Pott Creek II Stream Restoration Project
Year 2 Monitoring Report - 2006

October 31, 2006
Prepared By:

M i d - A t l a n t i c
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(AN EARTHMARK COMPANY)

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1.0 EXECUTIVE SUMMARY/PROJECT ABSTRACT

On behalf of the North Carolina Department of Transportation (NCDOT), Mid-Atlantic Mitigation, LLC (MAM) with technical assistance from Mulkey Engineers and Consultants (Mulkey) restored 10,054 linear feet of stream that was severely degraded due to past channelization, removal and ongoing clearing and maintenance of the riparian buffer, and continuous cattle grazing. Construction of the project began in October 2004 and was completed in April 2005. The Pott Creek II Stream Restoration Project will provide NCDOT with 10,054 Stream Mitigation Units (SMUs).

The project goals are to provide a stable network of stream channels that neither aggrade nor degrade while maintaining their dimension, pattern, and profile with the capacity to transport the watershed's water and sediment load. The objective of the restoration plan is to restore the primary stream function and values associated with nutrient removal and transformation, sediment retention, flood-flow attenuation, wildlife (both aquatic and terrestrial) habitat, and also to provide restoration of riparian zones that have been historically used for pasture. Ultimately, the Pott Creek II site will improve the overall downstream water quality by reducing the amount of sediment being produced by bank erosion and increased scour and will also improve fish and aquatic habitat by providing both natural material stabilization structures (rootwads, rock vanes, and riparian buffer) and by reducing the silt and clay fines in the streambed. Additional water quality benefits will be generated by removing cattle from the riparian corridor. Degraded agricultural/pasture wetlands and existing bottomland hardwood wetlands on site will be preserved.

Pott Creek enters from the north and runs the entire length of the project crossing under Paint Shop Road and continuing south. Unnamed Tributary 1 (UT 1) enters from the west and had been heavily degraded by cattle traffic and grazing. UT2, UT3, and UT5 enter from the east and were severely entrenched. UT 4 enters from the west, south of the confluence of Pott Creek and Rhodes Mill Creek, and was also severely degraded by cattle traffic and grazing and also showed evidence of past channelization. Approximately, 7209 linear feet of the channel on Pott Creek was restored and relocated consistent with C-type stream channels, approximately 1827 linear feet of channel was restored on the perennial tributaries, and approximately 1018 linear feet of channel on Rhodes Mill Creek were restored by construction of a channel with proper dimension, pattern, and profile.

The streams and vegetation will be monitored annually for five years (October 2005 thru October 2009) by Mid-Atlantic Mitigation and the monitoring report will be submitted to NCEEP/NCDOT by the end of the calendar year. Ten 50' by 50' and one 100' by 25' permanent vegetative plots were established on-site. Survivability within these plots will help determine the success of the project. Six permanent cross-sections throughout Pott Creek, two throughout Rhodes Mill Creek, and one on unnamed tributaries 1 thru 4 were established. Cross-sections will document changes in dimension, pattern and profile of the restored stream(s). Approximately 3000 linear feet of longitudinal profiles have been established throughout the project and will monitor the riffle-run-pool-glide sequences

and overall stability of the restored stream(s). Within the profiles pebble counts will be performed to monitor any unacceptable increase in sand and finer substrate. All cross-sections and longitudinal profile sections are noted on the As-built plans included in the previously submitted Mitigation Plan and Year 1 Monitoring Reports.

The second year monitoring was completed on October 12th, 2006. Areas of the stream which had shown signs of stress during 2005 monitoring have recovered significantly due to added live-stakes and an additional year of growth overall. The vegetation in all of the plots continues to meet and/or exceed the requirements. Limited noxious species were found in some areas and will be monitored and treated if necessary, more detailed information is included in Section 3.1.2.

2.0 PROJECT BACKGROUND

2.1 LOCATION AND SETTING

The Pott Creek II Stream Restoration Project is located in Catawba County approximately five miles west of Maiden and eight miles southwest of Newton, North Carolina. It is located approximately one mile west of the intersection of the Hickory-Lincolnton Hwy and Paint Shop Road on either side of Paint Shop Road.

The Pott Creek II Stream Restoration Project lies in the South Fork Catawba River Basin and in the US Geologic Survey (USGS) Hydrologic Unit Code (HUC) 03050102.

The restoration project is being managed and monitored by Mid-Atlantic Mitigation, LLC but the property is owned by the State of North Carolina.

2.2 STRUCTURE AND OBJECTIVES

The restoration of Pott Creek utilized a combination of natural channel design methodologies with limited soil bio-engineering applications and methods consistent with a Rosgen Priority Level II-type restoration along Pott Creek and Rhodes Mill Creek. Level II restoration involved constructing a new channel at the existing elevation. Pott Creek was constructed to the west of the existing channel and Rhodes Mill Creek was constructed to the north of the existing channel. A Priority Level I restoration (reconnecting the channel to its historical floodplain) was not feasible due to limited relief across the site and controlling outfall and inflow elevations. Advantages of the Priority II restoration include a decrease in bank height and improved stream pattern geometry resulting in reduced streambank erosion, establishment of riparian vegetation to help stabilize the banks, establishment of a floodplain to help remove stress from the channel during flood events, improvement of aquatic habitat, abatement of wide-scale flooding of original land surface, and reduction of sediment and easier downstream grade transition. The Level II restoration, over time, will stabilize pattern and the channel profile, reduce overall shear, restore natural dimension, and reduce sedimentation. A Priority Level I restoration was utilized on the largest tributary, UT 1 of the five tributaries. Level I restoration is advantageous because it promotes re-connection to the

floodplain and a stable channel. It also reduces bank height and streambank erosion, reduces overall land loss, decreases sediment, and raises the water table. The slope of the new channel was reduced until its bankfull elevation was consistent with the adjacent floodplain on either side.

2.3 PROJECT HISTORY AND BACKGROUND

Table I. Project Deliverables

Mitigation Type	**Linear Feet**	**SMU Formula**
Stream Restoration (Pott Creek main channel)	7209.0	7209.0
Stream Enhancement –Category I (Pott Creek main channel)	0	0
Stream Restoration (Rhodes Mill Creek)	1018.0	1018.0
Stream Restoration (Pott Creek unnamed tributaries)	1827.0	1827.0
TOTALS		**10,054.0**

Table II. Project Activity and Reporting History

Activity or Report	**Calendar Year of Completion or Planned Completion**	**Actual Completion Date**
Restoration Plan	March 2004	September 2004
Construction	*August 2004	April 2005
Temporary and Permanent seeding	August 2004	April 2005
Bareroot Plantings	October 2004	February 2005
Mitigation Plan	November 2004	June 2005
Year 1 Monitoring	December 2004	October 2005
Year 2 Monitoring	October 2006	October 2006
Year 3 Monitoring	October 2007	
Year 4 Monitoring	October 2008	
Year 5 Monitoring	October 2009	

* By contract amendment the planned completion date was extended until April 2005

Table III. Project Contacts

Project Manager Mid-Atlantic Mitigation, LLC	9301 Aviation Blvd., Suite CE1 Concord, NC 28027 Rich Mogensen (704) 782-4133
Designer Mulkey Engineers and Consultants	6750 Tryon Road Raleigh, NC 27511
Construction Contractor Shamrock Environmental Corporation	P.O Box 14987 Browns Summit, NC 27214 Bill Wright (336) 375-1989
Planting & Seeding Contractor Mid-Atlantic Mitigation, LLC Seed mixes provided by IKEX Nursery Stock provided by NC Forest Service; Mellow Marsh Farm; and Pinelands Nursery & Supply	9301 Aviation Blvd., Suite CE1 Concord, NC 28027 Kristy Rodrigue (704) 782-6257
Monitoring Performers Mid-Atlantic Mitigation, LLC	9301 Aviation Blvd., Suite CE1 Concord, North Carolina 28027 Christine Cook (704) 782-4140

Table IV. Project Background

Project Background Table	
Project County	Catawba
Drainage Area	19.7 square miles
Drainage Cover Estimate (%)	3%
Physiographic Region	Piedmont
Ecoregion	45a Southern Inner Piedmont
Wetland Type	Piedmont Bottomland Forest / Piedmont Swamp Forest
Cowardin Classification	PSS1A, PFO1A
Dominant soil types	Chewacla (Wehadkee) Congaree
Reference site ID	UT to Fourth Creek
USGS HUC for Project and Reference	03050102/ 03050101
NCDWQ Sub-basin for Project and Reference	03-08-35/ 03-08-32
% of project easement fenced	30 – no cattle is present on adjacent properties that are not fenced

3.0 PROJECT CONDITION AND MONITORING RESULTS

3.1 VEGETATION ASSESSMENT

3.1.1 Soil Data

Table V. Preliminary Soil Data

Series	Max Depth (in)	% Clay on Surface	K	T	OM %
Chewacla	60	10-27	.28	5	1-4
Wehadkee	61	15-40	.32	5	2-5
Congaree	62	10-25	.37	5	< 4

3.1.2 Vegetative Problem Areas

Mutiflora Rose and *Rhubus sp o*ccur in some areas of the project, primarily in Zone 2 (flood plain). Neither species has taken control or out-competed the planted woody vegetation. The primary area of concern is along the left bank of UT1. MAM plans to watch this area closely and spray with Round-up in the spring. Chinese privet is also found bordering some of the project and is found in the large wetland preservation areas, but has not invaded the stream restoration areas from adjacent properties. A small amount (one or two stems) was found in several plots. This is an increase from the 2005 observations and the privet growing in the project area will be closely monitored and sprayed with Round-up in the spring as well. As will be documented below, the planted species and healthy volunteer communities are doing well and are not currently under any threat of being out-competed by any invasive species on site.

3.1.3 Stem Counts

Two Planting Zones were established at the Pott Creek II Restoration Project. Zone 1 which consisted of mainly livestakes and Zone 2 which consisted of Bareroot Seedlings and Tublings. Eleven permanent vegetative plots have been established at random locations, which sample both Zones 1 and 2. All vegetative plots are 2,500 square feet in size, vegetative plots 1-4, and 6-11 are all 50 foot by 50 foot squares, while vegetative plot 5 is a 100 foot by 25 foot rectangle due to limited space along UT1. Living woody stems were counted in each plot and analyzed for species diversity and survival. Overall coverage of each plot for herbaceous and woody species has exceeded 75% in all plots and throughout the project, this is documented by the vegetation photolog (Appendix A). Volunteers and/or invasive species were noted, but were not figured into the final stem count.

On October 10 -12 2006, the Second year-vegetative monitoring was performed on the established vegetative plots.

Table VI. Approximate number of Planted species

Planted Species	Bareroot Seedling	Tublings	Livestakes
Quercus nigra	2,000		
Quercus phellos	2,000	1,000	
Quercus palustris	2,000	1,000	
Quercus bicolor		1,000	
Quercus lyrata	2,500		
Fraxinus pennsylvanica	2,000		
Platanus occidentalis	1,000		1,000
Celtis laevigata	1,050		
Diospyros virginiana	200		
Cornus amomum	1,000	1,000	3,000
Lindera benzoin	1,500		
Betula nigra	1,000		400
Cephalanthus occidentalis	525		
Salix nigra			3,000
Salix sericea			600
Sambucus canadensis			1,025
	16,775	**4,000**	**9,025**

Total Planted Species= 20,775 Total Livestakes planted= 9,025

Table VII. Stems Counts for Live, Stressed, and Volunteers species

	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10	Plot 11	**Total**
Total Dead	3	8	6	11	3	2	8	22	21	6	0	90
Total Live Planted	18	15	25	35	23	26	38	71	57	47	28	383
Volunteers	14	10	12	5	1	8	5	4	8	17	28	112
Number "Stressed"	0	2	1	2	0	0	4	5	2	3	1	20

Percent Survival	86%	65%	81%	76%	88%	93%	83%	76%	73%	89%	100%	81%
Percent "Stressed"	0%	13%	4%	6%	0%	0%	10%	7%	4%	6%	4%	**5%**

Stems per acre (w/o Vols)	314	261	436	610	401	453	662	1237	993	819	488
Stems per acre	559	436	645	697	418	592	749	1307	1133	1115	976
Number of Species	8	11	9	10	7	9	8	11	10	10	11
Number of Planted Species	7	9	7	8	7	7	8	10	9	10	8

3.1.4 Vegetation Assessment Summary

Vegetation success will be defined as tree survival to meet 320 stems per acre after 3 years and 260 stems per acre after 5 years inside the permanent vegetative plots and herbaceous cover evaluated with photos showing 75% coverage, after 5 years.

Table VIII. Combined Totals for Stem Count

Combined Totals	
Percent Survival	81
Percent "Stressed"	5
Stems Per Acre	607
Number of Species Counted	19
Total Planted Species Counted	15

Two plots of 11 were below the Year 3 goal of 320 stems per acre, but still exceeded the final goal of 260 stems per acre. The site as a whole shows an average of 607 stems per acre, which exceeds both the 3 and 5 year goals and demonstrates 81 percent survival. The community continues to be very diverse and rich with healthy volunteers.

In Appendix A, the vegetative survey data tables show the actual counts of each species found per plot, severely stressed but not dead plants were noted. The herbaceous cover plant community has not changed significantly from the 2005 monitoring observations.

3.2 CHANNEL STABILITY ASSESSMENT

3.2.1 Cross Sections

There are six permanent cross-sections throughout Pott Creek (four on the upstream side of the bridge and two on the downstream side). Cross-sections on Pott Creek are 50% riffles and 50% pools. There are two permanent cross-sections on Rhodes Mill Creek, one riffle, one pool; and one cross section on each of the unnamed tributaries (1 thru 4). Each permanent cross-section is shown on the as-built plan and will be surveyed each year to monitor changes in the dimension of the restored stream(s), photographic documentation of each cross-section will also be made.

Cross-sections were surveyed on October 11, 2006 by Ryan McBryde, PLS. Monitoring cross-sections measured the deepest part of the stream (thalweg), while the as-built survey was measured on the center-line, this causes a slight difference in the depth measurements between as-built and monitoring results. All cross-sections for future monitoring will be measured on the thalweg going forward**.** The 2005 survey was completed with a 2 man (in-house, not a PLS) crew using rented traditional survey equipment, additionally a tape line was not strung from each monument to insure accuracy of the cross-section line. This was an oversite which was corrected in 2006 as follows: The 2006 survey was done with a 3 man crew using a robotic total station, more care was taken to insure accuracy of the cross-section line, the third man directed the rod-man to help insure a straight cross-section, but a tape line was not used. This variability

in techniques and personnel appears to have created some inconsistencies (in the length of some cross sections, but not in elevation) between the 2005 and 2006 data. Some of the data was shifted with a correction to allow easy comparison of the 2005 and 2006 data. A tape line will be used in 2007, where possible, and great care will be taken to insure an accurate cross section line. Once the 2007 data can be compared to both the 2005 and 2006 data inconsistencies in the data will be more easily identified and corrected. Despite the differences in the two data sets, all of the surveyed cross sections appear stable and well vegetated. Appendix B has the cross-section data tables, plots and photos.

Pott Creek CS1 (Riffle)
It appears some minor sand deposition has occurred on the right bank. Photos show this area as being well vegetated and stable. The thalweg has centered itself and the bed of the channel and the riffle have leveled up.

Pott Creek CS2 (Riffle)
It appears some minor deposition has occurred on the right bank. Photos show this area as being well vegetated and stable. A point bar has formed and stabilized with vegetation on the right side of the channel. Point bars a natural feature of sandy piedmont streams.

Pott Creek CS3 (Pool)
It appears that some sand has settled into this pool area. Photos show this area as being well vegetated and stable. This is a dynamic system with much sand being passed through during storm events.

Pott Creek CS4 (Pool)
It appears that the upstream silt has accumulated and settled into the pool, shifting the thalweg to the right. Photos show this area as being well vegetated with stable banks.

Pott Creek CS5 (Riffle)
Photos show this area as being well vegetated and stable. A sand bar has formed and stabilized with vegetation on the right side of the channel.

Pott Creek CS6 (Pool)
Photos show this area as being well vegetated and stable. This cross section is a good indication that error is present in the 2005 data and can be corrected next year, it appears the 2005 will line up with the 2006 data well once 2007 data has been collected and used to calculate a correction to compensate for sloppy surveying techniques.

UT 1 CSa
All of the unnamed tributaries currently have herbaceous annual vegetation covering close to 100 % of the channel bed, making all observations difficult. This channel appears to have become more shallow. All of the UT's appear stable with perennial flows. Photos show this area as being well vegetated and stable.

UT 2 CSb
All of the unnamed tributaries currently have vegetation covering close to 100 % of the channel bed, making all observations difficult. Photos show this area as being well vegetated and stable. There are no significant changes to this cross-section.

UT 3 CSc
All of the unnamed tributaries currently have vegetation covering close to 100 % of the channel bed, making all observations difficult. Photos show this area as being well vegetated and stable. There are no significant changes to this cross-section.

UT 4 CSd
All of the unnamed tributaries currently have vegetation covering close to 100 % of the channel bed, making all observations difficult. Photos show this area as being well vegetated and stable. There are no significant changes to this cross-section.

Rhodes Mill CS1 (Pool)
Photos show this area as being well vegetated and stable. There are no significant changes to this cross-section.

Rhodes Mill CS2 (Riffle)
It appears some minor deposition has occurred on the right bank. Photos show this area as being well vegetated and stable.

3.2.2 Bank Full Events

At least 1 bank full event per monitoring season will be photo documented, ideally two. A crest-stage gage was installed on August 24, 2006 to track bank full events between site visits. During this monitoring period bank full events were documented as follows. Photo Documentation and descriptions are located in Appendix C.

Table IX. Verification of Bankfull Events

Date of Collection	Date of Occurrence	Method	Photo # (if available)
November 30, 2005	November 28, 2005	Visual	Appendix D
September 11, 2006	See Below	Crest Stage Gage	Appendix D

After 2005 Monitoring Report had been completed and submitted this bank full event was reported to us by locals, and therefore we have decided to submit it in this years report. The site was visited and showed signs of over-bank flow, rack lines and drift debris, but no signs of severe damage or erosion caused by the event. The Crest Stage gage was checked on September 11, 2006 and had registered a bank full event. According to rainfall data from both Lincolnton and Hickory significant rainfall came through the area within 5 days of the site visit.

3.2.3 Longitudinal Profiles

Profiles were done on approximately 3000 linear feet over the entire project, Pott Creek 1000 lf; Rhodes Mill 500 lf; UT1 600 lf; UT2 350 lf, UT3 480 lf; and UT4 350 lf. Pebble counts were done on all constructed riffles and any naturally forming riffles with significant build up of bed material within the profile reach. Lengths and spacing of the riffle-run-pool-glide (R-R-P-G) sequence were measured where they existed, each profile reach was observed for stability and vegetative cover, making note of any signs of erosion. Raw data, data tables, and graphs of the Pebble Count data are available in Appendix D. The following observations were made in each profile section:

Pott Creek – 1000 foot profile: No significant erosion problems were noted inside the profile reach this year, all problem areas noted last year have significantly improved and will continue to be monitored. A few macro-invertebrates were found while sampling (crane flies, caddis flies, stone flies and may flies). There are two constructed riffles inside profile limits, pebble count was done on both. There are also several naturally forming riffles, but no significant bed material has accumulated so no pebble counts were done. Both Riffle 1 and Riffle 2 show no signs of significant fining or embedding, with both graphs looking very similar to 2005 and actually showing a reduction in fine sand, especially in Riffle 2. Riffle 1 shows slight increase in silt/clay, but it should be noted that the clay chunks of varing sizes that are common to Pott Creek are noted in this category regardless of size. Stable sand bars are present in several of the riffles above UT 1, not just within the Profile limits. This is the upper most segment of the project where most sand and silt washes in from upstream of the project during high flow events settles out. With that in mind, this section of the project is in excellent condition.

