

1991 UMO
VISTA CREW
WORK
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N1617 1991

FRENCHMAN'S BAY VISTA RESTORATION

Crew B

Jim Morrin
Dan Ludden
Darren Maxsimic
John Michniewicz
Keith Grabner

This work site is about a 1/4 mile from the Duck Brook Bridge. This area, at one time, had a view of Frenchman's Bay from the carriage road. This area has become densely stocked and the trees are tall enough to obstruct the view of Frenchman's Bay.

Once we arrived at the work site a boundary area was marked. The area was measured after the boundary was marked. The area measured was 0.31 acres (13530 sq ft); this was only the work area. After the area was measured, our group began to tally the trees in the work site. The trees were tallied by species and one inch DBH class; the smallest size class was the one inch class. The species on the site are: Oak, Maple, Alder, Beech, Birch, Pine, and Spruce. The smallest DBH we had was one inch and the largest was twelve inches.

Once the perimeter marking and the tallying were completed, we marked trees to be saved. The trees to be saved did not affect the vista, were spaced far apart, and were stable enough to grow in an open area. The trees to be saved were marked with yellow flagging. Trees with two sets of yellow flagging were to be pruned.

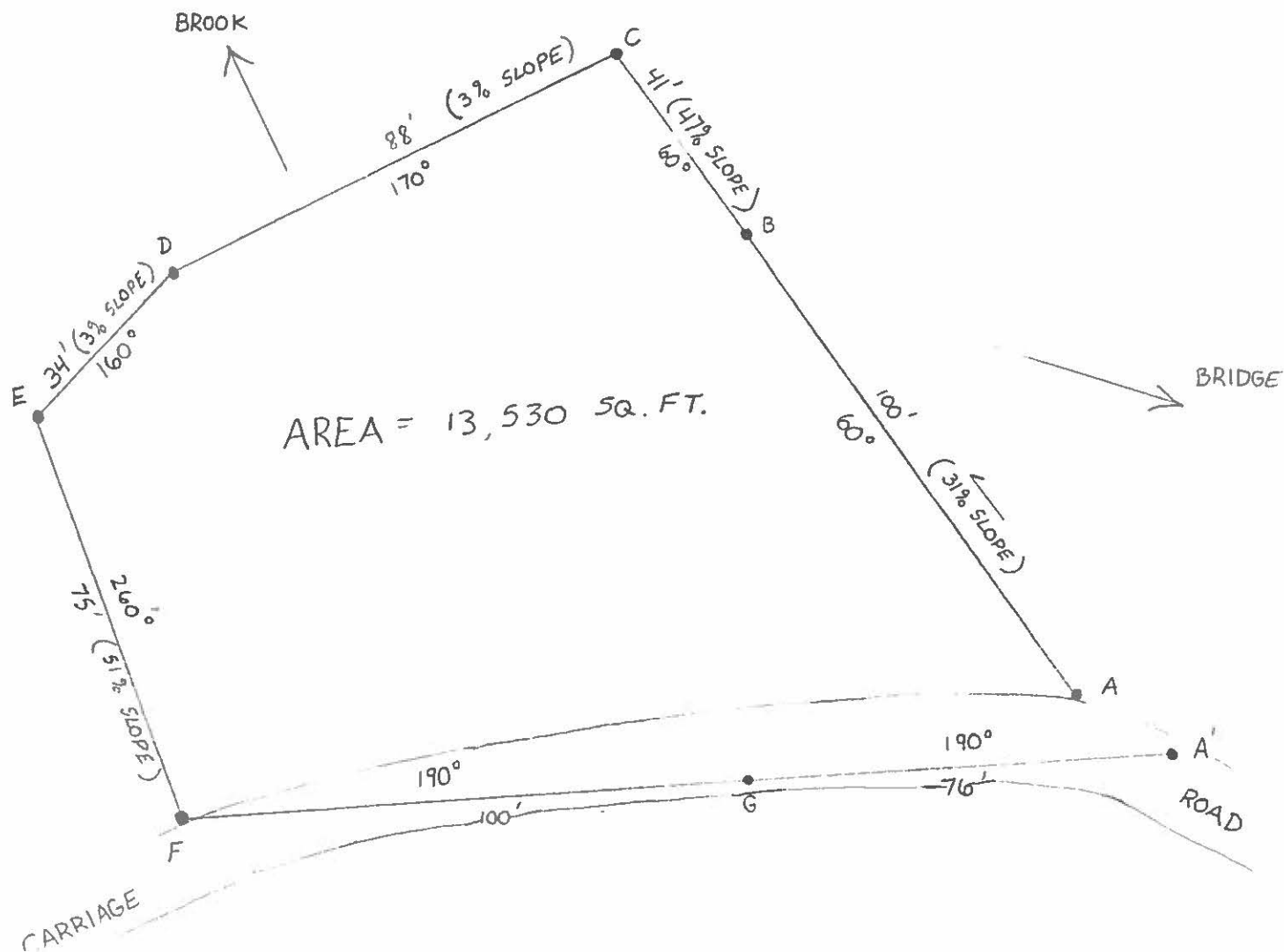
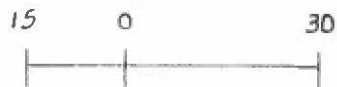
Our work at this site was designed to improve the vista and restore the area to a condition that the Rockefeller's originally wanted.

