inspection of the restored islands, identification of plant species present, estimation of percent aerial coverage of emergent vegetation, documentation of percent tree and shrub survival, and documentation using color photography.

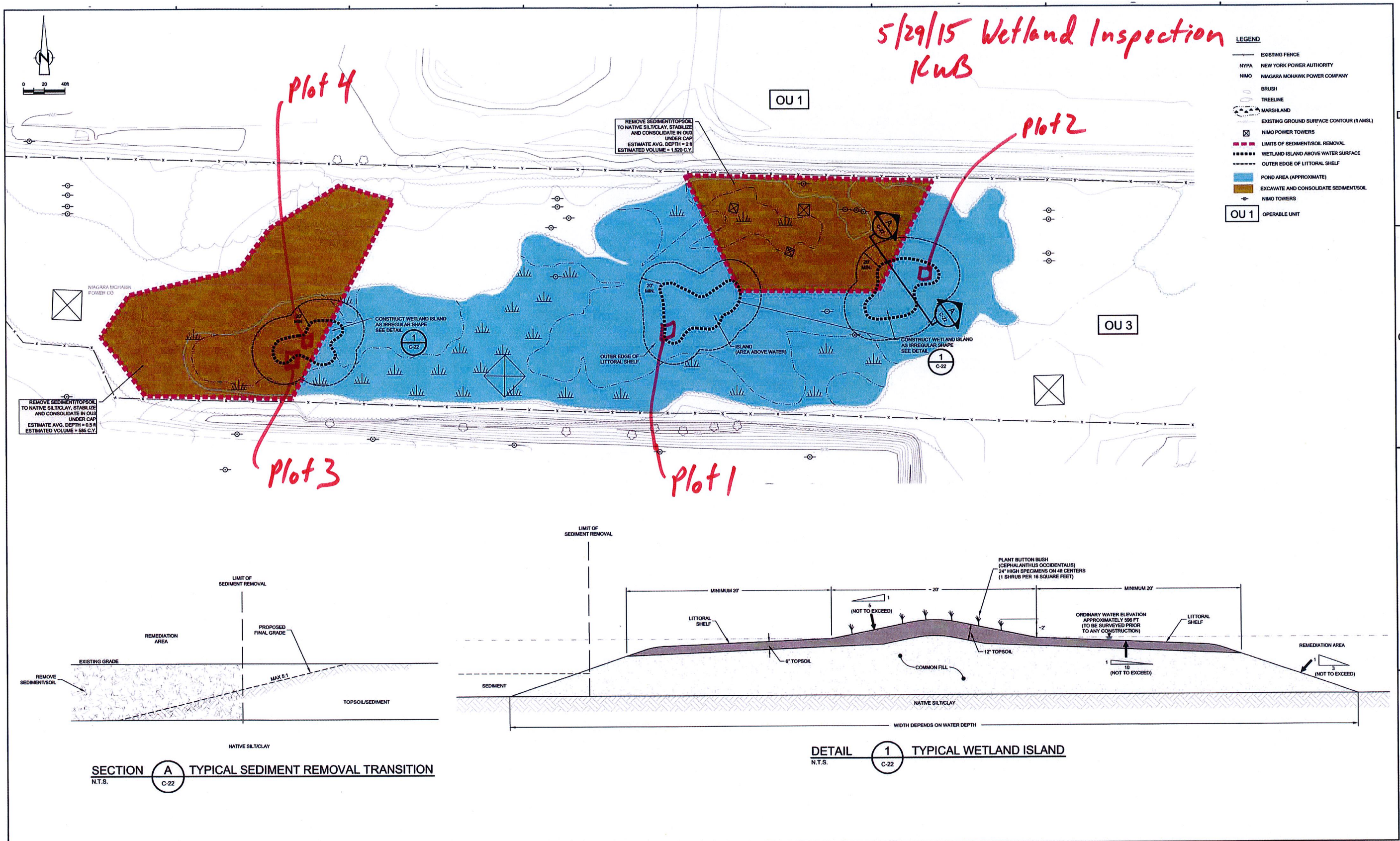
The west island was observed to have an established ground cover of approximately 80%, while the center and east islands were generally bare (photos attached). The west island had been seeded and planted earlier during 2014, while the other two islands were seeded and planted later during 2014 prior to winter.

During the Site visit, representatives of Sevenson indicated their preference to complete the required re-seeding of the center and east islands during August 2015. Waiting until then is warranted since the Site is presently dry as observed during the Site wide inspection that occurred on May 15, 2015.

The survivorship of the planted shrubs was also assessed during the inspection and the vegetative species observed are included on the attached data forms. Generally, the shrubs show significant die-off of the upper growth but viability close to the ground, which is not atypical. The survival of the shrubs will be re-examined during the Fall 2015 (*circa* October) to reassess the survival and determine if plants need to be replaced.