Rhodes Mill Creek – 500 foot Profile: No significant erosion problems were noted inside the profile limits, all problem areas noted last year have improved and will continue to be monitored. Pebble counts were repeated on three constructed riffles within the profile limits (Riffles 1, 2 and 3), Riffle 4 is a constructed riffle, but in both 2005 and 2006 only sand was present between the log sills. In 2006, a pebble count was done a natural riffle (Riffle 5) that has accumulated larger bed material at the lower limit of the profile. This riffle appears to be comprised of bed material washed down from upstream riffles 1 and 3. A few macro-invertebrates were found while sampling (may flies and cadis flies). None of the repeat sampled riffles show any evidence of fining or embedding, on the contrary Riffles 1 and 3 show an increase in larger bed material, which would seem to be evidenced of smaller bed material being moved downstream. It was obvious after the 2005 monitoring report that the riffles on Rhodes Mill Creek were constructed with stone which is not large enough for the actual high flows this stream experiences, however the stream itself has continued to stabilize over the last year and is in overall excellent condition. Riffle 2 shows no significant differences between 2005 and 2006, and Riffle 5 is comprised of the mid-grade material present in Riffle 2 and lacking from Riffles 1 and 3. The most unusual observation within the profile limits was Pool 3 where sand bars have formed a tight meander pattern with a deep pool. The banks are stable and the feature does not appear to be causing any problems, but it will be watched closely. This area has excellent aquatic habitat associated with the deeper pool.

UT1 – This stream is the largest and most active of all the UT's, but contains no defined substrate other then sand and silt. Banks are stable with all 2005 problem areas associated with structures having been repaired and recovering well. All of the unnamed tributaries are in an early stage of development, and while they are perennial, it appears that the moderate drought conditions of the 2006 growing season have allowed for some vegetation to encroach on the stream bed. As noted in the Cross-Section discussion, except for the occasional deepest pool, close to 100% of the stream bed is covered with vegetation. Increased base flows and continued growth of the riparian community to provide shade for the channel bed should resolve this in time. We intend to supplement our profile observations this winter once all of the herbaceous vegetation has died back and useful observations can be reasonably made.

UT2 –UT3 – UT 4- UT5- As noted above, all of the unnamed tributaries are in an early stage of development, and while we have not gone dry, it appears that the moderate drought conditions of the 2006 growing season have allowed for some vegetation in the stream bed. As noted in the Cross-Section discussions, except for the occasional deepest pool, close to 100% of the stream bed on all of the smaller UT's is covered with vegetation. Increased base flows and continued growth of the riparian community to provide shade for the channel bed should resolve this problem in time. We intend to supplement our profile observations this winter once all of the herbaceous vegetation has died back and useful observations can be reasonably made.

3.2.4 Channel Stability Problem Areas

All structures marked on the as-built plan were photographed and assessed for structural failures and erosion problems, also the entire length of Pott Creek, Rhodes Mill, and all of the UT's were walked and any problem areas were photographed and documented. This Photo Log with comments on each structure and problem area is available in Appendix E. All problem areas were deemed to be minor at this time and will be live staked this winter. The area upstream of the bridge where the first cross vane settled was re-graded and live staked and has stabilized very well. The confluence of the ditch with Pott Creek on the west bank just upstream of the bridge was filled in to reduce the flow of water to this area in high flow events. Areas directly under the bridge in the DOT ROW continue to be bare but have not suffered significant additional erosion since the initial event in October of 2005. The area directly under the bridge needs to be stabilized by the NCDOT (it is not in the conservation easement area), if the bridge is not scheduled for replacement in the near future.

3.2.5 Channel Stability Assessment Summary

Overall, with respect to the major over bank events since restoration was completed the site is in excellent condition and is weathering all over bank events well. The site appears very stable and livestaking done this winter has significantly improved the problem areas noted in the 2005 monitoring report. Problem areas comprise a very small percentage of the project as a whole and will be easily corrected.

APPENDIX A. Vegetation Raw Data

Vegetation Raw Data
Vegetation Monitoring Plot Photos

Vegetation Plots

1 (Northeast)

2 (North)

3 (Southeast)

4 (North)

5 (Along UT1 West)

6 (North)

7 (Northeast)

8 (Southwest)

9 (North)

10 (North)

11 (Along Rhodes Mill North)

Vegetation Plot 1

Comments: Found some Rubus in this plot not very bad

Herbaceous Cover 100% some minor bare spots

Fescue sp.
NY Ironweed Vernonia noveboracensis
Smartweed Polygonum pennsylvanicum
Tearthumb Polygonum hydropiperoides
Water pepper Polygonum arifolium
Cardinal Flower Lobelia cardinalis
Plains Coreopsis Coreopsis sp.
Goldenrod Solidago sp.
Daisy Fleabane Erigeron annus
Horse Nettle Solanum americana
Poke Weed Phytolacca americana
New England Aster Aster novae-angliae
Annual Gaillardia Gaillardia sp.
Moss Verbana Verbena sp.
Gay Feather Lysimachia sp.

Live Count 18 (14 Volunteers)

Species	Type	Health	Species	Type	Health
Betula nigra	Volunteer		Platanus occidentalis	volunteer	
Betula nigra	Volunteer		Platanus occidentalis	volunteer	
Betula nigra	Volunteer		Quercus bicolor	Tubling	Good
Betula nigra	Volunteer		Quercus phellos	Tubling	Good
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Live Stake	Good			
Betula nigra	Live Stake	Good			
Cornus amomum	Tubling	Good			
Diospyros vigininia	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Liriodendron tulipifera	Volunteer				
Platanus occidentalis	Bareroot	Good			
Platanus occidentalis	Bareroot	Good			
Platanus occidentalis	volunteer				
Platanus occidentalis	volunteer				

Vegetation Plot 2

Comments: Some Rubus

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Tearthumb
Water pepper
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Poke Weed
Sour grass Oxalis europaea
Soft Rush Juncus effusus
New England Aster
Annual Gaillardia
Moss Verbana
Gay Feather

Live Count 15 (10 Volunteers)

Species	Type	General Health	Species	Type	General Health
Betula nigra	Bareroot	Good	Salix nigra	Livestake	Good
Betula nigra	Volunteer		Sambucus canadensis	Live stake	Good
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Cornus amomum	Live Stake	Good			
Cornus amomum	Live Stake	Good			
Diospryos virginiana	Bareroot	Stressed			
Liriodendron tulipifera	Volunteer				
Plantanus occidentalis	Volunteer				
Plantanus occidentalis	Volunteer				
Populus deltoides	Volunteer				
Quercus bicolor	Tubeling	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus nigra	Bareroot	Good			
Quercus palustris	Bareroot	Good			
Quercus phellos	Bareroot	Stressed			
Salix nigra	Livestake	Good			
Salix nigra	Livestake	Good			

Vegetation Plot 3

Comments:

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Tearthumb
Water pepper
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Poke Weed
Sour grass
Soft Rush
New England Aster
Annual Gaillardia
Moss Verbana
Gay Feather
Rubus
Morning Glory sp.

Live Count **25** **(12 Volunteers)**

Species	Type	General Health	Species	Type	General Health
Alnus serrulata	Volunteer		Quercus bicolor	Tubeling	Good
Alnus serrulata	Volunteer		Quercus bicolor	Tubeling	Good
Alnus serrulata	Volunteer		Quercus palustris	Bareroot	Good
Betula nigra	Bareroot	Good	Quercus palustris	Bareroot	Good
Betula nigra	Bareroot	Good	Quercus palustris	Bareroot	Good
Betula nigra	Bareroot	Good	Salix nigra	Live Stake	Good
Betula nigra	Volunteer-numerous		Salix nigra	Live Stake	Good
Betula nigra	Volunteer		Salix nigra	Live Stake	Good
Betula nigra	Volunteer		Salix nigra	Live Stake	Good
Betula nigra	Volunteer		Salix nigra	Live Stake	Good
Celtis laevigata	Bareroot	Stressed	Salix nigra	Live Stake	Good
Cornus amomum	Bareroot	Good	Salix nigra	Live Stake	Good
Cornus amomum	Live Stake	Good	Salix nigra	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Liriodendron tulipifera	Volunteer				
Plantanus occidentalis	Volunteer				
Plantanus occidentalis	Volunteer				
Plantanus occidentalis	Volunteer				
Plantanus occidentalis	Volunteer				
Plantanus occidentalis	Volunteer				

Vegetation Plot 4

Comments:

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Tearthumb
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Poke Weed
Multifloria Rose
Soft Rush
New England Aster
Annual Gaillardia
Moss Verbana
Gay Feather

Live Count **35** **(5 Volunteers)**

Species	Type	General Health	Species	Type	General Health
Betula nigra	volunteer		Quercus lyrata	Bareroot	Good
Betula nigra	volunteer		Quercus lyrata	Bareroot	Good
Betula nigra	volunteer		Quercus lyrata	Bareroot	Good
Cephalanthus occidentalis	Bareroot	Good	Quercus palustris	Bareroot	Good
Cornus amomum	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus phellos	tubling	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus phellos	tubling	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus phellos	tubling	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus phellos	bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Livestake	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Livestake	Good
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Plantanus occidentalis	volunteer				
Plantanus occidentalis	volunteer				
Quercus bicolor	tubling	Good			
Quercus lyrata	Bareroot	Stressed			
Quercus lyrata	Bareroot	Stressed			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			

Vegetation Plot 5 Some Rubus

Comments:

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Tearthumb
Water pepper
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Soft Rush
Trumpet Creeper
Sour grass
New England Aster
Annual Gaillardia
Bifloria Rose
Greenbrier Smilex
Gay Feather

Live Count **23** **(1 Volunteer)**

Species	Type	General Health
Cornus amomum	Tubelings	Good
Diospryos virginiana	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good
Plantanus occidentalis	Live Stake	Good
Plantanus occidentalis	Live Stake	Good
Plantanus occidentalis	Volunteer	
Quercus bicolor	Tubling	Good
Quercus bicolor	Tubling	Good
Quercus bicolor	Tubling	Good
Quercus lyrata	Bareroot	Good
Quercus lyrata	Bareroot	Good
Quercus lyrata	Bareroot	Good
Salix nigra	Livestake	Good
Salix nigra	Livestake	Good
Salix nigra	Livestake	Good
Salix nigra	Livestake	Good
Salix nigra	Livestake	Good
Salix nigra	Livestake	Good

Vegetation Plot 6

Comments:

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Tearthumb
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Poke Weed
New England Aster
Annual Gaillardia
Moss Verbana
Gay Feather

Live Count 26 (8 Volunteers)

Species	Type	General Health	Species	Type	General Health
Betula nigra	Volunteer		Quercus lyrata	Bareroot	Good
Betula nigra	Volunteer		Quercus lyrata	Bareroot	Good
Betula nigra	Volunteer		Quercus lyrata	Bareroot	Good
Cornus amomum	Tubling	Good	Quercus palustris	Bareroot	Good
Cornus amomum	Livestake	Good	Quercus palustris	Bareroot	Good
Cornus amomum	Bareroot	Good	Salix nigra	Livestake	Good
Cornus amomum	Bareroot	Good	Salix nigra	Livestake	Good
Diospyros vigininia	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Liriodendron tulipifera	Volunteer				
Platanus occidentalis	Bareroot	Good			
Platanus occidentalis	Volunteer				
Platanus occidentalis	Volunteer				
Platanus occidentalis	Volunteer				
Platanus occidentalis	Volunteer				
Quercus bicolor	Tubling	Good			
Quercus bicolor	Bareroot	Good			
Quercus bicolor	Bareroot	Good			
Quercus bicolor	Bareroot	Good			
Quercus bicolor	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			

Vegetation Plot 7

Comments:

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Tearthumb
Water pepper
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Poke Weed
Sour grass
Soft Rush
New England Aster
Annual Gaillardia
Moss Verbana
Gay Feather
Trumpet Creeper Campsis radicans

Live Count 38 (5 Volunteers)

Species	Type	General Health	Species	Type	General Health
Betula nigra	Bareroot	stressed	Platanus occidentalis	volunteer	
Cornus amomum	Bareroot	Good	Platanus occidentalis	volunteer	
Cornus amomum	Bareroot	Good	Platanus occidentalis	volunteer	
Cornus amomum	Bareroot	Good	Quercus bicolor	Tubling	Good
Cornus amomum	Bareroot	Good	Quercus bicolor	Bareroot	Good
Diospyros virginiana	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Tubling	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Tubling	Good
Platanus occidentalis	Bareroot	Good	Quercus lyrata	Tubling	Good
Platanus occidentalis	Bareroot	Good	Quercus lyrata	Tubling	Good
Platanus occidentalis	Bareroot	Good	Quercus lyrata	Tubling	Good
Platanus occidentalis	Bareroot	Stressed	Quercus palustris	Bareroot	Good
Platanus occidentalis	Bareroot	Good	Quercus palustris	Bareroot	Good
Platanus occidentalis	Bareroot	Good	Quercus palustris	Bareroot	Good
Platanus occidentalis	Bareroot	Good	Quercus palustris	tubling	Good
Platanus occidentalis	Bareroot	Stressed	Quercus palustris	Bareroot	Good
Platanus occidentalis	Bareroot	Good	Quercus palustris	Bareroot	Good
Platanus occidentalis	Bareroot	Stressed			
Platanus occidentalis	Bareroot	Good			
Platanus occidentalis	Bareroot	Good			
Platanus occidentalis	volunteer				
Platanus occidentalis	volunteer				

Vegetation Plot 8

Comments:

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Cardinal Flower
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Poke Weed
Sour grass
Soft Rush
Annual Gaillardia
Moss Verbana
Gay Feather

Live Count **71** **(4 Volunteer)**

Species	**Type**	**General Health**	**Species**	**Type**	**General Health**
Betula nigra	Bareroot		Fraxinus pennsylvanica	Bareroot	Good
Cornus amomum	Live Stake	Good	Platanus occidentalis	Live Stake	Good
Cornus amomum	Live Stake	Good	Platanus occidentalis	Live Stake	Good
Cornus amomum	Live Stake	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Live Stake	Good
Fraxinus pennsylvanica	Bareroot	Good	Platanus occidentalis	Volunteer	
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Dying	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Stressed	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Stressed	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good

VP8 Cont.		
Species	**Type**	**General Health**
Quercus lyrata	Bareroot	Stressed
Quercus lyrata	Bareroot	Good
Quercus lyrata	Bareroot	Good
Quercus lyrata	Bareroot	Stressed
Quercus lyrata	Bareroot	Good
Quercus lyrata	Bareroot	Gpod
Quercus lyrata	Bareroot	Gpod
Quercus lyrata	Bareroot	Gpod
Quercus nigra	Bareroot	Good
Quercus palustris	Bareroot	Good
Quercus palustris	Bareroot	Good
Quercus palustris	Bareroot	Good
Quercus palustris	Bareroot	Good
Quercus palustris	Bareroot	Good
Quercus palustris	Bareroot	Good
Quercus phellos	Bareroot	Good
Quercus phellos	Bareroot	Good
Sambucus canadensis	Bareroot	Good
Sambucus canadensis	Bareroot	Good
Salix nigra	Volunteer	
Salix nigra	Volunteer	
Salix nigra	Volunteer	

Vegetation Plot 9

Comments: Some rubus was found in this plot.

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Plains Coreopsis
Goldenrod
Daisy Fleabane
Annual Gaillardia
Moss Verbana
Gay Feather

Live Count 57 (8 Volunteers)

Species	Type	General Health	Species	Type	General Health
Betula nigra	Volunteer		Fraxinus pennsylvanica	Bareroot	Good
Betula nigra	Volunteer		Lindera benzoin	Bareroot	Good
Cornus amomum	Live Stake	Good	Platanus occidentalis	Volunteer	
Cornus amomum	Live Stake	Good	Platanus occidentalis	Volunteer	
Cornus amomum	Live Stake	Good	Platanus occidentalis	Volunteer	
Cornus amomum	Live Stake	Good	Platanus occidentalis	Volunteer	
Cornus amomum	Live Stake	Good	Platanus occidentalis	Volunteer	
Cornus amomum	Live Stake	Good	Quercus bicolor	Bareroot	Good
Cornus amomum	Live Stake	Good	Quercus lyrata	Bareroot	Good
Cornus amomum	Live Stake	Good	Quercus lyrata	Bareroot	Good
Cornus amomum	Live Stake	Good	Quercus lyrata	Bareroot	Good
Cornus amomum	Live Stake	Good	Quercus lyrata	Bareroot	Good
Cornus amomum	Live Stake	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus nigra	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Stressed
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Stressed	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus palustris	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus phellos	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus phellos	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Livestake	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Livestake	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Livestake	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Livestake	Good
Fraxinus pennsylvanica	Bareroot	Good	Salix nigra	Livestake	Good
			Salix nigra	Livestake	Good
			Salix nigra	Volunteer	

Vegetation Plot 10

Comments: trees in this plot were very large and healthy
*some privet and rubus were found in this plot we cut back what we found

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Plains Coreopsis
Goldenrod
Daisy Fleabane
Horse Nettle
Poke Weed
Sour grass
Soft Rush
Annual Gaillardia
Moss Verbana
Gay Feather

Live Count 47 (17 Volunteers)

Species	**Type**	**General Health**	**Species**	**Type**	**General Health**
Betula nigra	Volunteer		Quercus bicolor	Bareroot	Good
Betula nigra	Volunteer		Quercus bicolor	Bareroot	Good
Betula nigra	Volunteer		Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus bicolor	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Good	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Stressed	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Bareroot	Stressed	Quercus lyrata	Bareroot	Good
Fraxinus pennsylvanica	Volunteer		Quercus nigra	Bareroot	Good
Platanus occidentalis	Bareroot		Quercus palustris	Bareroot	Good
Platanus occidentalis	Bareroot		Quercus palustris	Bareroot	Good
Platanus occidentalis	Volunteer		Quercus palustris	Bareroot	Good
Platanus occidentalis	Volunteer		Quercus palustris	Bareroot	Good
Platanus occidentalis	Volunteer		Quercus palustris	Bareroot	Good
Platanus occidentalis	Volunteer		Quercus palustris	Bareroot	Stressed
Platanus occidentalis	Volunteer		Quercus phellos	Bareroot	Good
Platanus occidentalis	Volunteer		Salix nigra	Live Stake	Good
Platanus occidentalis	Volunteer		Salix nigra	Live Stake	Good
Platanus occidentalis	Volunteer		Salix nigra	Live Stake	Good
Platanus occidentalis	Volunteer		Salix nigra	Live Stake	Good