ACADIA NATIONAL PARK
CARRIAGE TRAIL RESTORATION
PROJECT : FRENCHMAN'S BAY
VISTA IMPROVEMENT 5/14/91



NOTE: ALL DISTANCES ARE
SLOPE DISTANCES

SCALE:



Frenchman's Bay Vista Restoration:

Number of trees and their respective basal area per acre before vista restoration.

DBH	Maple	Maple (BA)	Oak	Oak (BA)	Pine	Pine (BA)
1	247.35	1.35	22.49	0.12	0	0
2	215.23	4.7	54.61	1.19	9.64	0.21
3	102.8	5.05	61.04	3	0	0
4	25.7	2.24	73.88	6.45	6.42	0.56
5	16.06	2.19	54.61	7.45	0	0
6	6.42	1.26	41.71	8.19	0	0
7	6.42	1.72	28.91	7.73	3.21	0.86
8	0	0	6.42	2.24	0	0
9	0	0	3.21	1.42	0	0
10	0	0	0	0	0	0
11	0	0	3.21	2.12	0	0
12	0	0	3.21	2.52	3.21	2.52

DBH	Spruce	Spruce (BA)	Birch	Birch (BA)	Alder	Alder (BA)
1	6.42	0.04	28.91	0.16	35.34	0.19
2	0	0	61.04	0.33	28.91	0.16
3	6.42	0.04	25.69	0.14	0	0
4	0	0	9.64	0.05	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0

Average Stand Diameter -- 2.6 inches

Frenchman's Bay Vista Restoration:

Number of trees marked to save and respective basal area per acre.

DBH	Maple	Maple (BA)	Oak	Oak (BA)	Pine	Pine (BA)
1	0	0	0	0	0	0
2	9.64	0.21	0	0	0	0.07
3	3.21	0.16	3.21	0.16	0	0
4	0	0	28.91	2.52	3.21	0.28
5	9.64	1.31	9.64	1.31	0	0
6	0	0	9.64	1.89	0	0
7	0	0	12.85	3.43	3.21	0.86
8	0	0	3.21	1.12	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	3.21	2.52	3.21	2.52

DBH	Spruce	Spruce (BA)	Birch	Birch (BA)
1	0	0	0	0
2	0	0	3.21	0.02
3	0	0	3.21	0.02
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0