Based on the above, it is recommended that a wetland scientist visit the site during October 2015. During the Spring and Fall 2016, the third and fourth required inspections in conformance with Specification Section 02930 will be conducted with representatives of the Owner, O'Brien & Gere, Sevenson and NYSDEC.









<p>SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.</p>				<p><b>VANADIUM CORPORATION</b> TOWN OF NIAGARA, NEW YORK</p> <p>100% DESIGN REPORT ADDENDUM</p> <p><b>SEDIMENT REMOVAL</b></p>		<p><b>CRA Infrastructure &amp; Engineering, Inc.</b></p>	
<p>WARNING: ALTERING THIS DOCUMENT IS IN VIOLATION OF THE NEW YORK STATE EDUCATION LAW EXCEPTING AS PROVIDED IN SECTION 7209, PART 2 OF THE LAW.</p>		<p>7/26/12</p>		<p>Source Reference:</p>		<p>Date: JULY 2012</p>	
<p>1 REVISED FOR 100% DESIGN REPORT ADDENDUM 07/03/2012 J.P.</p>		<p>Project Manager: J. PUSKAS</p>		<p>Reviewed By: R. MEDSGER</p>		<p>Designed By: I. ROBERTSON</p>	
<p>No Revision Date Initial</p>		<p>Scale: 1"=40'</p>		<p>Project No: 19867-30</p>		<p>Report No: 027</p>	
				<p>Drawing No: C-22</p>			

19867-30(027)C1-WA019 JUL 4/2012



## ATTACHMENT 1 – PHOTOGRAPHIC LOG



<b>CLIENT NAME:</b> National Grid		<b>SITE LOCATION:</b> Vanadium , Town of Niagara, NY	<b>PROJECT NO.</b> 1118/50443
<b>PHOTO NO.</b> 1	<b>DATE:</b> 5/29/15		
<b>DESCRIPTION</b> Looking west at central restoration island and Plot 1			
<b>CLIENT NAME:</b> National Grid		<b>SITE LOCATION:</b> Vanadium, Town of Niagara, NY	<b>PROJECT NO.</b> 1118/50443
<b>PHOTO NO.</b> 2	<b>DATE:</b> 5/29/15		
<b>DESCRIPTION</b> Vegetation within Plot 1			

<b>Client Name:</b> National Grid		<b>Site Location:</b> Vanadium , Town of Niagara, NY	<b>Project No.</b> 1118/50443
<b>Photo No.</b> 3	<b>Date:</b> 5/29/15		
<b>Description</b> Looking west at eastern island from Plot 2			
<b>Client Name:</b> National Grid		<b>Site Location:</b> Vanadium, Town of Niagara, NY	<b>Project No.</b> 1118/50443
<b>Photo No.</b> 4	<b>Date:</b> 5/29/15		
<b>Description</b> Submerged aquatic vegetation – coontail ( <i>Ceratophyllum demersum</i> ) in open water area adjacent to eastern island.			



<b>Client Name:</b> National Grid		<b>Site Location:</b> Vanadium , Town of Niagara, NY	<b>Project No.</b> 1118/50443
<b>Photo No.</b> 5	<b>Date:</b> 5/29/15		
<b>Description</b> Looking southwest at Plot 3 on western island			
<b>Client Name:</b> National Grid		<b>Site Location:</b> Vanadium, Town of Niagara, NY	<b>Project No.</b> 1118/50443
<b>Photo No.</b> 6	<b>Date:</b> 5/29/15		
<b>Description</b> Looking west at Plot 4 on western island			



<b>Client Name:</b> National Grid		<b>Site Location:</b> Vanadium , Town of Niagara, NY	<b>Project No.</b> 1118/50443
<b>Photo No.</b> 7	<b>Date:</b> 5/29/15		
<b>Description</b> Looking west across western island from Plot 4.			
<b>Client Name:</b> National Grid		<b>Site Location:</b> Vanadium, Town of Niagara, NY	<b>Project No.</b> 1118/50443
<b>Photo No.</b> 8	<b>Date:</b> 5/29/15		
<b>Description</b> Purple loosestrife ( <i>Lythrum salicaria</i> ) plant with <i>Galerucella</i> beetles and evidence of beetle damage to leaves ("shot holes")			

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Vanadium City/County: Niagara Sampling Date: 5/29/2015  
 Applicant/Owner: National Grid State: NY Sampling Point: Plot 1  
 Investigator(s): KW Buelow Section, Township, Range: Niagara  
 Landform (hillslope, terrace, etc.): Island Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Remarks: (Explain alternative procedures here or in separate report.)  
**108/132 (82%) shrubs appear viable on island. Below average precipitation reported by Severson**  
**Approximately 40% vegetative coverage on island.**