VP10 Cont.		
Species	**Type**	**General Health**
Salix nigra	Live Stake	Good
Salix nigra	Live Stake	Good
Salix nigra	Live Stake	Good
Salix nigra	Volunteer	
Salix nigra	Volunteer	
Salix nigra	Volunteer	
Salix nigra	Volunteer	
Salix nigra	Volunteer	
Salix sericea	Live Stake	Good

Vegetation Plot 11

Comments: Lots of small sycamore volunteers on bank--very grown up with Herbs
trees are very healthy
*also small willow volunteers

Herbaceous Cover 100%

Fescue sp.
NY Ironweed
Smartweed
Soft Rush
Begger Tick's Bidens frondosa
Goldenrod
Daisy Fleabane
Horse Nettle
Gay Feather

Live Count 28 (9 Volunteers)

Species	Type	General Health	Species	Type	General Health
Alnus serrulata	Volunteer		Quercus palustris	Bareroot	Stressed
Alnus serrulata	Volunteer		Salix nigra	Livestake	Good
Alnus serrulata	Volunteer		Salix nigra	Livestake	Good
Betula nigra	Volunteer		Salix nigra	Livestake	Good
Betula nigra	Volunteer		Salix nigra	Livestake	Good
Betula nigra	Volunteer				
Betula nigra	Volunteer				
Celtis laevigata	Bareroot	Good			
Cornus amomum	Bareroot	Good			
Cornus amomum	Bareroot	Good			
Cornus amomum	Bareroot	Good			
Cornus amomum	Livestake	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Fraxinus pennsylvanica	Bareroot	Good			
Liquidambar styraciflua	Volunteer				
Liquidambar styraciflua	Volunteer				
Platanus occidentalis	Livestake	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus lyrata	Bareroot	Good			
Quercus nigra	Bareroot	Good			
Quercus palustris	Bareroot	Good			
Quercus palustris	Bareroot	Good			

10 (50X50)		stems per plot		stems per acre
1 (25X100)		2500	=	43560
11 plots				
2500 square feet each				
Total	27500			
(1 acre = 43560 sq. feet)				

	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Plot 7	Plot 8	Plot 9	Plot 10	Plot 11	**Total**
Total Dead	3	8	6	11	3	2	8	22	21	6	0	90
Total Live Planted	18	15	25	35	23	26	38	71	57	47	28	383
Volunteers	14	10	12	5	1	8	5	4	8	17	28	112
Number "Stressed"	0	2	1	2	0	0	4	5	2	3	1	20
Percent Survival	86%	65%	81%	76%	88%	93%	83%	76%	73%	89%	100%	81%
Percent "Stressed"	0%	13%	4%	6%	0%	0%	10%	7%	4%	6%	4%	**5%**
Stems per acre (w/o Vols)	314	261	436	610	401	453	662	1237	993	819	488	
Stems per acre	558	436	645	697	418	592	749	1307	1133	1115	976	
Number of Species	8	11	9	10	7	9	8	11	10	10	11	
Number of Planted Species	7	9	7	8	7	7	8	10	9	10	8	

Combined Totals

Percent Survival	81	
Percent "Stressed"	5	
Stems Per Acre	607	(Without Volunteers)
Number of Species Counted	19	
Total Planted Species Counted	15	

APPENDIX B. Cross Sections

Data Plots and Tables
Photos

2005 Data

Station	Backshot	HI	Foreshot	Elevation
70.3	4.739	19.739		95.261
58.2			6.162	93.838
45.5			10.740	89.26
36.6			12.002	87.998
34.1			10.725	89.275
31.4			8.713	91.287
28.7			8.741	91.259
19.4			5.843	94.157
10			4.919	95.081

2006 Data

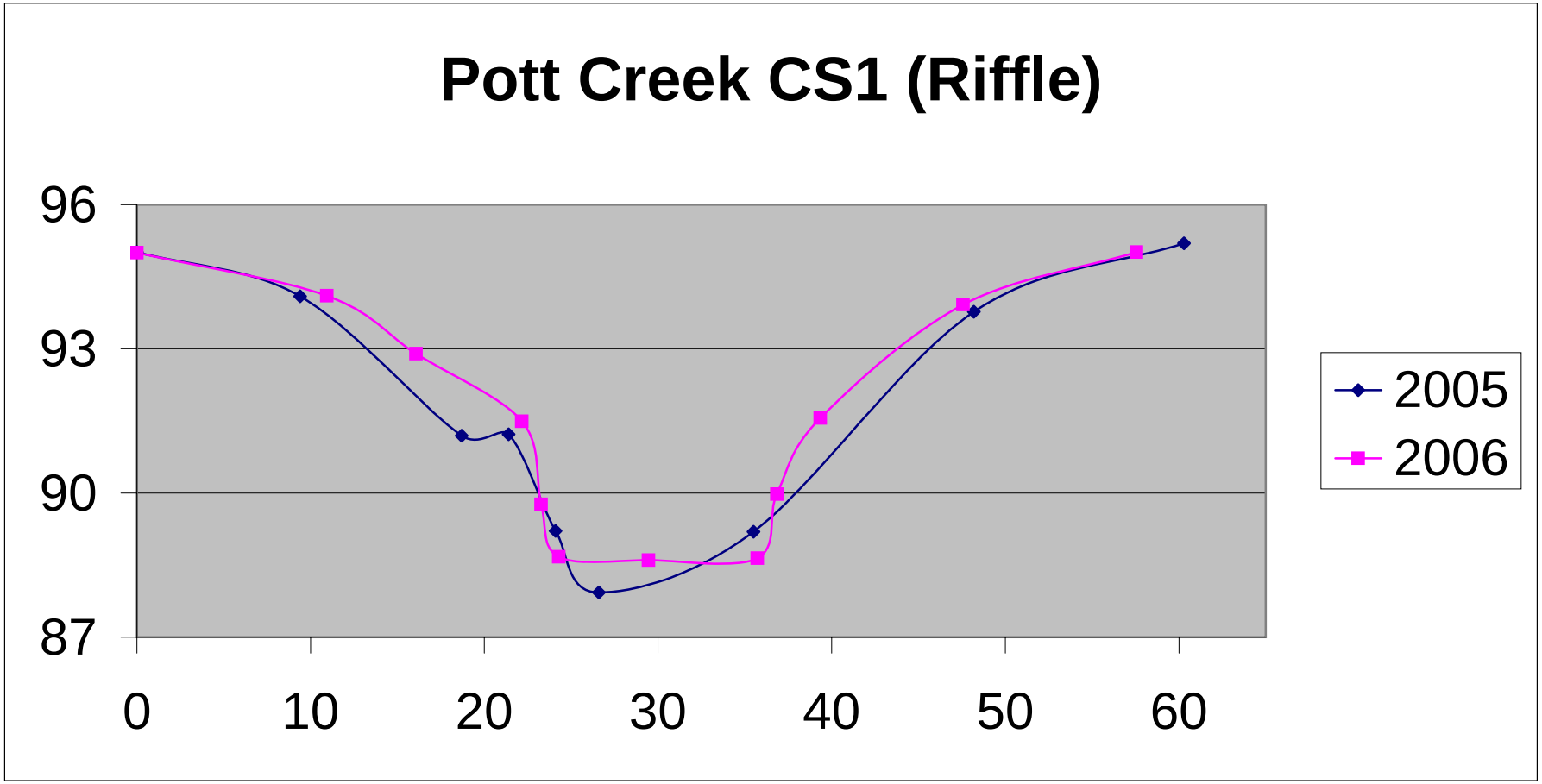
Point	X	Y	Elevation	Feature
PC11	4995.182	5006.866	95.01494	
PC12	4999.212	4996.872	93.91909	ltb
PC13	5003.695	4988.648	91.55835	lbf?
PC14	5004.79	4986.158	89.97782	
PC15	5005.114	4985.033	88.6425	lew
PC16	5006.37	4978.765	88.59976	THW
PC17	5009.166	4973.599	88.67336	rew
PC18	5009.352	4972.585	89.765	
PC19	5009.841	4971.471	91.49072	rbf?
PC110	5011.447	4965.371	92.89686	rtb?
PC111	5012.801	4960.246	94.10344	rtb
PC112	5016.714	4949.301	95.00228	

2005 w	2006 w	2005 e	2006 e
0	57.565	95.01494	95.01494
9.4	47.571	94.091	93.91909
18.7	39.347	91.193	91.55835
21.4	36.856	91.221	89.97782
24.1	35.732	89.209	88.6425
26.6	29.464	87.932	88.59976
35.5	24.298	89.194	88.67336
48.2	23.283	93.772	89.765
60.3	22.169	95.195	91.49072
	16.07		92.89686
	10.945		94.10344
	0		95.00228

	Width (ft)		Depth (ft)	
Feature	2005	2006	2005	2006
GS	60.3	57.565	7.26	6.40
RBF	48.2	47.571	5.84	5.50
REW	35.5	39.347	no-point	4.30
Thw	26.6	36.856	no-point	2.89
LEW	24.1	35.732	no-point	1.17
	18.7	29.464	1.26	0.07
	9.4	24.298	0.00	0.00
LBF	0	23.283	1.28	0.04
GS		22.169	3.29	1.38
		16.07	3.26	2.96
		10.945	6.16	5.32
		0	7.08	6.42

Survey Data		
Station	Elevation	Feature
57.57	95.01	GS
47.57	93.92	LBF
39.35	91.56	
36.86	89.98	
35.73	88.64	
29.46	88.60	THW
24.30	88.67	
23.28	89.77	
22.17	91.49	
16.07	92.90	
10.95	94.10	RBF
0.00	95.00	

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	120.5	232.76	197.802			
Bankfull Width	37.25	38.80	36.63			
Bankfull Mean Depth	3.2	5.99	5.4			
Bankfull Max Depth	4.82	6.16	5.5			
Width/Depth Ratio	11.6	6.48	6.78			
Entrenchment Ratio	8.05	7.73	8.19			
Width of Flood Prone Area = 300						



2005 Data

Station	Backshot	HI	Foreshot	Elevation
77.3	5.32	20.32		94.68
63.1			5.284	94.716
53.4			8.468	91.532
52.4			10.257	89.743
51.9			10.988	89.012
36.6			10.363	89.637
34			8.252	91.748
31.4			7.946	92.054
24.4			5.391	94.609
10.9			4.95	95.05

2006 Data

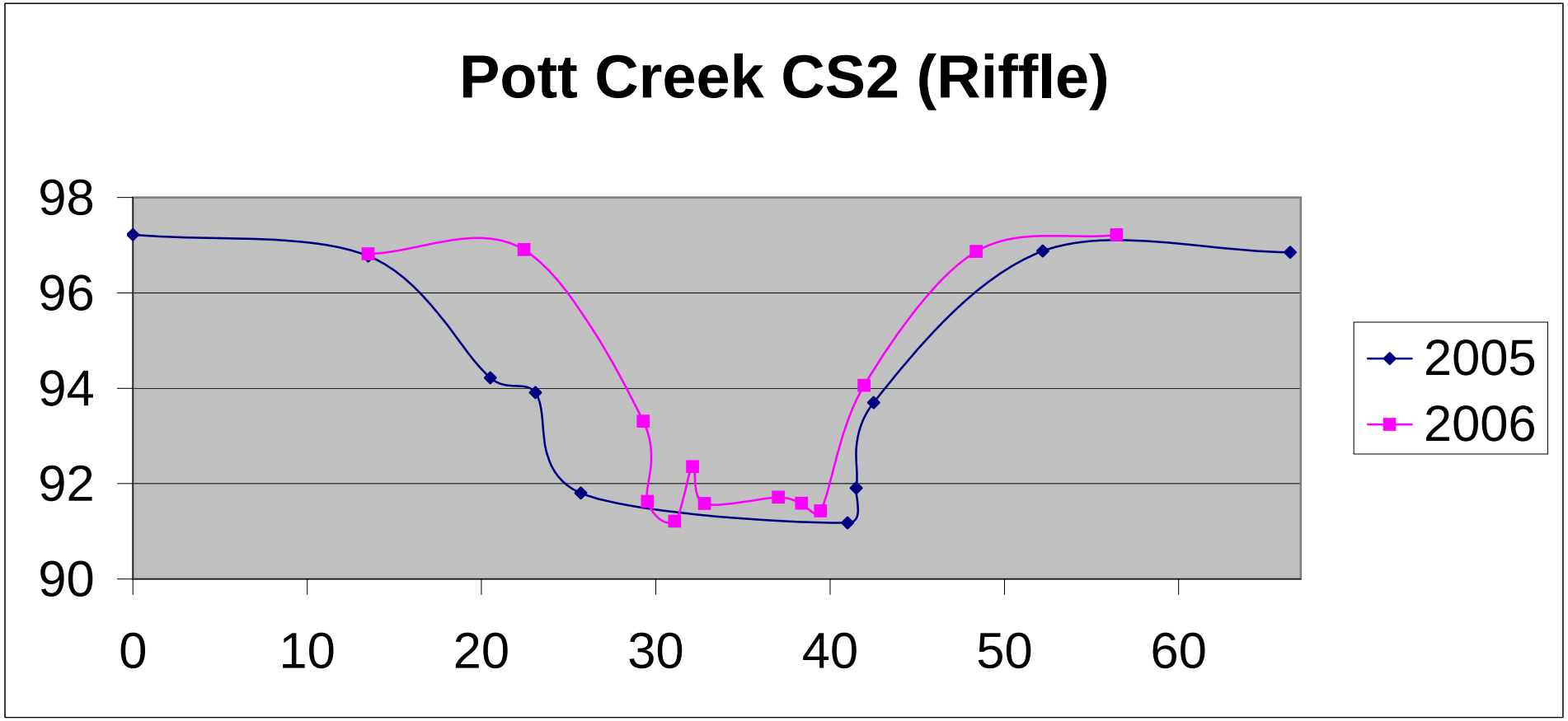
Point	X	Y	Elevation	Feature
PC21	5021.839	5005.995	97.21542	
PC22	5011.482	4997.96	96.86841	lbf
PC23	5004.723	4991.521	94.05649	
PC24	5002.023	4989.025	91.42863	lew
PC25	5000.768	4987.946	91.58424	
PC26	4998.98	4986.612	91.71234	
PC27	4994.388	4982.376	91.58226	
PC28	4993.025	4981.68	92.35304	sand bar
PC29	4991.936	4980.656	91.21239	thw
PC210	4989.802	4979.094	91.62571	rew
PC211	4989.151	4978.868	93.30685	
PC212	4981.004	4972.012	96.90567	rbf
PC213	4970.744	4963.074	96.81669	

2005 w	2006 w	2005 e	2006 e
0	56.43	97.22	97.22
13.5	48.39	96.77	96.87
20.5	41.95	94.22	94.06
23.1	39.45	93.91	91.43
25.7	38.37	91.80	91.58
41	37.04	91.18	91.71
41.5	32.80	91.91	91.58
42.5	32.11	93.70	92.35
52.2	31.08	96.88	91.21
66.4	29.52	96.85	91.63
	29.29		93.31
	22.44		96.91
	13.50		96.82

	Width (ft)		Depth (ft)	
Feature	2005	2006	2005	2006
GS	66.4	42.92	6.04	6
RFB	52.2	34.89	5.60	5.65
	42.5	28.45	3.04	2.84
REW	41.5	25.95	2.74	0.21
Thw	41	24.87	no-point	0.37
LEW	25.7	23.54	no-point	0.5
	23.1	19.30	no-point	0.37
	20.5	18.61	0.63	1.14
LBF	13.5	17.58	0	0
GS	0	16.02	0.73	0.41
		15.79	2.52	2.09
		8.94	5.70	5.69
		0.00	5.67	5.78

Survey Data		
Station	Elevation	Feature
42.92	97.22	
34.89	96.87	lbf
28.45	94.06	
25.95	91.43	lew
24.87	91.58	
23.54	91.71	
19.30	91.58	
18.61	92.35	sand bar
17.58	91.21	thw
16.02	91.63	rew
15.79	93.31	
8.94	96.91	rbf
0.00	96.82	

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	120.5	218.66	145.44			
Bankfull Width	37.25	38.70	25.65			
Bankfull Mean Depth	3.2	5.65	5.67			
Bankfull Max Depth	4.82	5.70	5.69			
Width/Depth Ratio	11.6	6.85	4.52			
Entrenchment Ratio	8.05	7.75	11.70			
Width of Flood Prone Area = 300						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E Converted	Feature
54	5.797	20.797		15	94.5116	GS
38.7			6.996	13.801	93.3126	RBF
33.1			8.404	12.393	91.9046	
28.8			10.478	10.319	89.8306	REW
19			13.245	7.552	87.0636	Thw
14.3			10.445	10.353	89.8646	LEW
14.2			5.465	15.332	94.8436	LBF
10.8			5.349	15.448	94.95965	GS

2006 Data

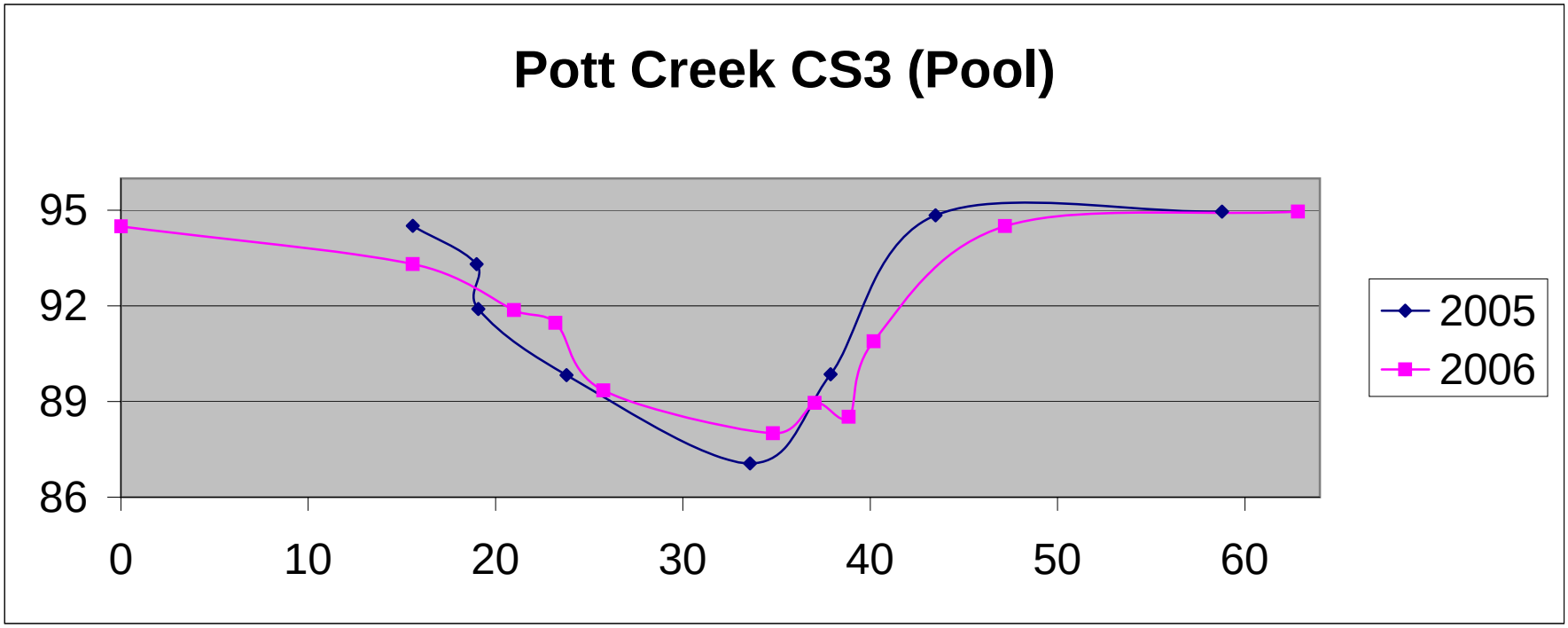
Point	X	Y	Elevation	Feature
PC31	4980.128	5059.115	94.95965	
PC32	4984.588	5043.472	94.50367	lbf
PC33	4986.551	5036.454	90.89199	lew
PC34	4987.25	5035.134	88.52315	
PC35	4987.965	5033.315	88.95515	
PC36	4987.846	5031.086	88.00485	Thw
PC37	4990.353	5022.034	89.35064	
PC38	4991.149	5019.476	91.46976	rew
PC39	4992.295	5017.257	91.86973	
PC310	4993.752	5011.854	93.30651	rbf
PC311	4998.676	4996.276	94.4941	