Average Stand Diameter -- 4.9 inches

Frenchman's Bay

	Marked to Save	After Vista Restoration
Trees/Acre	109.21	183.64
BA/Acre	18.40	35.51
Average Stand Diameter	4.90	5.96

While considering this comparison the reader must take into account the following discrepancies:

1. the original boundaries were exceeded, the flagging of the boundaries was removed which made the second tally inaccurate because trees were cut that were not tallied the first time because they were not in our boundary
2. the crews that cut the area did not remove the desired amount of trees (they created windows, or patchy vistas, instead of one large vista which we prescribed), and
3. at the time of restoration the trees had not fully leafed out yet, thus at the time of treatment they did not obscure the view but now they are.

In our opinion, the cutting crews tended to use their own judgment, instead of following our management plan. The results are an improvement to the area but they are not what we had planned.

Frenchman's Bay Vista

Tally After the Vista Restoration Project

Species	W. Pine		Maple		Birch		Oak	
DBH	Trees/A	BA/A	Trees/A	BA/A	Trees/A	BA/A	Trees/A	BA/A
1"	---	---	3.22	.018	---	---	---	---
2"	6.44	.140	6.44	.140	---	---	3.22	.070
3"	---	---	---	---	6.44	.316	9.66	.474
4"	6.44	.562	---	---	---	---	25.76	2.25
5"	---	---	---	---	6.44	.439	64.40	8.78
6"	3.22	.632	---	---	---	---	45.08	8.85
7"	---	---	---	---	---	---	6.44	1.72
8"	---	---	---	---	---	---	16.10	5.62
9"	---	---	---	---	---	---	---	---
10"	---	---	---	---	---	---	---	---
11"	---	---	---	---	---	---	---	---
12"	---	---	---	---	---	---	3.22	2.53
13"	3.22	2.97	---	---	---	---	---	---

Total Trees/Acre = 183.64

Total BA/Acre = 35.51

Average Stand Diameter = 5.96"

PARADISE HILL: HULLS COVE VISTA RESTORATION

Crew B

**Jim Morrin
Dan Ludden
Darren Maxsimic
John Michniewicz
Keith Grabner**

The carriage trail travels along Paradise Hill and turns to reveal a view of Hulls Cove. This area is currently overgrown and the view of Hulls Cove is obstructed. Our job was to tally the area and select trees to remain that would enhance the area and release the vista. To do this we had to go through a three step process.

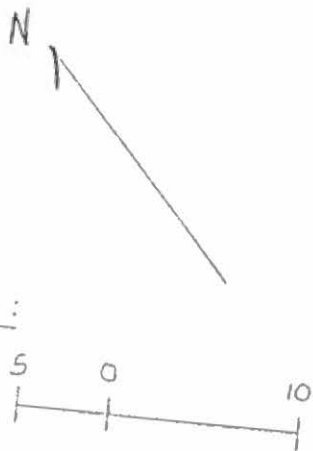
The area needed a boundary line to isolate the work area from the surrounding area. The boundary line was chosen by finding trees that affected the view of the cove and including them in the work area. We only marked trees that affected the view.

The boundary was marked with red flagging and measured to find the area of the site. The area at Hulls Cove overlook is 0.07 acres (2978 sq ft).

Once the work site was marked and measured we then tallied the area. This was a 100% tally. We tallied all trees in the work area by two criteria. The first was by species. The tree species recorded were: Oak, Maple, Pine, and Spruce. Trees were also tallied by DBH class. The DBH classes were one inch classes, starting at the one inch class.

The trees to be saved in the work area were marked with yellow flagging. Trees to be saved did not detract from the environment or the vista. Trees that were saved were sturdy and strong. The trees did not affect the view from the vista.