**VEGETATION – Use scientific names of plants.**

Herb <input type="checkbox"/> tratum	(Plot size <input type="checkbox"/> ft radius)	<input type="checkbox"/>		
1 <u><i>Barbarea vulgaris</i></u>	<u>5</u>		<u>FACU</u>	
2 <u><i>Graminoids</i></u>	<u>2</u>		<u>NA</u>	
3 <u><i>Erigeron philadelphicus</i></u>	<u>1</u>		<u>FAC</u>	
4 _____	_____		_____	
5 _____	_____		_____	
6 _____	_____		_____	
7 _____	_____		_____	
8 _____	_____		_____	
9 _____	_____		_____	
10 _____	_____		_____	
11 _____	_____		_____	
12 _____	_____		_____	
13 _____	_____		_____	
14 _____	_____		_____	
15 _____	_____		_____	
	<u>8</u>		= Total Cover	
	50% of total cover: <u>4</u>		20% of total cover: <u>1.6</u>	

**WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region**

Project/Site: Vanadium City/County: Niagara Sampling Date: 5/29/2015  
 Applicant/Owner: National Grid State: NY Sampling Point: Plot 2  
 Investigator(s): KW Buelow Section, Township, Range: Niagara  
 Landform (hillslope, terrace, etc.): Island Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Remarks: (Explain alternative procedures here or in separate report.)  
**108/140 (77%) shrubs appear viable. Below average precipitation reported by Severson**  
**Approximately 10% vegetative coverage on island.**

**VEGETATION – Use scientific names of plants.**

Herb Stratum	(Plot size: <input type="checkbox"/> ft radius)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	<u>Graminoids</u>	<u>10</u>	<u>NA</u>	
2	_____	_____	_____	
3	_____	_____	_____	
4	_____	_____	_____	
5	_____	_____	_____	
6	_____	_____	_____	
7	_____	_____	_____	
8	_____	_____	_____	
9	_____	_____	_____	
10	_____	_____	_____	
11	_____	_____	_____	
12	_____	_____	_____	
13	_____	_____	_____	
14	_____	_____	_____	
15	_____	_____	_____	
		<u>10</u>	= Total Cover	
	50% of total cover: <u>5</u>	20% of total cover: <u>2</u>		



Project/Site: Vanadium City/County: Niagara Sampling Date: 5/29/2015  
 Applicant/Owner: National Grid State: NY Sampling Point: Plot 3  
 Investigator(s): KW Buelow Section, Township, Range: Niagara  
 Landform (hillslope, terrace, etc.): Island Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)  
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☐  
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

213/240 (89%) shrubs appear viable on island. Below average precipitation reported by Severson  
Approximately 80% vegetative coverage on island.  
Galerucella beetles noted on purple loosestrife leaves.

Herb Stratum	(Plot size: 0.5 ft radius)		
1 <i>Juncus effusus</i>	60		OBL
2 <i>Graminoids</i>	10		NA
3 <i>Typha angustifolia</i>	10		OBL
4 <i>Typha latifolia</i>	5		OBL
5 <i>Rumex crispus</i>	5		FAC
6 <i>Daucus carota</i>	10		Not listed
7 <i>Solidago sp.</i>	5		NA
8 <i>Carex vulpinoidea</i>	10		OBL
9 <i>Aster puniceus</i>	5		OBL
10 <i>Bidens frondosa</i>	2		FACW
11 <i>Lythrum salicaria</i>	5		OBL
12			
13			
14			
15			
	127	= Total Cover	

50% of total cover: 64      20% of total cover: 25

Project/Site: Vanadium City/County: Niagara Sampling Date: 5/29/2015  
 Applicant/Owner: National Grid State: NY Sampling Point: Plot 4  
 Investigator(s): KW Buelow Section, Township, Range: Niagara  
 Landform (hillslope, terrace, etc.): Island Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☐

Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

213/240 (89%) shrubs appear viable on island. Below average precipitation reported by Severson  
Approximately 80% vegetative coverage on island.

Herb Stratum	(Plot size: 5 ft radius)	
1 <i>Trifolium spp.</i>	30	NA
2 <i>Graminoids</i>	10	NA
3 <i>Chrysanthemum leucanthemum</i>	15	Not listed
4 <i>Daucus carota</i>	20	UPL
5 <i>Asclepias syriaca</i>	5	UPL
6 <i>Coronilla varia</i>	10	Not listed
7		
8		
9		
10		
11		
12		
13		
14		
15		
	<b>90</b>	= Total Cover

50% of total cover: **45**      20% of total cover: **18**