2005 w	2006 w	2005 e	2006 e
15.58	62.84	94.51	94.96
18.98	47.20	93.31	94.50
19.08	40.18	91.90	90.89
23.78	38.86	89.83	88.52
33.58	37.04	87.06	88.96
37.88	34.81	89.86	88.00
43.48	25.76	94.84	89.35
58.78	23.20	94.96	91.47
	20.98		91.87
	15.58		93.31
	0.00		94.49

Width (ft)		Depth (ft)	
2005	2006	2005	2006
43.2	62.84	7.45	6.50
27.9	47.20	6.25	5.31
22.3	40.18	4.84	3.87
18	38.86	no-point	3.47
8.2	37.04	2.77	1.35
3.5	34.81	0.00	0.00
3.4	25.76	2.80	0.95
0	23.20	no-point	0.52
	20.98	no-point	2.89
	15.58	7.78	6.50
	0.00	7.90	6.96

Survey Data		
Station	Elevation	Feature
62.84	94.96	
47.20	94.50	lbf
40.18	90.89	lew
38.86	88.52	
37.04	88.96	
34.81	88.00	Thw
25.76	89.35	
23.20	91.47	rew
20.98	91.87	
15.58	93.31	rbf
0.00	94.49	

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	152	171.84	186.56			
Bankfull Width	37.25	24.50	31.62			
Bankfull Mean Depth	3.2	7.01	5.90			
Bankfull Max Depth	4.82	7.78	6.50			
Width/Depth Ratio	11.6	3.49	5.36			
Entrenchment Ratio	8.05	12.24	9.49			
Width of Flood Prone Area = 300						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E Converted	Feature
-10.5	4.49	19.49		15	94.4	GS
6			5.46	14.03	93.43	RTB
13.2			8.393	11.097	90.497	
20.4			11.011	8.479	87.879	Thw
35.6			8.724	10.766	90.166	
46.4			4.613	14.877	94.277	LTB
50.9			3.7	15.79	95.19	GS

2006 Data

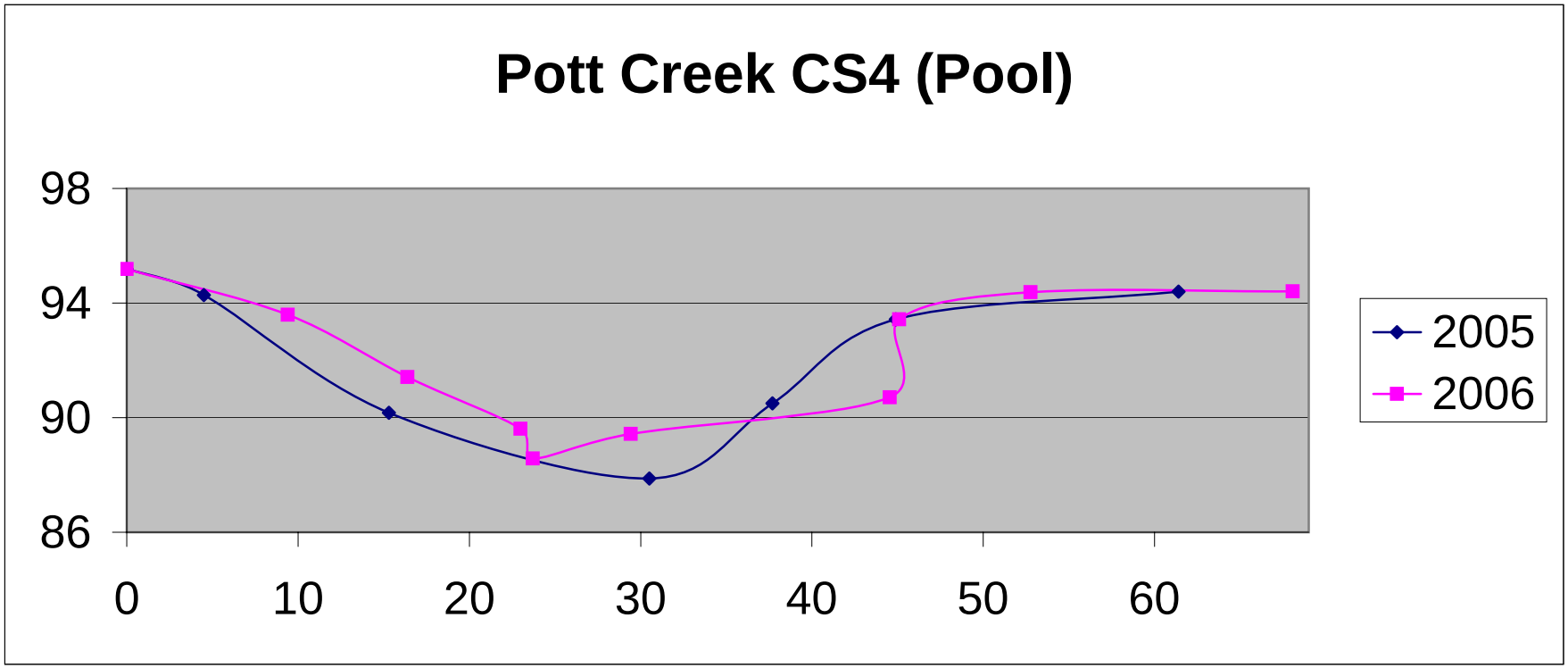
Point	X	Y	Elevation	Feature
PC41	4987.725	5070.994	95.19477	
PC42	4990.612	5055.683	93.58713	lbf
PC43	4992	5048.013	91.42119	
PC44	4992.219	5047.467	89.60948	lew
PC45	4994.948	5032.348	88.57364	
PC46	4996.179	5026.62	89.42914	thw
PC47	4996.309	5025.906	90.71437	rew
PC48	4997.894	5019.3	93.42942	
PC49	4999.082	5012.322	94.38007	rbf
PC410	5000.663	5002.92	94.40726	

2005 w	2006 w	2005 e	2006 e
61.4	68.07	94.40	94.41
44.9	52.76	93.43	94.38
37.7	45.09	90.50	93.43
30.5	44.55	87.88	90.71
15.3	29.43	90.17	89.43
4.5	23.70	94.28	88.57
0	22.99	95.19	89.61
	16.38		91.42
	9.40		93.59
	0.00		95.19

Width (ft)		Depth (ft)	
2005	2006	2005	2006
61.4	68.07	6.521	5.84
44.9	52.76	5.551	5.81
37.7	45.09	no-point	4.86
30.5	44.55	2.618	2.14
15.3	29.43	no-point	0.86
4.5	23.70	0	0
0	22.99	2.287	1.04
	16.38	no-point	2.85
	9.40	6.398	5.02
	0.00	7.311	6.62

Survey Data		
Station	Elevation	Feature
68.07	94.41	
52.76	94.38	rbf
45.09	93.43	
44.55	90.71	rew
29.43	89.43	
23.70	88.57	thw
22.99	89.61	lew
16.38	91.42	
9.40	93.59	lbf
0.00	95.19	

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	152	241.35	234.79			
Bankfull Width	37.25	40.40	43.36			
Bankfull Mean Depth	3.2	5.97	5.42			
Bankfull Max Depth	4.82	6.40	5.81			
Width/Depth Ratio	11.6	6.76	8.01			
Entrenchment Ratio	8.05	7.43	6.92			
Width of Flood Prone Area = 300						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E converted	Feature		Width (ft) 2005	Width (ft) 2006	Depth (ft) 2005	Depth (ft) 2006
80.7	7.585	22.585		15	94.01	GS	sw shots not be equal	68.2	31.47	4.93	4.77
67.7			8.332	14.253	93.26	GS	Break over sand bar	55.2	24.10	4.183	4.45
64.9			8.243	14.342	93.35	RTB		52.4	19.93	4.272	4.27
55.9			11.148	11.437	90.45			43.4	18.97	no-point	2.25
41.8			12.515	10.07	89.08	Thw		29.3	16.74	no-point	1.32
38.2			11.248	11.337	90.35			25.7	15.05	no-point	0.88
29.7			6.803	15.782	94.79	LTB		17.2	14.34	no-point	1.25
12.5			5.852	16.733	95.74	GS		0	13.06	1.367	0.55
									11.96	0	0

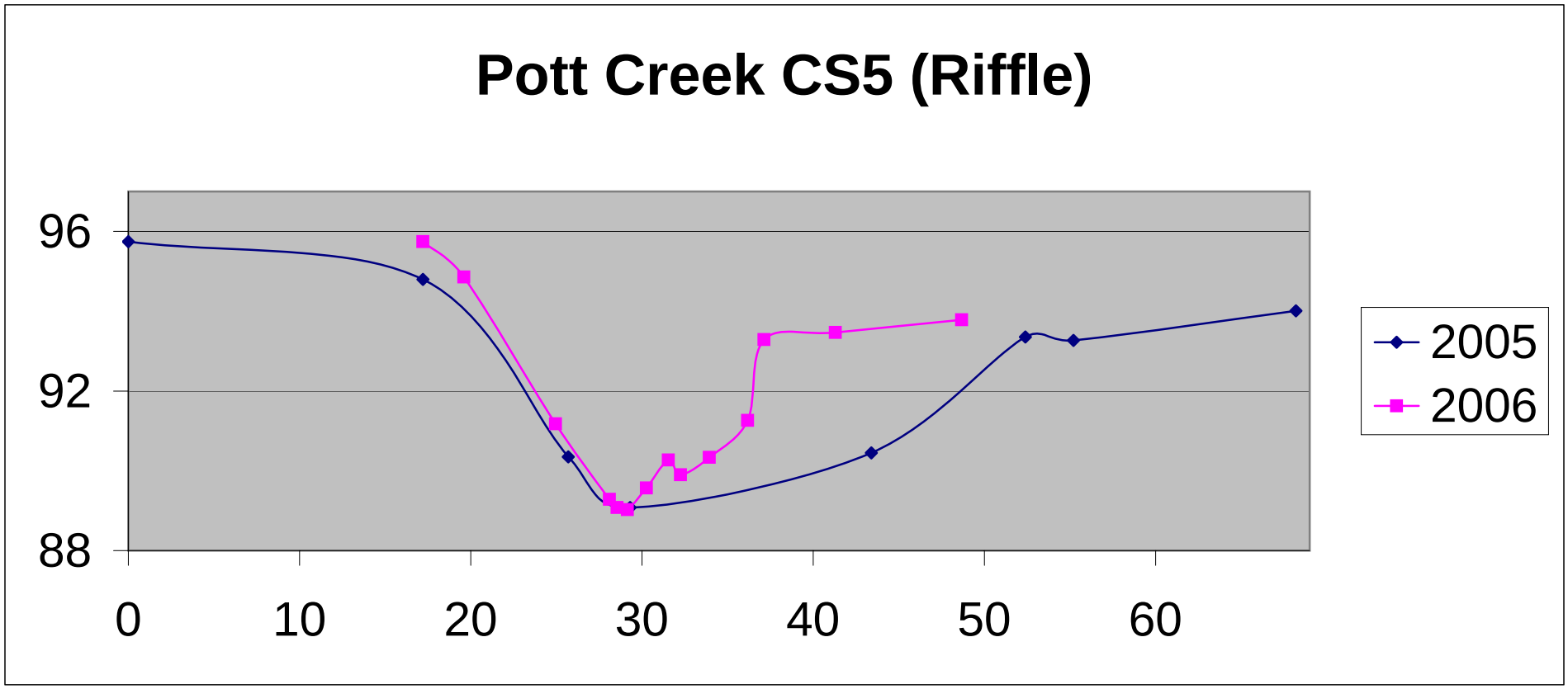
2006 Data

Point	X	Y	Elevation	Feature
PC51	5008.841	4992.711	95.74474	lbf
PC52	4994.003	5000.081	94.85883	
PC53	4987.325	5004.249	91.17889	lew
PC54	4985.913	5005.207	89.28146	
PC55	4981.094	5007.434	89.07554	
PC56	4978.111	5009.131	89.02411	
PC57	4977.08	5009.835	89.57124	
PC58	4974.304	5011.121	90.26662	sand bar
PC59	4971.641	5012.213	89.89936	
PC510	4970.008	5012.827	90.33597	
PC511	4969.386	5013.277	91.26472	rew
PC512	4962.533	5016.419	93.28916	rbf
PC513	4953.002	5021.774	93.46448	
PC514	4948.692	5024.177	93.78082	

2005 w	2006 w	2005 e	2006 e
0	17.20	95.74	95.74
17.2	19.60	94.79	94.86
25.7	24.96	90.35	91.18
29.3	28.10	89.08	89.28
43.4	28.55	90.45	89.08
52.4	29.16	93.35	89.02
55.2	30.26	93.26	89.57
68.2	31.54	94.01	90.27
	32.25		89.90
	33.94		90.34
	36.17		91.26
	37.13		93.29
	41.30		93.46
	48.67		93.78

Survey Data		
Station	Elevation	Feature
0.00	95.74	lbf
2.40	94.86	
7.76	91.18	lew
10.90	89.28	
11.35	89.08	
11.96	89.02	thw
13.06	89.57	
14.34	90.27	sand bar
15.05	89.90	
16.74	90.34	
18.97	91.26	rew
19.93	93.29	rbf
24.10	93.46	
31.47	93.78	

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	120.5	188.01	109.62			
Bankfull Width	37.25	38.00	19.93			
Bankfull Mean Depth	3.2	4.95	5.5			
Bankfull Max Depth	4.82	5.71	6.73			
Width/Depth Ratio	11.6	7.68	3.62			
Entrenchment Ratio	8.05	7.89	15.05			
Width of Flood Prone Area = 300						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E converted	Feature
82.2	6.889	21.889		15	94.44914	GS
62.2			7.765	14.124	93.57314	RTB
53.9			10.857	11.032	90.48114	
39.8			14.19	7.699	87.14814	Thw
31.9			10.795	11.094	90.54314	
24.1			6.907	14.982	94.43114	LTB
6			5.691	16.198	95.64714	GS

2006 Data

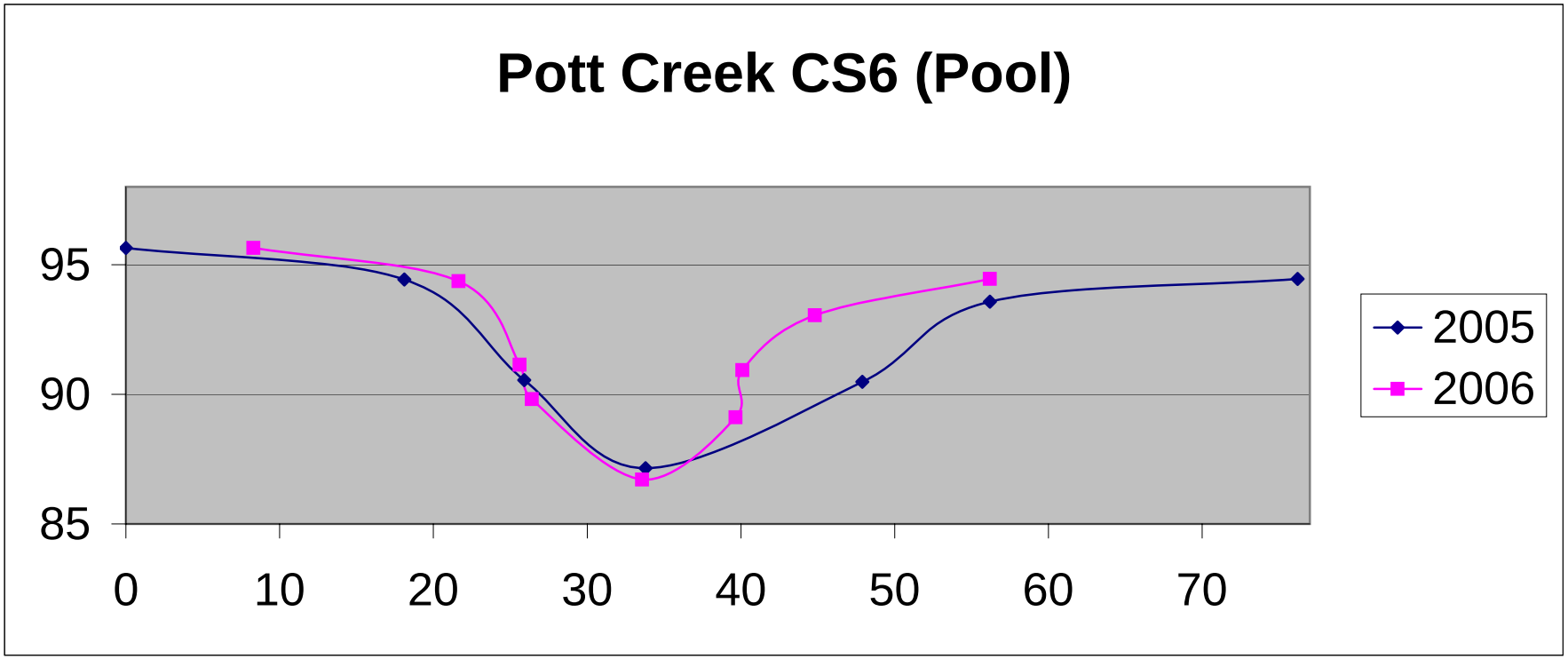
Point	X	Y	Elevation	Feature
PC61	5012.852	4994.61	95.64714	
PC62	4998.254	5005.994	94.36622	LBF
PC63	4992.564	5010.706	91.13655	
PC64	4992.167	5011.149	89.8149	LEW
PC65	4984.34	5017.221	86.70749	THW
PC66	4974.784	5024.409	89.11025	REW
PC67	4973.861	5025.191	90.93076	
PC68	4969.641	5029.167	93.04645	
PC69	4952.788	5042.515	94.44799	RBF

2005 w	2006 w	2005 e	2006 e
0	8.29	95.65	95.65
18.1	21.64	94.43	94.37
25.9	25.61	90.54	91.14
33.8	26.40	87.15	89.81
47.9	33.58	90.48	86.71
56.2	39.66	93.57	89.11
76.2	40.10	94.45	90.93
	44.81		93.05
	56.20		94.45