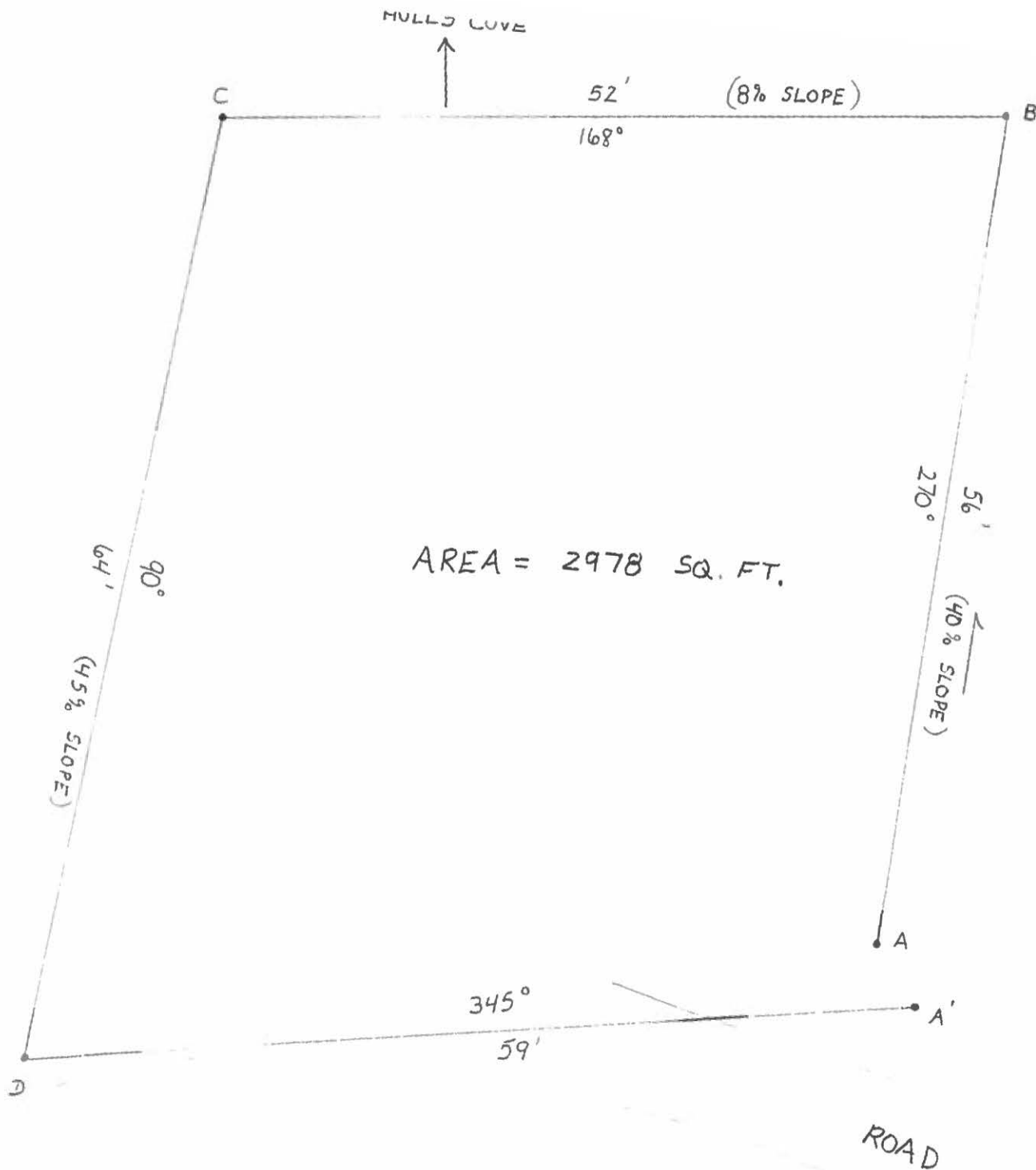
The work on the vista was designed to improve the view of Hulls Cove.



ACADIA NATIONAL PARK
CARRIAGE TRAIL
RESTORATION PROJECT :
PARADISE HILL
5/14/91

NOTE : ALL DISTANCES ARE
SLOPE DISTANCES

CARRIAGE



Paradise Hill: Hulls Cove Vista Restoration:

Number of trees and respective basal area per acre prior to vista restoration.