Width (ft)		Depth (ft)	
2005	2006	2005	2006
76.2	47.91	7.301	7.74
56.2	36.52	6.425	6.34
47.9	31.81	no-point	4.22
33.9	31.37	3.333	2.4
25.9	25.29	0	0
18.1	18.11	3.395	3.11
0	17.32	no-point	4.43
	13.35	7.283	7.66
	0.00	8.499	8.94

Survey Data		
Station	Elevation	Feature
0.00	95.65	
13.35	94.37	LBF
17.32	91.14	
18.11	89.81	LEW
25.29	86.71	THW
31.37	89.11	REW
31.81	90.93	
36.52	93.05	
47.91	94.45	RBF

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	152	261.14	266.11			
Bankfull Width	37.25	38.10	34.56			
Bankfull Mean Depth	3.2	6.85	7.7			
Bankfull Max Depth	4.82	7.28	7.74			
Width/Depth Ratio	11.6	5.56	4.49			
Entrenchment Ratio	8.05	7.87	8.68			
Width of Flood Prone Area = 300						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E converted	Feature	Width (ft) 2005	Width (ft) 2006	Depth (ft) 2005	Depth (ft) 2006
24.7	5.042	15.042		10	94.6191	GS	18.5	14.63	2.154	1.59
20.3			5.261	9.781	94.4001	LTB	14.1	10.59	1.935	1.19
16.6			6.593	8.449	93.0681		10.4	9.53	0.603	0.29
13.9			7.196	7.846	92.4651	Ctr	7.7	7.28	0	0
13.1			6.58	8.462	93.0811		6.9	5.58	0.616	0.32
11.1			5.343	9.699	94.3181	RTB	4.9	3.35	1.853	1.46
6.2			4.931	10.111	94.7301	GS	0	0.00	2.265	1.8

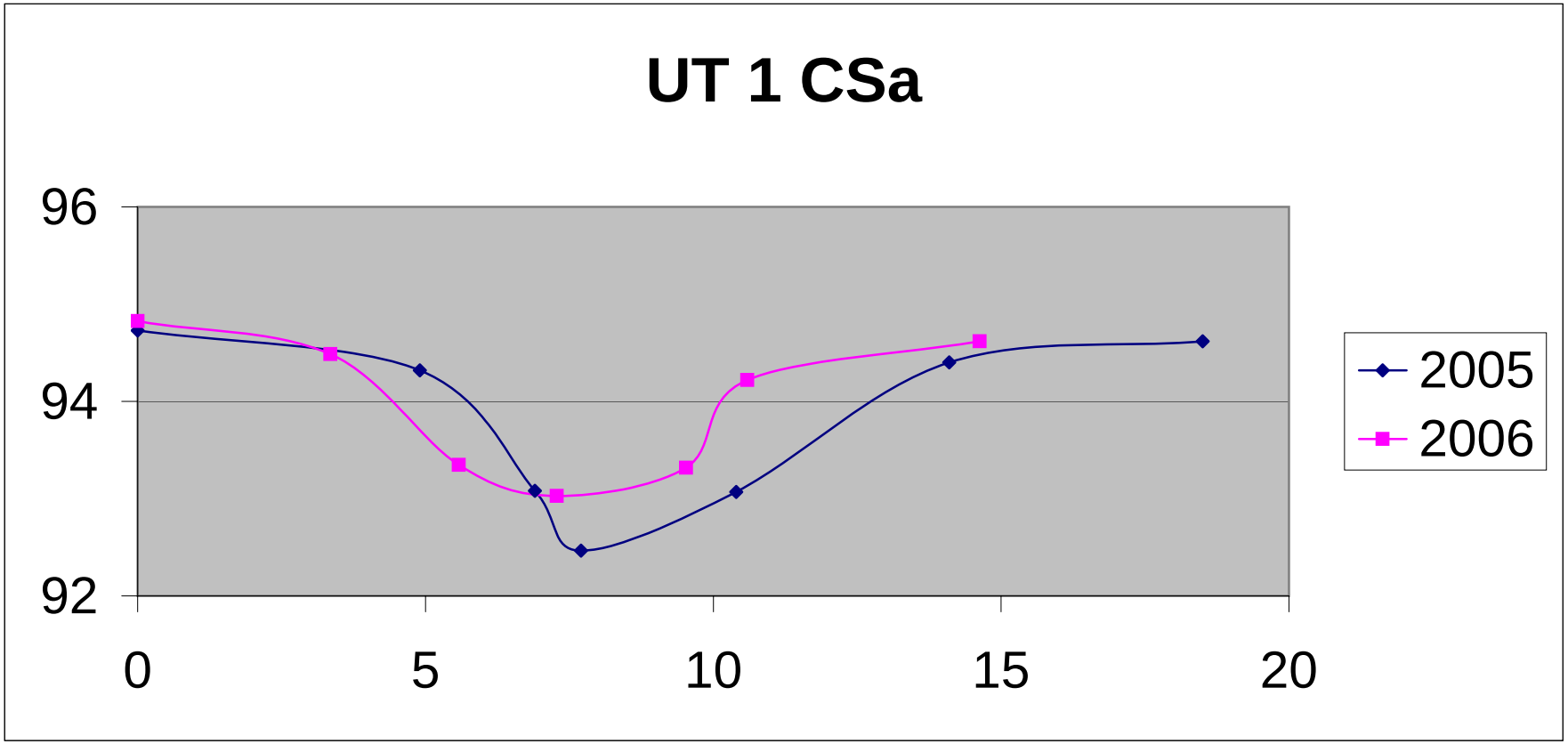
2006 Data

Point	X	Y	Elevation	Feature
UT11	4989.308	4993.69	94.6191	GS
UT12	4985.965	4997.729	94.21897	LTB
UT13	4984.7	4998.792	93.31888	
UT14	4982.86	5001.042	93.027	Ctr
UT15	4981.416	5002.741	93.34605	
UT16	4979.882	5004.973	94.48612	RTB
UT17	4977.116	5008.322	94.8248	GS

2005 w	2006 w	2005 e	2006 e
18.5	14.63	94.62	94.62
14.1	10.59	94.40	94.22
10.4	9.53	93.07	93.32
7.7	7.28	92.47	93.03
6.9	5.58	93.08	93.35
4.9	3.35	94.32	94.49
0	0.00	94.73	94.82

Survey Data		
Station	Elevation	Feature
14.633	94.62	GS
10.59	94.22	LTB
9.53	93.32	
7.28	93.03	Ctr
5.58	93.35	
3.35	94.49	RTB
0	94.82	GS

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	10.2	17.42	9.59			
Bankfull Width	10.5	9.20	7.24			
Bankfull Mean Depth	0.97	1.89	1.325			
Bankfull Max Depth	1.9	1.94	1.46			
Width/Depth Ratio	10.8	4.86	5.46			
Entrenchment Ratio	16.7	19.02	24.17			
Width of Flood Prone Area = 175						



2005 Data

Station	Backshot	HI	Foreshot	Elevation
19.3	6.049	16.049		93.951
14			8.702	91.298
13.3			8.905	91.095
12.2			8.711	91.289
6.3			6.253	93.747

Feature	Width (ft) 2005	2006	2005	2006
LTB	13	8.93	2.856	2.976
	7.7	5.63	0.203	0.53
Thw	7	4.73	0	0
	5.9	3.87	0.194	0.43
RTB	0	0.00	2.652	2.759

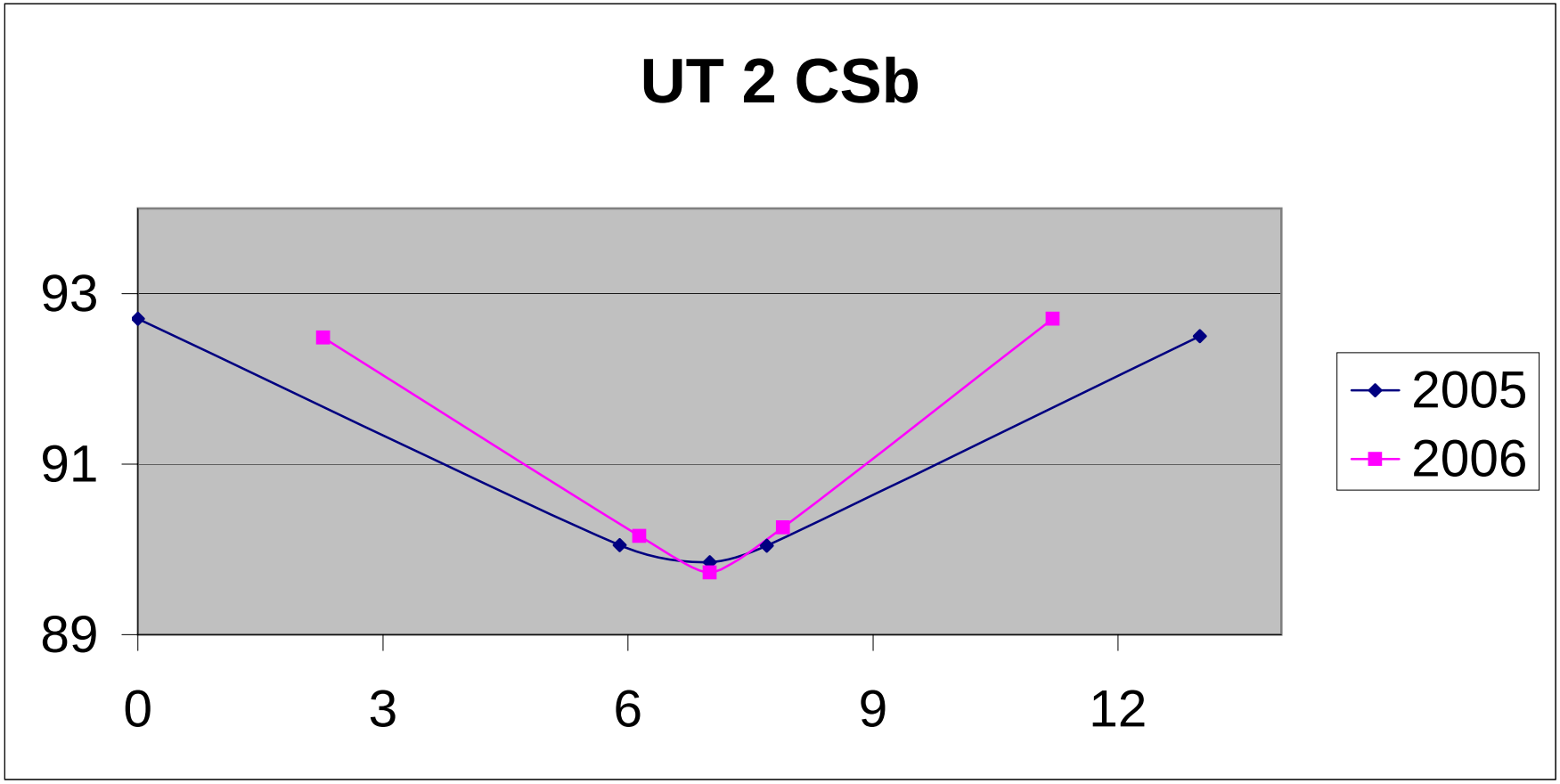
2006 Data

Point	X	Y	Elevation	Feature
UT21	5005.954	5028.169	92.70472	LTB
UT22	5010.017	5024.868	90.25848	
UT23	5010.599	5023.968	89.72807	Thw
UT24	5011.917	5023.111	90.15774	
UT25	5015.968	5019.238	92.48625	RTB

2005 W	2006 W	2005 E	2006 E
0	11.20	92.705	92.705
5.9	7.90	90.052	90.258
7	7.00	89.849	89.728
7.7	6.14	90.043	90.158
13	2.27	92.501	92.486

Survey Data		
Station	Elevation	Feature
8.932	92.705	LTB
5.63	90.258	
4.73	89.728	Thw
3.87	90.158	
0	92.486	RTB

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	21	35.80	25.83			
Bankfull Width	13.7	13.00	9.00			
Bankfull Mean Depth	1.5	2.75	2.87			
Bankfull Max Depth	2.79	2.86	2.98			
Width/Depth Ratio	9.1	4.72	3.14			
Entrenchment Ratio	5.8	6.15	8.89			
Width of Flood Prone Area = 80						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E converted	Feature
21.5	5.309	15.309		10	94.65	LTB
16.1			7.24	8.069	92.67	
15.2			7.728	7.581	92.23	Ctr
12.2			7.214	8.095	92.75	
7.5			5.62	9.689	94.34	RTB

2006 Data

Point	X	Y	Elevation	Feature
UT31	5006.153	5008.243	94.62318	LTB
UT32	5002.446	5012.162	92.59927	
UT33	5001.007	5013.114	91.95454	Ctr
UT34	4999.878	5014.563	92.45898	
UT35	4996.326	5018.239	94.34446	RTB

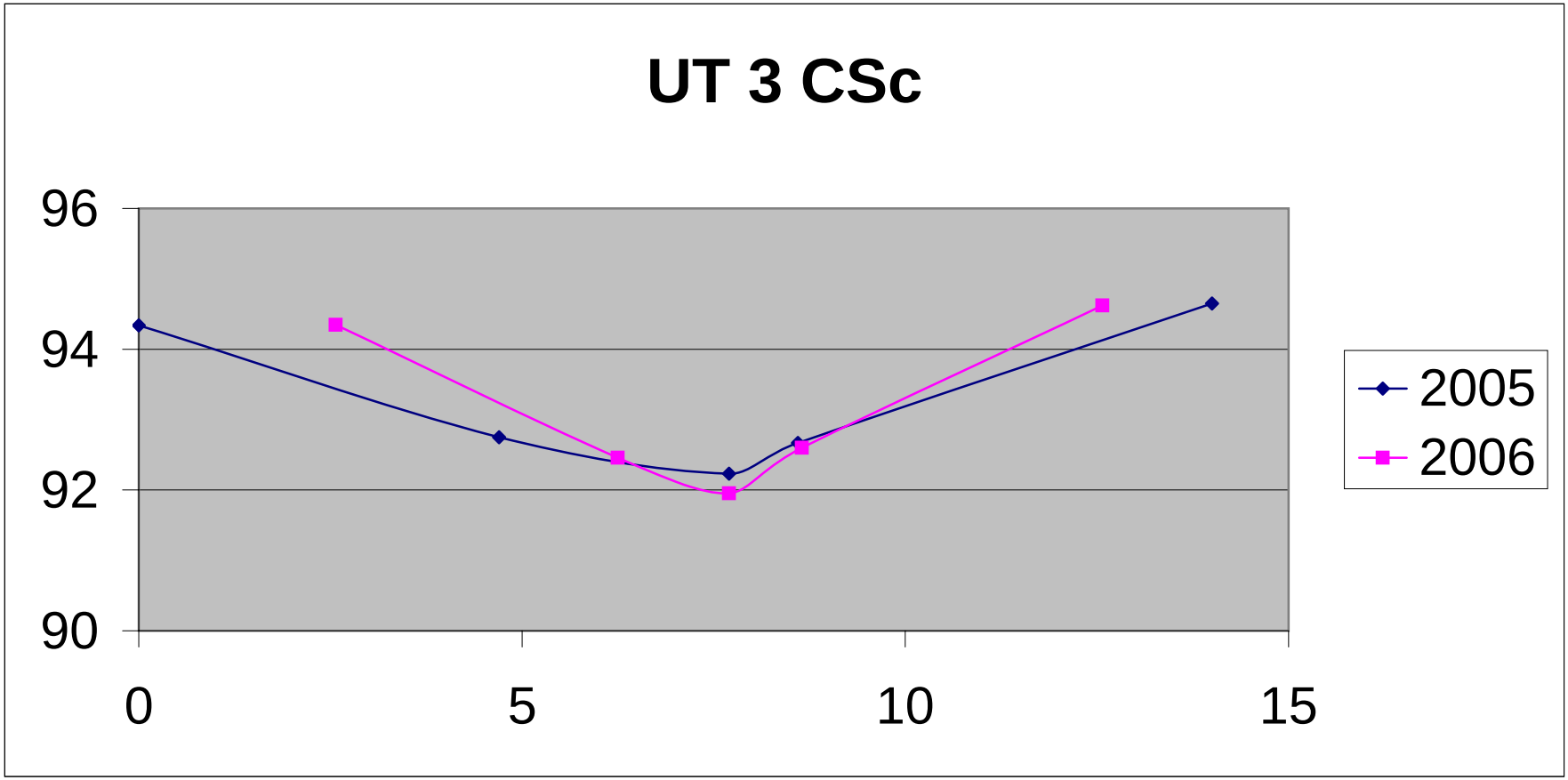
Width (ft)

2005	2006	2005	2006.00
14	10.00	2.42	2.66
8.6	6.08	0.49	0.64
7.7	5.13	0.00	0.00
4.7	3.68	0.51	0.50
0	0.00	2.11	2.39

2005 W	2006 W	2005 E	2006 E
14	12.57	94.65	94.62
8.6	8.65	92.67	92.60
7.7	7.70	92.23	91.95
4.7	6.25	92.75	92.46
0	2.57	94.34	94.34

Survey Data		
Station	Elevation	Feature
9.997	94.62	LTB
6.077	92.60	
5.126	91.95	Ctr
3.676	92.46	
0	94.34	RTB

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	18.3	31.68	25.20			
Bankfull Width	13.9	14.00	10.00			
Bankfull Mean Depth	1.3	2.26	2.52			
Bankfull Max Depth	2.68	2.42	2.66			
Width/Depth Ratio	10.7	6.19	3.97			
Entrenchment Ratio	18	17.86	25.00			
Width of Flood Prone Area = 250						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E converted	Feature
45.5	5.11	15.11		10	93.745	GS
35.2			4.76	10.35	94.095	LTB
31			8.22	6.89	90.635	
29.4			9.053	6.057	89.802	Thw
14.4			8.273	6.837	90.582	
5.6			5.377	9.733	93.478	RTB