DBH	Maple	Maple (BA)	Oak	Oak (BA)	Pine	Pine (BA)
1	14.62	0.08	14.62	0.08	14.62	0.08
2	29.25	0.64	14.62	0.32	29.25	0.64
3	14.62	0.72	0	0	14.62	0.72
4	0	0	14.62	1.28	43.88	3.83
5	0	0	0	0	29.25	3.99
6	0	0	0	0	73.14	14.36
7	0	0	0	0	0	0
8	0	0	0	0	29.25	10.21
9	0	0	0	0	14.62	6.46
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0

DBH	Spruce	Spruce (BA)	Birch	Birch (BA)
1	204.78	1.12	204.78	1.12
2	687.48	3.75	117.02	0.64
3	248.66	1.36	73.14	0.4
4	146.27	0.8	0	0
5	14.62	0.08	14.62	0.08
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0

Average Diameter (Stand) -- 1.89 inches

Paradise Hill: Hulls Cove Vista Restoration

Number of trees marked to save and respective basal area per acre prior to vista restoration.

DBH	Maple	Maple (BA)	Oak	Oak (BA)	Pine	Pine (BA)
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	14.62	1.28	29.25	2.55
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	0	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0	0	0	0	0

DBH	Spruce	Spruce (BA)	Birch	Birch (BA)
1	43.88	0.24	117.02	0.64
2	87.76	0.48	14.63	0.08
3	0	0	43.88	0.24
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
7	0	0	0	0
8	0	0	0	0
9	0	0	0	0
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0

Average Diameter (Stand) -- 1.9 inches

After we tallied our site, members of the Sophomore camp (FTY 241) carried out our vista improvement plan. The following is a comparison of our prescription and the work of the FTY 241 class.

Paradise Hill: Hull's Cove Vista

	Marked to Save	After Vista Restoration
Trees/Acre	351.04	570.18
BA/Acre	5.51	26.89
Average Stand Diameter	1.9	2.56

Paradise Hill: Hulls Cove Vista

Tally After the Vista Restoration Project

Species	Birch		Spruce		Pine		Shadbush	
DBH	Trees/A	BA/A	Trees/A	BA/A	Trees/A	BA/A	Trees/A	BA/A
1"	29.24	.159	73.1	.399	14.62	.079	14.62	.079
2"	14.62	.319	160.82	3.51	---	---	---	---
3"	29.24	1.44	58.48	2.87	---	---	14.62	.718
4"	43.76	3.83	29.24	2.55	29.34	2.55	---	---
5"	---	---	---	---	14.62	1.99	---	---
6"	---	---	---	---	---	---	---	---
7"	---	---	---	---	---	---	---	---
8"	---	---	---	---	14.62	5.10	---	---

Species	Oak		Alder	
DBH	Trees/A	BA/A	Trees/A	BA/A
1"	---	---	14.62	.079
2"	---	---	---	---
3"	---	---	---	---
4"	14.62	1.28	---	---
5"	---	---	---	---

Total Trees/Acre = 570.18

Total BA/Acre = 26.899

Average Stem Diameter = 2.56

PRE AND POST OPERATION TALLY ON PARADISE HILL VISTA CUT

Crew 3

Mike Wahl
Tina Semekis
Chuck Neely
Dave Russell
Dan Phillips

The carriage trail curves around the north face of Paradise Hill and once provided a grand view of Frenchman's Bay and the small coastal town of Hulls Cove. Over the years, the ingrowth of trees and shrubs has obscured the view from today's Park visitor. A vista cut would restore this spectacle and enhance the carriage trail's impact for the visitor.