2006 Data

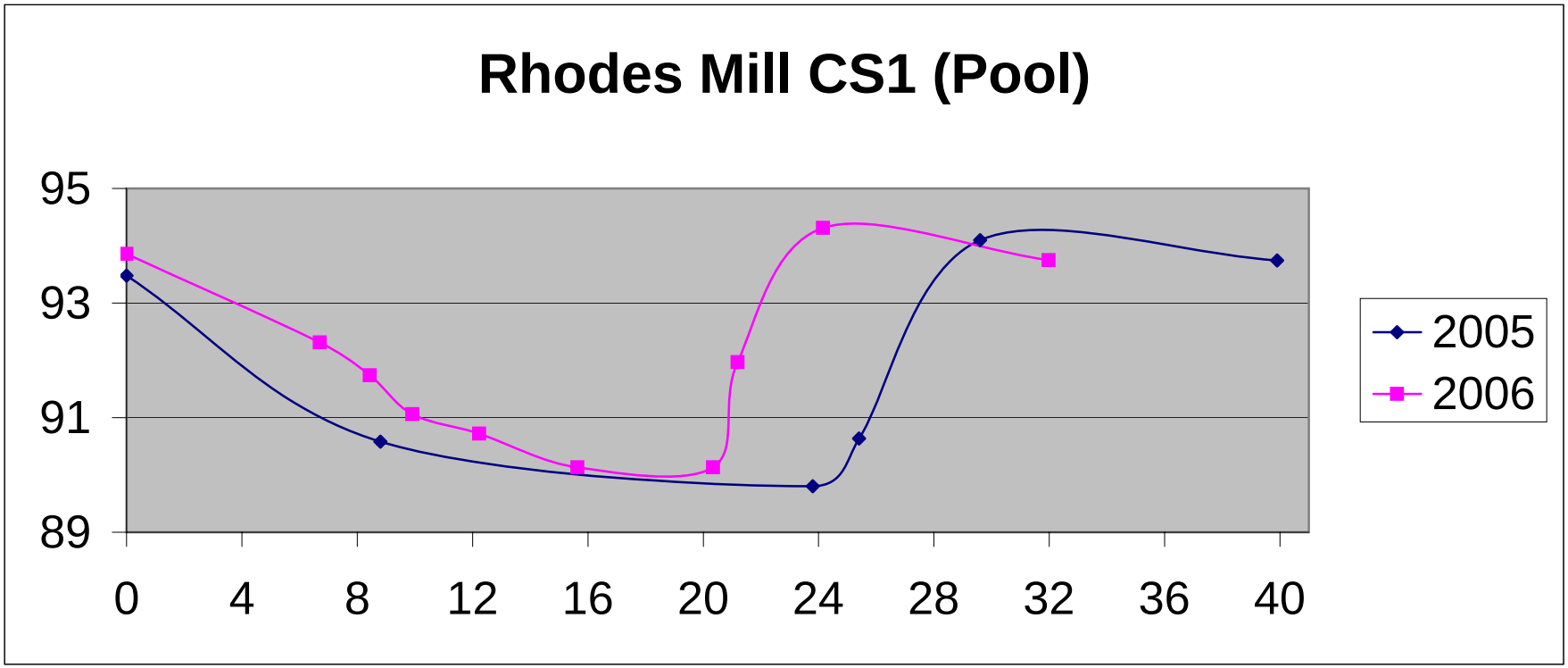
Point	X	Y	Elevation	Feature
RM11	5027.367	4962.208	93.745	
RM12	5021.332	4970.033	94.30578	lbf
RM13	5018.582	4972.999	91.97382	
RM14	5017.772	4973.847	90.12935	lew
RM15	5014.106	4978.554	90.13327	thw
RM16	5011.177	4981.959	90.72113	rew
RM17	5009.565	4984.278	91.06062	
RM18	5008.744	4985.756	91.74026	
RM19	5007.711	4987.488	92.30816	
RM110	5003.917	4994.19	93.86134	rbf

2005 W	2006 W	2005 E	2006 E
39.9	31.98	93.75	93.75
29.6	24.16	94.10	94.31
25.4	21.19	90.64	91.97
23.8	20.34	89.80	90.13
8.8	15.64	90.58	90.13
0	12.23	93.48	90.72
	9.91		91.06
	8.43		91.74
	6.70		92.31
	0.00		93.86

Width (ft)		Depth (ft)	
2005	2006	2005	2006
39.9	31.98	3.68	3.62
29.6	24.16	no-point	4.18
25.4	21.19	no-point	1.84
23.8	20.34	0.78	0
8.8	15.64	0.00	0
0	12.23	0.83	0.59
	9.91	no-point	0.93
	8.43	no-point	1.61
	6.70	4.29	2.18
	0.00	3.94	3.73

Survey Data		
Station	Elevation	Feature
31.98	93.75	
24.16	94.31	lbf
21.19	91.97	
20.34	90.13	lew
15.64	90.13	thw
12.23	90.72	rew
9.91	91.06	
8.43	91.74	
6.70	92.31	
0.00	93.86	rbf

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	50	123.90	95.43			
Bankfull Width	32	31.10	24.16			
Bankfull Mean Depth	2.19	3.98	3.95			
Bankfull Max Depth	3.15	4.29	4.18			
Width/Depth Ratio	14.6	7.81	6.12			
Entrenchment Ratio	9.38	9.65	12.42			
Width of Flood Prone Area = 300						



2005 data

Station	Backshot	HI	Foreshot	Elevation	E converted	Feature	Width (ft) 2005	Width (ft) 2006	Depth (ft) 2005	Depth (ft) 2006
50.6	5.098	15.098		10	94.26	GS	43.9	27.31	4.572	4.49
41.5			5.415	9.683	93.94	RTB	34.8	23.08	2.34	4.63
38			7.153	7.945	92.21		31.3	18.91	1.635	2.07
35.6			7.953	7.145	91.41		28.9	18.01	0.938	0.81
34.5			8.776	6.322	90.58		27.8	15.37	0	0
29.8			9.64	5.458	89.72	Thw	23.1	12.16	0.864	0.66
24.1			8.702	6.396	90.66		17.4	11.31	1.687	1.08
20.3			8.005	7.093	91.35		13.6	10.94	2.487	1.67
19.7			7.3	7.798	92.06		13	9.77	4.225	2.09
6.7			5.068	10.03	94.29	LTB	0	0.00	4.542	4.53

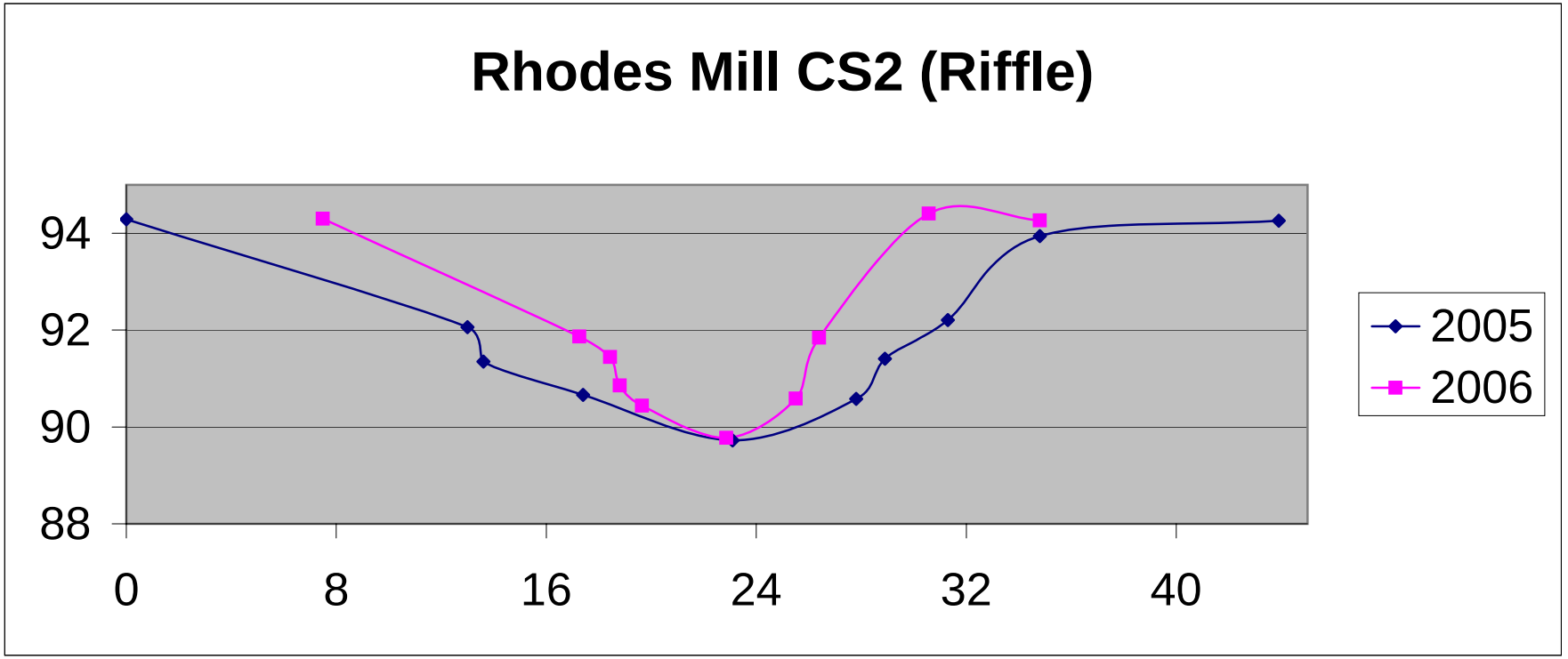
2006 Data

Point	X	Y	Elevation	Feature
RM21	5035.185	4969.661	94.26488	
RM22	5029.08	4973.893	94.40695	lbf
RM23	5023.627	4978.057	91.84569	
RM24	5022.915	4978.964	90.58399	lew
RM25	5018.775	4981.602	89.77666	thw
RM26	5015.152	4984.809	90.4377	rew
RM27	5014.337	4985.664	90.85671	
RM28	5013.661	4986.027	91.445	
RM29	5012.454	4987.196	91.86787	
RM210	5001.731	4996.969	94.30326	rbf

2005 W	2006 W	2005 E	2006 E
0	34.80	94.29	94.26
13	30.57	92.06	94.41
13.6	26.40	91.35	91.85
17.4	25.50	90.66	90.58
23.1	22.86	89.72	89.78
27.8	19.65	90.58	90.44
28.9	18.80	91.41	90.86
31.3	18.43	92.21	91.45
34.8	17.26	93.94	91.87
43.9	7.49	94.26	94.30

Survey Data		
Station	Elevation	Feature
27.31	94.26	
23.08	94.41	rbf
18.91	91.85	
18.01	90.58	rew
15.37	89.78	thw
12.16	90.44	lew
11.31	90.86	
10.94	91.45	
9.77	91.87	
0.00	94.30	lbf

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	70	135.90	105.71			
Bankfull Width	32	30.90	23.08			
Bankfull Mean Depth	2.19	4.40	4.58			
Bankfull Max Depth	3.15	4.57	4.63			
Width/Depth Ratio	14.6	7.03	5.04			
Entrenchment Ratio	9.38	9.71	13.00			
Width of Flood Prone Area = 300						



2005 Data

Station	Backshot	HI	Foreshot	Elevation	E converte	Feature	Width (ft) 2005	Width (ft) 2006	Depth (ft) 2005	Depth (ft) 2006.00
20.2	6.155	16.155		10	93.97	RTB	14.7	14.64	2.46	2.40
17.7			6.712	9.443	93.41		12.2	12.25	1.90	1.65
14.8			8.439	7.716	91.69		9.3	8.97	0.17	0.29
13.3			8.612	7.543	91.51	Ctr	7.8	7.19	0.00	0.00
11.1			8.47	7.685	91.66		5.6	5.5	0.14	0.25
7.7			6.554	9.601	93.57		2.2	3.37	2.06	1.88
5.5			5.911	10.244	94.21	LTB	0	0	2.70	2.62

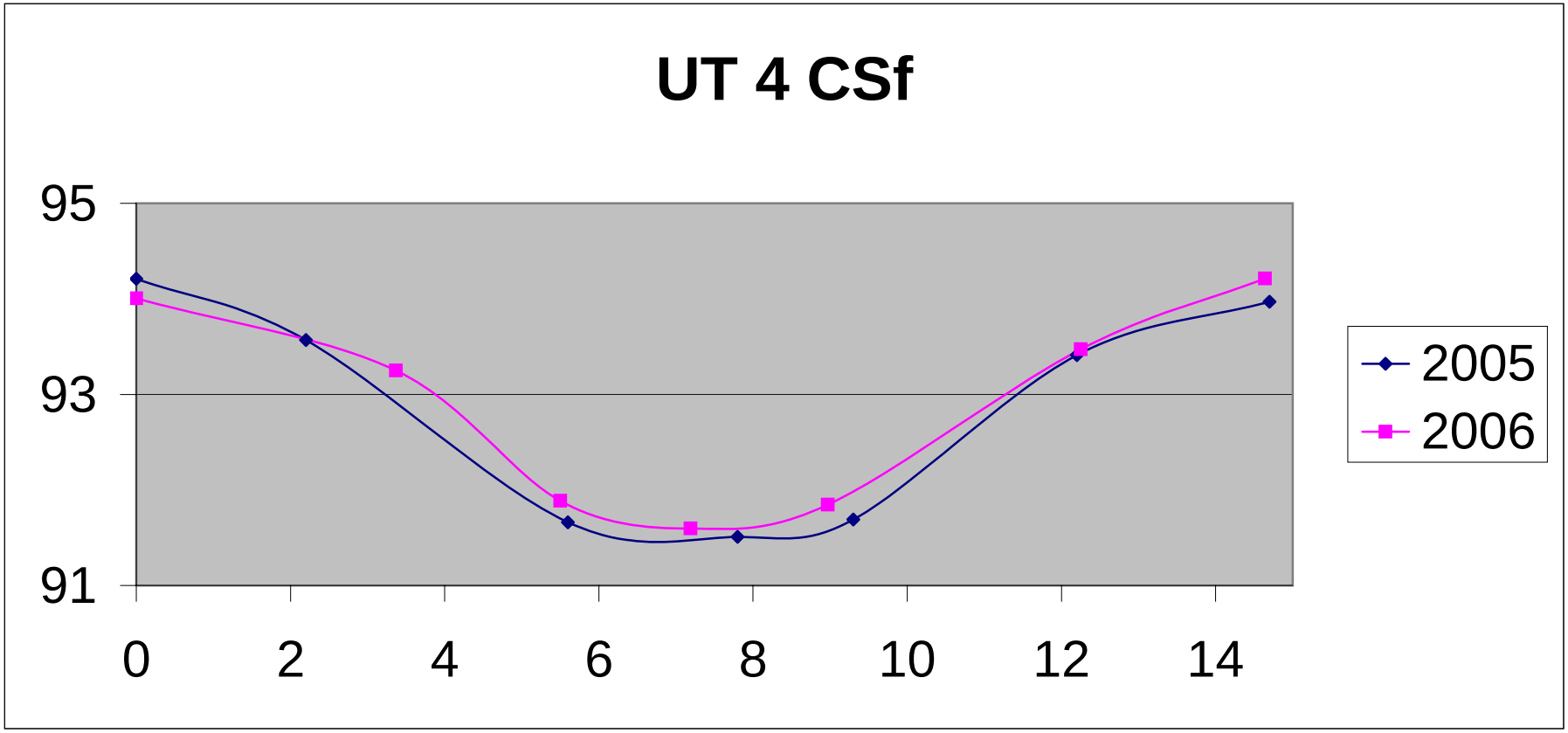
2006 Data

Point	X	Y	Elevation	Feature
UT41	5013.03	5000	94.21376	
UT42	5013.641	4997.6131	93.47387	LBF
UT43	5014.151	4994.3298	91.84492	LEW
UT44	5013.381	4992.5557	91.59618	Thw
UT45	5013.215	4990.8631	91.88739	REW
UT46	5013.237	4988.7289	93.25119	RBF
UT47	5013.495	4985.3635	94.00579	

2005 Width	2006 W	2005 Elev	2006 Elev
0	14.64	94.21	94.21
2.2	12.25	93.57	93.47
5.6	8.97	91.66	91.84
7.8	7.19	91.51	91.60
9.3	5.5	91.69	91.89
12.2	3.37	93.41	93.25
14.7	0	93.97	94.01

Survey Data		
Station	Elevation	Feature
14.6	94.21	GS
12.3	93.47	LBF
9.0	91.84	LEW
7.2	91.60	Thw
5.5	91.89	REW
3.4	93.25	RBF
0.0	94.01	GS

Summary Data Table	As-built	M1 2005	M2 2006	M3 2007	M4 2008	M5 2009
Bankfull Cross Sectional Area	19.4	19.79	15.66			
Bankfull Width	13.2	10.00	8.9			
Bankfull Mean Depth	1.47	1.98	1.76			
Bankfull Max Depth	2.37	2.06	1.88			
Width/Depth Ratio	8.98	5.05	5.06			
Entrenchment Ratio	8.71	11.50	12.92			
Width of Flood Prone Area = 115						



APPENDIX C. Bank Full Events

Photo Log

November 28th, 2005

After 2006 Monitoring Report had been completed this bank full event was reported to us by locals. The site was visited and showed signs of over-bank flow, rack lines and drift debris, but no signs of damage or erosion caused by the event.

Silt deposition and minor scour at rock vane downstream of bridge.

Clay chunks deposited on point inside meander bend.

Rack line on meander bend.

Sand deposition and rack line.

Small scour hole in flood plain with puddle.

September 11th, 2006

Crest Stage gage was checked after significant rain fall was reported.

APPENDIX D. Profile Raw Data

Data Tables
Pebble Count Graphs

Pott Creek

Feature	Length	Comments
Pool 1	49.00	
Glide	71.08	Thalwag appears centered, but deep still area next to right bank
Riffle 1	57.75	Constructed riffle - Sand bar with vegetation in riffle; some migration below bottom log sill - Pebble Count
Run	15.83	Thalwag left of center, good leaf pack
Pool 2	50.00	
Glide	79.67	Thalwag left of center,moving back towards center as it works it way to the riffle
Riffle 2	46.33	naturally forming sand riffle with clay deposits
Run	27.33	Thalwag centered
Pool 3	29.83	
Glide	25.50	Thalwag centered
Riffle 3	30.00	natural riffle, all clay chunks and sand
Run	8.50	Thalwag centered
Pool 4	58.33	
Glide	10.50	Thalwag centered
Riffle 4	29.00	natural riffle, all clay chunks and sand
Run	26.00	
Pool 5	44.33	
Glide	36.67	Thalwag right of center
Riffle 5	31.50	Constructed Riffle has migrated below bottom log sill, does not look worse then last years observations, clay has built up above the top log sill and is functioning as part of the riffle - Pebble count
Run	12.58	Thalwag centered
Pool 6	50.42	
Glide	16.17	
Riffle 6	28.00	natural riffle, all clay chunks and sand, right above confluence of UT 5, which is stable with rocks in place
Run	7.08	thalwag right of center, livestakes have stabilized problem area
Pool 7	28.50	This pool area was very large last year, sand agradation has built up the glide area
Glide	91.42	Thalwag centered
Riffle 7	40.58	natural sand and clay riffle, sand has enhanced this riffle since last years observations, hopefully larger substrate will continue to deposit and build riffle
Run	4.42	Thalwag centered
Pool 8	17.17	
	1023.48	

	Avg. Pool to Pool Spacing	Avg. Pool Length
Proposed	**172**	**101.3**
M1 2005	**95.86**	**69.64**
M1 2006	**99.42**	**40.95**
M1 2007		
M1 2008		
M1 2009		

Rhodes Mill

Feature	Length	Comments
Pool 1	33.67	Pool deeper now on right, with some degradation on right bank
Glide	29.83	Thalwag right of center, live stakes have helped outside of meander bend between root wads and riffle, but still not in good shape
Riffle 1	34.83	riffle in same shape as last years observations, migrated about 4 feet - Pebble Count
Run	9.25	Thalwag centered, structure working well
Pool 2	16.67	several pools strug together, good habitat, leaf litter
Glide	67.42	Thalwag left of center, centered through the meander bend, log sill where riffle used to be is acting as a drop structure, pool has formed at base, stable.
Riffle 2	23.75	riffle in same shape as last years observations, migrated below log sill, substrate still good, but spread out downstream, island in center with some veg, Pebble Count, no mearsurable run here
Pool 3	44.42	thalwag zig zags around an upstream island and a point bar on left bank, pool is about 3 ft deep, measured it following the new pattern
Glide	60.58	Thalwag centered
Riffle 3	53.67	Constructed riffle is completey out side both rock sills, only sand in constructed segment, substrate has migrated about 25 ft downstream, took Pebble Count here where subtrate is currently
Run	5.67	Thalwag left of center
Pool 4	16.17	
Glide	48.75	Thalwag centered
Riffle 4	41.50	Another riffle out of place ended measurment at log sill, log acting as drop structure, no measurable run
Pool 5	13.58	
Glide	17.00	Thalwag left of center
Riffle 5	26.08	This riffle appears to be made up of lose substrate from up stream problems with constructed riffle - Peeble Count, performed PC here instead of Riffle 4
	542.84	

	Avg. Pool to Pool Spacing	Avg. Pool Length
Proposed	**108.6**	**70.2**
M1 2005	**109.55**	**19.08**
M1 2006	**93.81**	**24.90**
M1 2007		
M1 2008		
M1 2009		

Feature	Length	UT1 Comments
Glide		
Riffle 1		
Run		
Pool 1		
Glide		
Riffle 2		
Run		
Pool 2		
Glide		
Riffle 3		
Run		
?		
Riffle 4		
Run		
Pool 4		
Glide		
Riffle 5		
Run		
Pool 5		
Glide		
Riffle 6		
Run		
Pool 6		
Glide		
Riffle 7		
Run		
Pool 7		
Glide		
Riffle 8		
Run		
Pool 8		
Glide		
Riffle 9		
Run		
Pool 9		
Glide		
Riffle 10		

	Avg. Pool to Pool Spacing	Avg. Pool Length
Proposed	**48.2**	**28.8**
M1 2005	**34.9**	**16.75**
M1 2006	**n/a**	**n/a**
M1 2007		
M1 2008		
M1 2009		

UT2

Feature	Length	Comments
	6.00	
	20.17	
	5.25	
	11.00	
	4.67	
Pool 1	4.83	
	2.42	
Pool 2	12.58	
	3.50	
	10.58	
	7.67	
	2.83	
Pool 3	39.67	
	3.67	
	30.83	
	8.08	
Pool 4	46.00	
	27.58	
	13.42	
	16.00	
	52.67	
	33.33	
	362.75	

	Avg. Pool to Pool Spacing	Avg. Pool Length
Proposed	**24.6**	**14.9**
M1 2005	**38.16**	**20.43**
M1 2006	**23.19**	**25.77**
M1 2007		
M1 2008		
M1 2009		

UT3

Feature	Length	Comments
Pool 1		
Glide		
Riffle 1		
Run		
Pool 2		
Glide		
Riffle 2		
Run		
Pool 3		
Glide		
Riffle 3		
Run		
Pool 4		
Glide		
Riffle 4		
Run		
Riffle ?		

	Avg. Pool to Pool Spacing	Avg. Pool Length
Proposed	**37.1**	**23.3**
M1 2005	**25.5**	**21.12**
M1 2006	**n/a**	**n/a**
M1 2007		
M1 2008		
M1 2009		

Visual Morphological Stability Assessment

Project:	Pott Creek
Reach:	Pott Creek (1000 lf)

Feature Category		(# Stable) Performing as Intended	Total # per As-built	Total unstable	% Stable
Riffles	Present?	2	2	N/A	
	Armor Stable (no displacement)?	2	2	0	100
	Facet Grade appears stable?	2	2	0	
	Minimal evidence of embedding/fining?	2	2	N/A	
	Length Appropriate?	N/A	2	N/A	
Pools	Present(not subject to severe agrad.)?	8	N/A	N/A	100
	Length Appropriate?	7	N/A	N/A	87.5
Thalweg	Upstream of meander bend (run) centering?	5	N/A	2	71
	Downstream of meander bend (glide) centering?	4	N/A	3	57
Bed General	General channel bed aggradation (bar formation)	2	N/A	N/A	
	Channel bed degradation - down or head-cutting?	0	N/A	N/A	
Vanes	Free of back or arm scour?	24	24	0	100
(Entire project) Since previous report	Free of structural failure?	24	24	0	100

Visual Morphological Stability Assessment

Project:	Pott Creek
Reach:	Rhodes Mill (500 lf)

Feature Category		(# Stable) Performing as Intended	Total # per As-built	Total unstable	% Stable
Riffles	Present?	3	3	N/A	
	Armor Stable (no displacement)?	3	3	0	100
	Facet Grade appears stable?	0	3	3	
	Minimal evidence of embedding/fining?	3	3	N/A	
	Length Appropriate?	3	3	N/A	
Pools	Present(not subject to severe agrad.)?	4	N/A	1	80
	Length Appropriate?	4	N/A	N/A	
Thalweg	Upstream of meander bend (run) centering?	1	N/A	3	25
	Downstream of meander bend (glide) centering?	2	N/A	3	40
Bed General	General channel bed aggradation (bar formation)	2	N/A	N/A	
	Channel bed degradation - down or head-cutting?	0	N/A	N/A	
Vanes	Free of back or arm scour?	5	5	0	100
(Entire project)	Free of structural failure?	5	5	0	100

Visual Morphological Stability Assessment

Project:	Pott Creek
Reach:	UT 1 (600 lf)

Feature Category		(# Stable) Performing as Intended	Total # per As-built	Total unstable	% Stable
Riffles	Present?	N/A	N/A	N/A	
	Armor Stable (no displacement)?	N/A	N/A	N/A	
	Facet Grade appears stable?	N/A	N/A	N/A	
	Minimal evidence of embedding/fining?	N/A	N/A	N/A	
	Length Appropriate?	N/A	N/A	N/A	
Pools	Present(not subject to severe agrad.)?	N/A	N/A	N/A	
	Length Appropriate?	N/A	N/A	N/A	
Thalweg	Upstream of meander bend (run) centering?	N/A	N/A	N/A	
	Downstream of meander bend (glide) centering?	N/A	N/A	N/A	
Bed General	General channel bed aggradation (bar formation)	N/A	N/A	N/A	
	Channel bed degradation - down or head-cutting?	N/A	N/A	N/A	
Vanes	Free of back or arm scour?	2	3	0	100%
(Entire project)	Free of structural failure?	2	3	0	100%

Visual Morphological Stability Assessment

Project:	Pott Creek
Reach:	UT 2 (350 lf)

Feature Category		(# Stable) Performing as Intended	Total # per As-built	Total unstable	% Stable
Riffles	Present?	N/A	N/A	N/A	
	Armor Stable (no displacement)?	N/A	N/A	N/A	
	Facet Grade appears stable?	N/A	N/A	N/A	
	Minimal evidence of embedding/fining?	N/A	N/A	N/A	
	Length Appropriate?	N/A	N/A	N/A	
Pools	Present(not subject to severe agrad.)?	4	N/A	N/A	100
	Length Appropriate?	4	N/A	N/A	
Thalweg	Upstream of meander bend (run) centering?	N/A	N/A	N/A	
	Downstream of meander bend (glide) centering?	N/A	N/A	N/A	
Bed General	General channel bed aggradation (bar formation)	N/A	N/A	N/A	
	Channel bed degradation - down or head-cutting?	N/A	N/A	N/A	
Vanes	Free of back or arm scour?	N/A	N/A	N/A	
(Entire project)	Free of structural failure?	N/A	N/A	N/A	

Visual Morphological Stability Assessment

Project:	Pott Creek
Reach:	UT 3 (480 lf)

Feature Category		(# Stable) Performing as Intended	Total # per As-built	Total unstable	% Stable
Riffles	Present?	N/A	N/A	N/A	
	Armor Stable (no displacement)?	N/A	N/A	N/A	
	Facet Grade appears stable?	N/A	N/A	N/A	
	Minimal evidence of embedding/fining?	N/A	N/A	N/A	
	Length Appropriate?	N/A	N/A	N/A	
Pools	Present(not subject to severe agrad.)?	N/A	N/A	N/A	
	Length Appropriate?	N/A	N/A	N/A	
Thalweg	Upstream of meander bend (run) centering?	N/A	N/A	N/A	
	Downstream of meander bend (glide) centering?	N/A	N/A	N/A	
Bed General	General channel bed aggradation (bar formation)	N/A	N/A	N/A	
	Channel bed degradation - down or head-cutting?	N/A	N/A	N/A	
Vanes	Free of back or arm scour?	1	1	0	100%
(Entire project)	Free of structural failure?	1	1	0	100%

Visual Morphological Stability Assessment

Project:	Pott Creek
Reach:	UT 4 (350 lf)

Feature Category		(# Stable) Performing as Intended	Total # per As-built	Total unstable	% Stable
Riffles	Present?	N/A	N/A	N/A	
	Armor Stable (no displacement)?	N/A	N/A	N/A	
	Facet Grade appears stable?	N/A	N/A	N/A	
	Minimal evidence of embedding/fining?	N/A	N/A	N/A	
	Length Appropriate?	N/A	N/A	N/A	
Pools	Present(not subject to severe agrad.)?	N/A	N/A	N/A	
	Length Appropriate?	N/A	N/A	N/A	
Thalweg	Upstream of meander bend (run) centering?	N/A	N/A	N/A	
	Downstream of meander bend (glide) centering?	N/A	N/A	N/A	
Bed General	General channel bed aggradation (bar formation)	N/A	N/A	N/A	
	Channel bed degradation - down or head-cutting?	N/A	N/A	N/A	
Vanes	Free of back or arm scour?	N/A	N/A	N/A	
(Entire project)	Free of structural failure?	N/A	N/A	N/A	

Table X. Categorical Stream Feature Visual Stability Assessment

Reach:	Pott Creek (1000 lf)
Feature	**MY 2005**
Riffles	100
Pools	100
Thalweg	64
Vanes	100

Reach:	Rhodes Mill (500 lf)
Feature	**MY 2005**
Riffles	100
Pools	80
Thalweg	32.5
Vanes	100

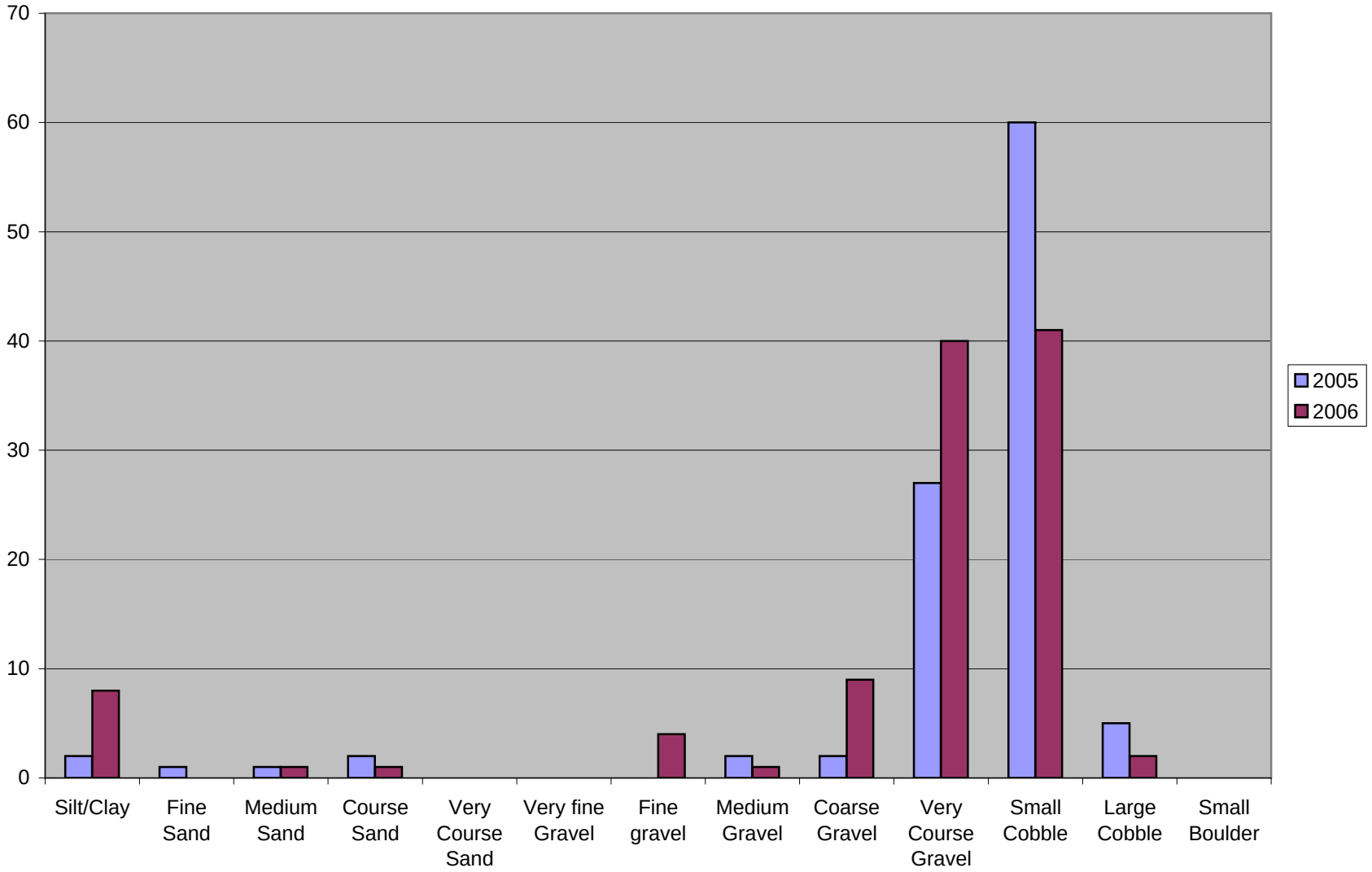
Reach:	UT 1 (600 lf)
Feature	**MY 2005**
Riffles	n/a
Pools	n/a
Thalweg	n/a
Vanes	100

Reach:	UT 2 (350 lf)
Feature	**MY 2005**
Riffles	n/a
Pools	100
Thalweg	n/a
Vanes	n/a

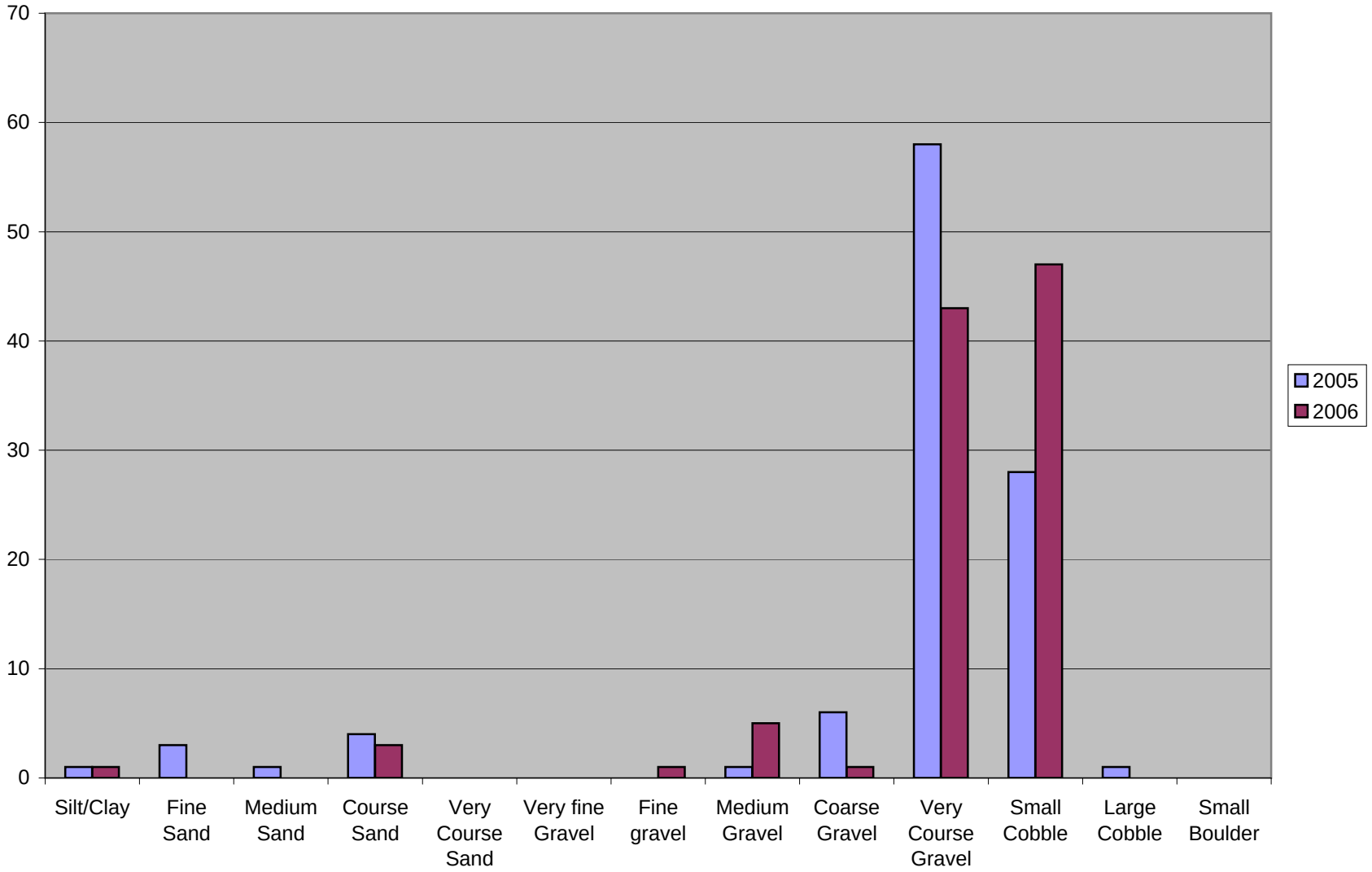
Reach:	UT 3 (480 lf)
Feature	**MY 2005**
Riffles	n/a
Pools	n/a
Thalweg	n/a
Vanes	100

Reach:	UT 4 (350 lf)
Feature	**MY 2005**
Riffles	n/a
Pools	n/a
Thalweg	n/a
Vanes	n/a