This site consists of .044 acres (1933 sq ft) of Park land directly adjacent to the carriage trail and is rhomboid in shape with sides tangent to the trails curve. The vista cut extends about thirty feet into the brush to a cliff edge, and runs about sixty feet along the carriage trail. This provides an excellent chance for visitors to admire the scene regardless of their method of travel.

Before treatment, a cruise of the site provided the following information:

Density	1068 trees/acre
Mean Stem Diameter	3.3 inches
Basal Area	82.88 sq ft/acre

The trees that were to be left uncut were marked in order for the work crews to complete the work. This consisted mainly of the removal of bushy and diseased White Pine (Pinus strobus), crooked birch (Betula spp.), and clumpy and overgrown Red Spruce (Picea rubens). The residual stand will include Red Pine (Pinus

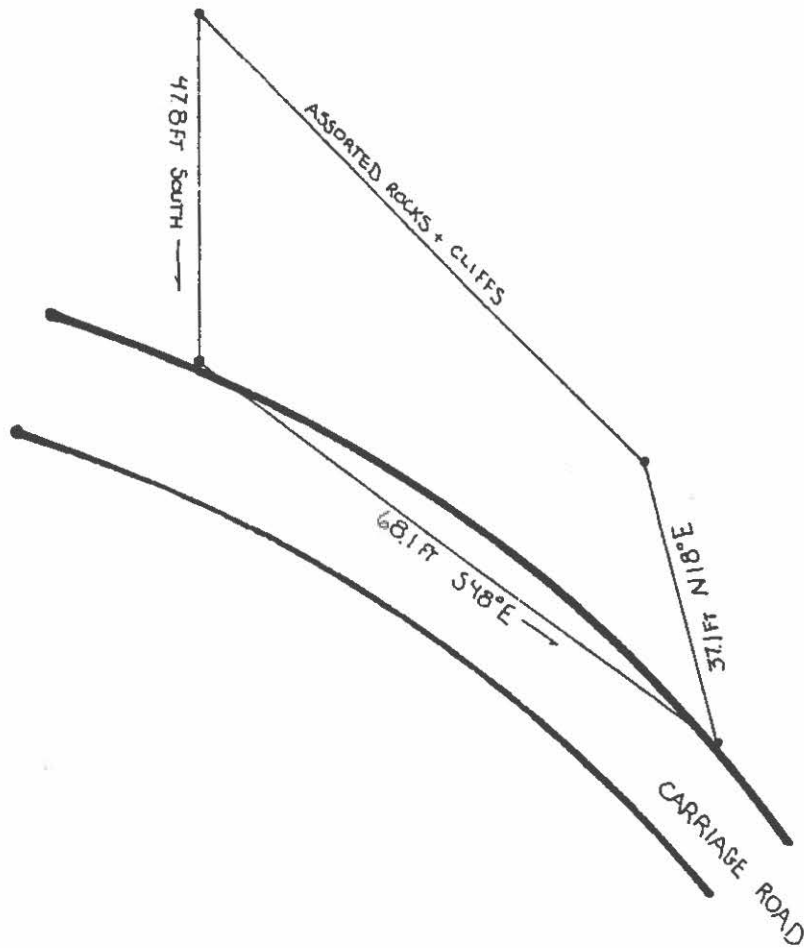
resinosa), Oak (Quercus spp.), Spruce, Birch, and Shadbush (Amalanchier spp.) which should effectively add to the scenic vista.

The selection of these trees was based on location on the site, species, and plant health. The cut provides for an interesting view of the cliff, the returning vegetation, and the possible spread of blueberry bushes, as well as the vista.

HULLS COVE

FRENCHMAN'S
BAY

MN



PARADISE HILL

ACADIA NATIONAL PARK

MAY 1991

AREA - 0.44 ACRES

CREW: T. SEMEKIS

C. NEELY

M. WAHL

D. RUSSELL

DRAWN BY: D. PHILLIPS

NOT TO SCALE

The area was cut by the students enrolled in FTY 241 as it was marked leaving 545.45 trees per acre standing. The remaining trees have a mean diameter of 3.00 inches and a combined basal area of 34.09 sq ft per acre. Once the trees indicated were removed, a panoramic view of Frenchman's Bay and the small coastal town of Halls Cove was opened up. The headquarters of Acadia National Park is also visible so visitors to the park can see where they had been to register before hiking, giving them a sense of how high up and where they were.

Summary Table

Total Tally Before Cut

Species	Basal Area	Density	Mean Stem Diameter
W. Pine	24.42	136.36	5.50
W. Birch	23.99	363.64	3.13
G. Birch	.12	22.73	1.00
R. Spruce	19.09	431.82	2.63
R. Pine	8.93	45.45	6.00
Cherry	.12	22.73	1.00
Shadbush	.12	22.73	1.00
Oak	6.07	22.73	7.00
TOTAL	82.86	1068.18	3.29

Theoretical Tally After Cut

Species	Basal Area	Density	Mean Stem Diameter
W. Pine	6.07	22.72	7.00
W. Birch	12.64	136.35	3.83
R. Spruce	6.07	45.45	4.50
R. Pine	8.92	45.45	6.00
Cherry	.12	22.72	1.00
Shadbush	.12	22.72	1.00
Oak	6.07	22.72	7.00
TOTAL	40.01	318.14	4.50

Tally After Cut

Species	Basal Area	Density	Mean Stem Diameter
W. Pine	6.09	22.72	7.00
W. Birch	14.13	227.27	3.20
R. Spruce	9.29	250.00	2.27
Shadbush	.12	22.72	1.00
Oak	4.46	22.72	6.00
TOTAL	34.09	545.45	3.00

DUCK BROOK VISTA

Crew 3

Chuck Neeley
Dan Phillips
David Russell
Tina Semekis
Mike Wahl

The objective of this project was to mark the trees to be cut in order to restore a scenic vista of the three arched stone bridge over Duck Brook from the western approach. This would allow visitors to more fully appreciate the view from the carriage trail. Appropriate vegetation was left in the area to enhance the beauty of the bridge and the surrounding area.