Pott Creek Riffle 1 Peeble Count

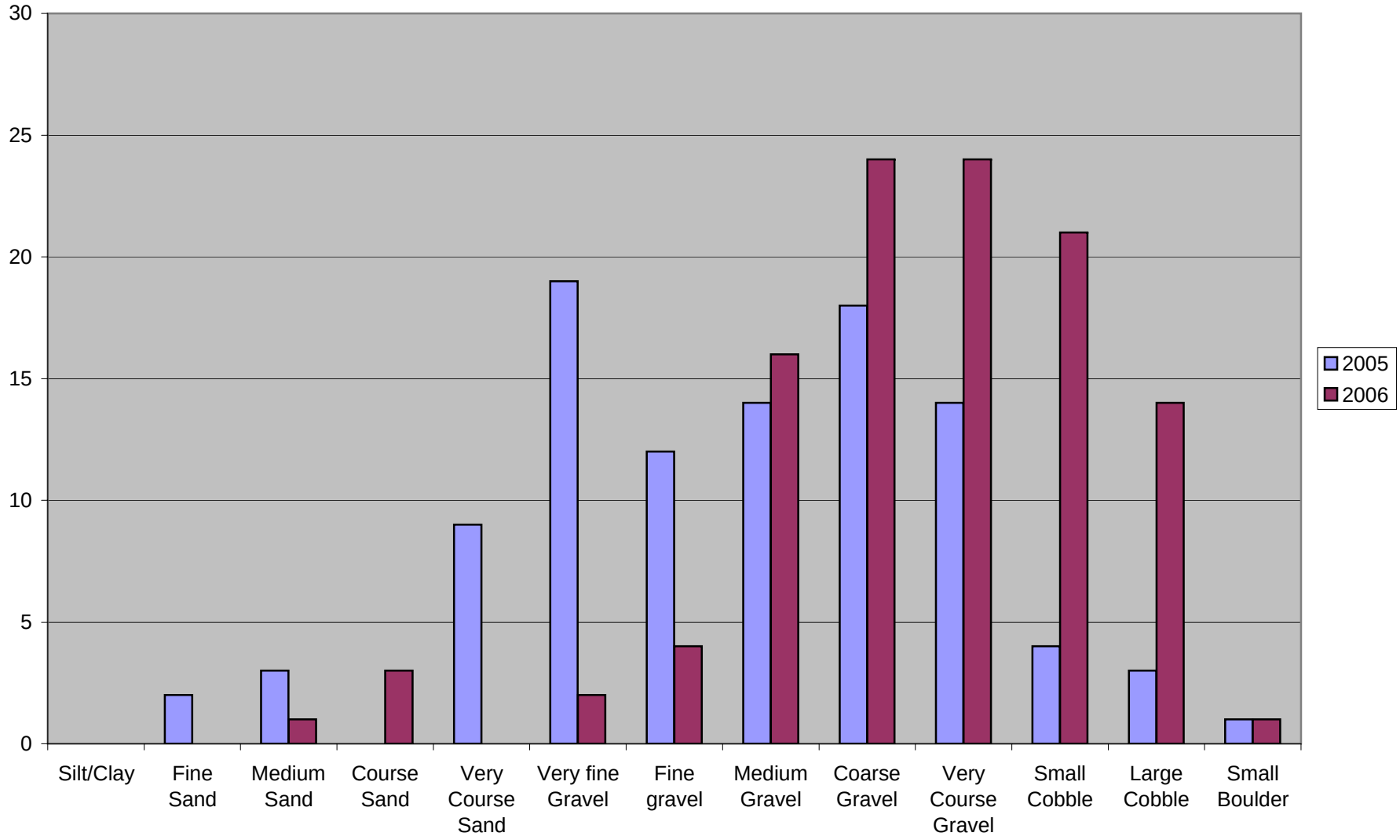


Pott Creek Riffle 2 Peeble Count

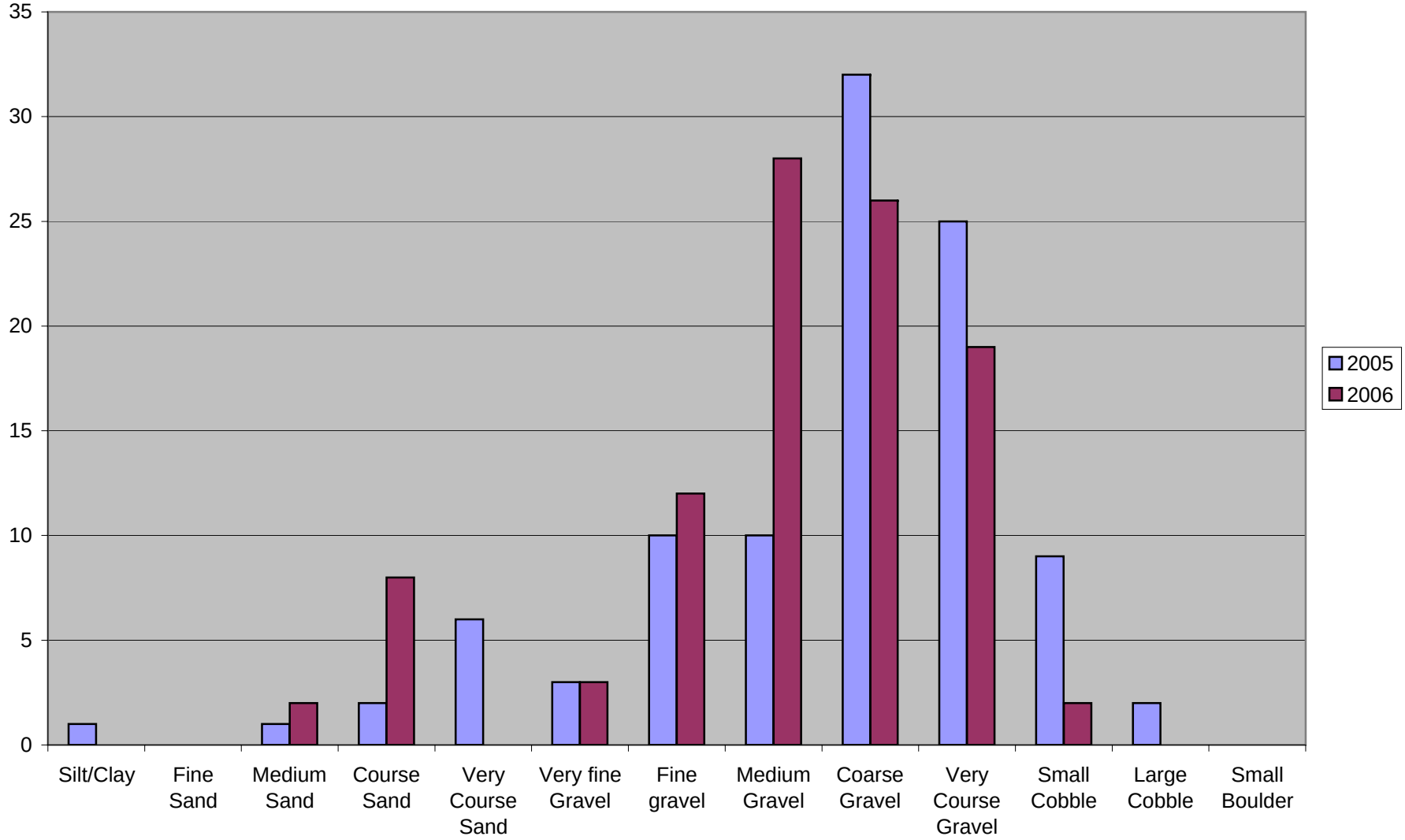


Pott Creek	Riffle 1		Riffle 2	
	2005	2006	2005	2006
Silt/Clay	2	8	1	1
Fine Sand	1		3	
Medium Sand	1	1	1	
Course Sand	2	1	4	3
Very Course Sand				
Very fine Gravel				
Fine gravel		4		1
Medium Gravel	2	1	1	5
Coarse Gravel	2	9	6	1
Very Course Gravel	27	40	58	43
Small Cobble	60	41	28	47
Large Cobble	5	2	1	
Small Boulder				
	102	107	103	101

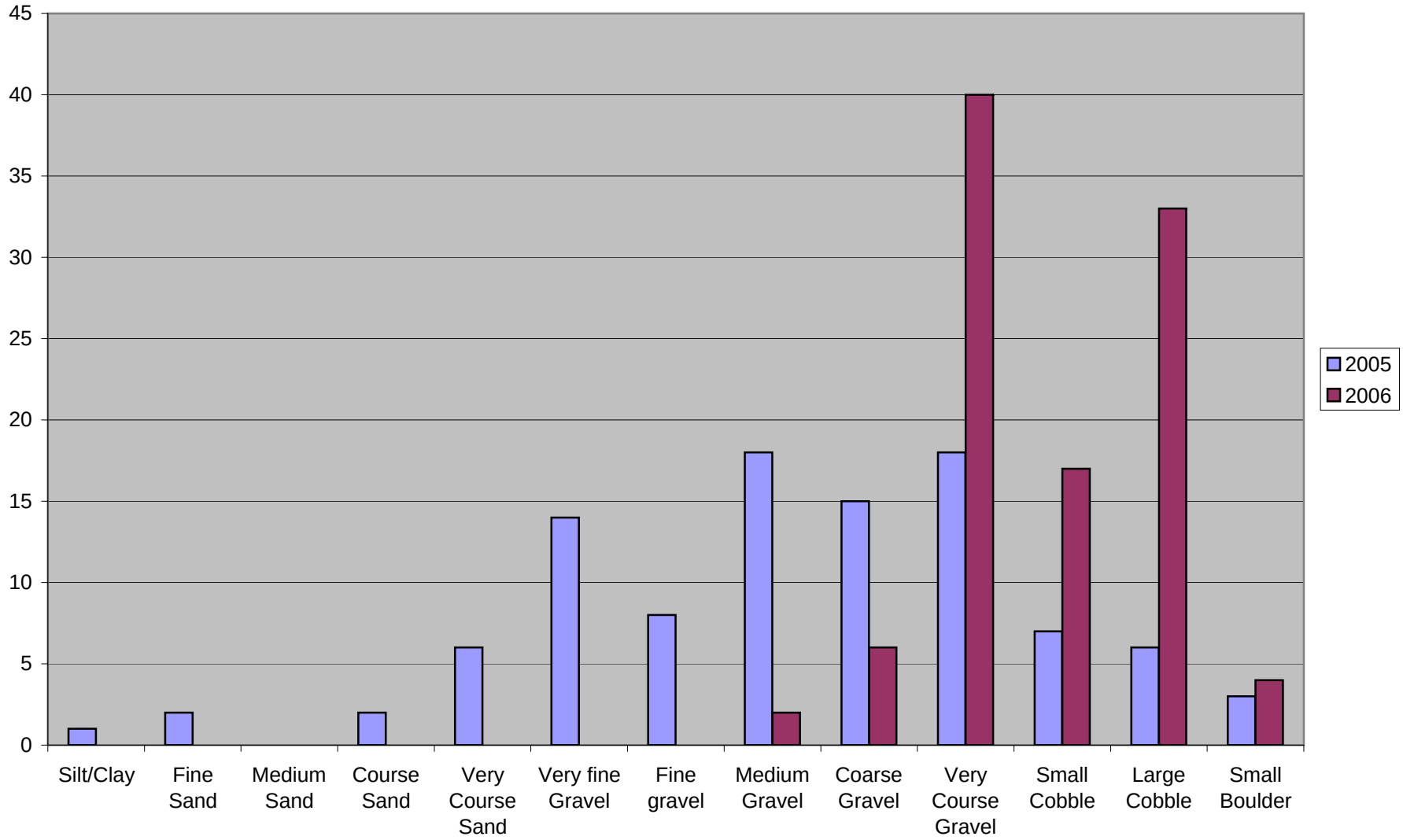
Rhodes Mill Riffle 1 Peeble Count



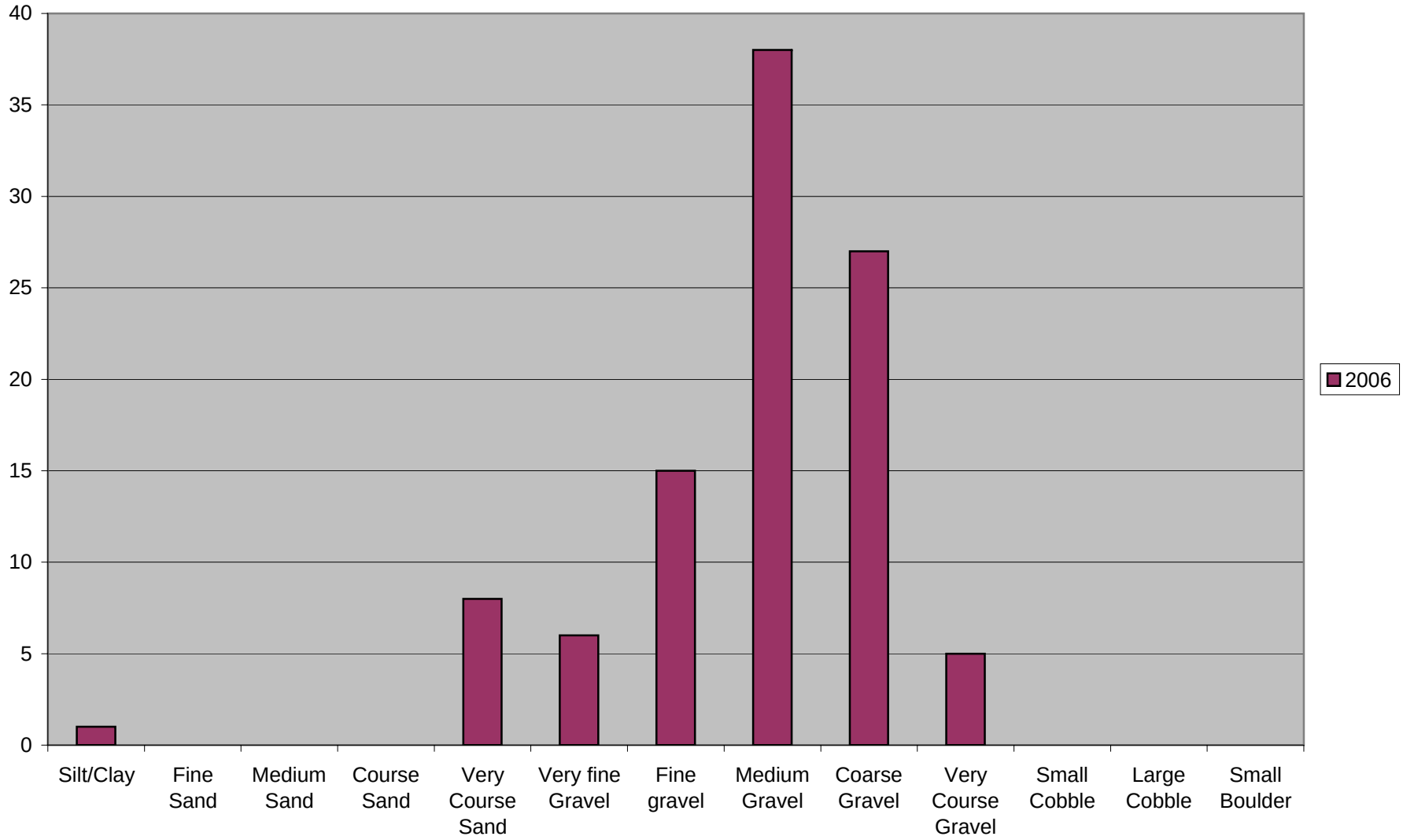
Rhodes Mill Riffle 2 Peeble Count



Rhodes Mill Riffle 3 Peeble Count



Rhodes Mill Riffle 5 Peeble Count



Rhodes Mill	Riffle 1		Riffle 2		Riffle 3		Riffle 5
	2005	2006	2005	2006	2005	2006	2006
Silt/Clay			1		1		1
Fine Sand	2				2		
Medium Sand	3	1	1	2			
Course Sand		3	2	8	2		
Very Course Sand	9		6		6		8
Very fine Gravel	19	2	3	3	14		6
Fine gravel	12	4	10	12	8		15
Medium Gravel	14	16	10	28	18	2	38
Coarse Gravel	18	24	32	26	15	6	27
Very Course Gravel	14	24	25	19	18	40	5
Small Cobble	4	21	9	2	7	17	
Large Cobble	3	14	2		6	33	
Small Boulder	1	1			3	4	
	99	110	101	100	100	102	100

Visual Morphological Stability Assessment

Project: Pott Creek

Reach: Pott Creek (1000 lf)

Feature Category		
Riffle 1	Present?	Yes - constructed
	Stable?	Yes - minor migration
	Minimal evidence of embedding/fining?	Yes
	Length Appropriate	Yes
Riffle 2	Present?	Natural riffle forming on it's own
	Stable?	N/A
	Minimal evidence of embedding/fining?	N/A
	Length Appropriate	Yes
Riffle 3	Present?	Natural riffle forming on it's own
	Stable?	N/A
	Minimal evidence of embedding/fining?	N/A
	Length Appropriate	Yes
Riffle 4	Present?	Natural riffle forming on it's own
	Stable?	N/A
	Minimal evidence of embedding/fining?	N/A
	Length Appropriate	Yes
Riffle 5	Present?	Yes - constructed
	Stable?	Yes -does not appear to have migrated any more since last report
	Minimal evidence of embedding/fining?	Yes
	Length Appropriate	Yes
Riffle 6	Present?	Natural riffle forming on it's own
	Stable?	N/A
	Minimal evidence of embedding/fining?	N/A
	Length Appropriate	Yes
Riffle 7	Present?	Natural riffle forming on it's own
	Stable?	N/A
	Minimal evidence of embedding/fining?	N/A
	Length Appropriate	Yes - Constructed Riffles average 45 ft, natural riffles average 35 ft

Visual Morphological Stability Assessment

Project: Pott Creek
Reach: Rhodes Mill (500 lf)

Feature Category		
Riffle 1	Present?	Yes - constructed
	Stable?	Yes -does not appear to have migrated any more since last report, armor fabric has been re-buried and is not visible
	Minimal evidence of embedding/fining?	Yes
	Length Appropriate	Yes
Riffle 2	Present?	Yes - constructed
	Stable?	Yes - in same shape as last year, bottom log sill is acting as drop structure with small pool, but all appear stable
	Minimal evidence of embedding/fining?	Yes
	Length Appropriate	Yes - This riffle is the shortest, but is still close to it's constructed length
Riffle 3	Present?	Yes - constructed
	Stable?	Yes - in same shape as last year, actual riffle aproximately 25 feet below bottom log sill
	Minimal evidence of embedding/fining?	Yes
	Length Appropriate	Yes - longest of the three measured from top log sill to bottom of riffle, but all of riffles on this reach have spread out downstream creating longer riffles than were originally constructed
Riffle 4	Present?	Yes - appears to be a constructed riffle between two log sills, all sand but functiong as a riffle
	Stable?	Yes
	Minimal evidence of embedding/fining?	It appears that the substrate from this riffle has worked it's way down stream and formed a new riffle
	Length Appropriate	Yes
Riffle 5	Present?	New?
	Stable?	Yes?
	Minimal evidence of embedding/fining?	N/A
	Length Appropriate	Yes

Visual Morphological Stability Assessment

Project: Pott Creek
Reach: UT 1 (600 lf)

Feature Category		
	Present?	No features noted - vegetation in bed of stream is problematic this year, pools are present but are hard to define
	Stable?	stream bed and banks are very stable with veg
	Minimal evidence of embedding/fining?	N/A, plants are substrate through out reach
	Length Appropriate	N/A

Visual Morphological Stability Assessment

Project: Pott Creek
Reach: UT 2 (350 lf)

Feature Category		
4 Pools Counted	Present?	Attempt was made to count and measure pools with questionable results - no other features noted - vegetation in bed of stream is problematic same as UT1
	Stable?	stream bed and banks are very stable with veg
	Minimal evidence of embedding/fining?	N/A, plants are substrate through out reach
	Length Appropriate	N/A

Visual Morphological Stability Assessment

Project: Pott Creek
Reach: UT 3 (480 lf) — Same as UT1

Visual Morphological Stability Assessment

Project: Pott Creek
Reach: UT 4 (350 lf) — Same as UT1, same as 2005

Visual Morphological Stability Assessment

Project: Pott Creek
Reach: UT 5 (40 lf) — Same as UT1, same as 2005

APPENDIX E. Structures and Problem Areas

Photo Log