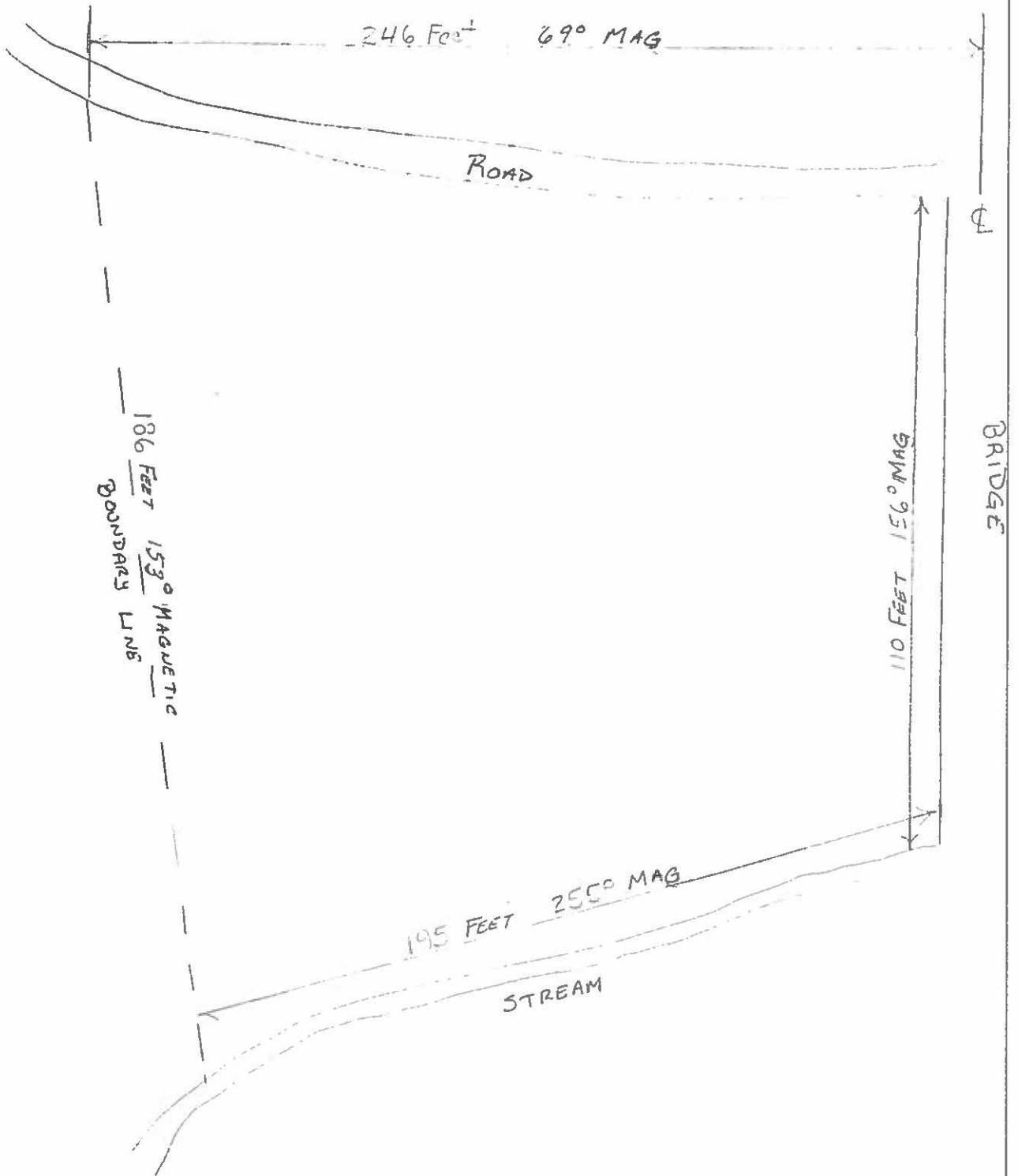
Crew #3 did a 100% tally of the work area, approximately .599 acres, on the south side of Duck Brook to the west of the three arched stone bridge near New Mill Meadow (see map). The site had many small trees consisting mostly of hardwoods. The slope of the site was 40% on average. The density was 672.79 trees per acre with a mean dbh (diameter at breast height) of 2.4 inches. The Basal Area was 34.20 sq ft/acre.

To achieve the appropriate vista, 81% of the stems per acre, about 20 sq ft of BA, were marked for removal. The vegetation to be removed consisted mostly of small hardwood stems and brush. All existing shadbush and larger trees were designated to be left uncut. The end result was planned to be a scenic and eyecatching view of the bridge.

From the results of the post harvest tally it is evident that the prescription was not completely followed. Not enough of the hardwood that had been chosen to be cut was cut. Instead of ending up with about 15 sq ft of BA, 24.4 sq ft BA were left.

Although the extra hardwood that was not, the cut does not look bad on the site, the residual trees still somewhat hide the beauty of the arches and constrict part of the view of the bridge.

MAP OF DUCK BROOK BRIDGE VISTA
CREW THREE MANAGEMENT AREA
40% Area Slope



43,381 30 METERS 3 SQUARE
43,381 30 METERS 3 SQUARE
43,381 30 METERS 3 SQUARE



Duck Brook Vista Summary Table

Preharvest Tally

DBH Class	# Trees	Basal Area
1	165	0.899
2	92	2.006
3	77	3.778
4	31	2.704
5	18	2.453
6	5	0.981
8	3	1.047
9	6	2.649
10	1	0.545
11	4	2.638
12	1	0.785

TOTAL: Basal Area/Acre 34.20
 Trees/Acre 672.79
 Mean DBH 2.40

Post Harvest Tally

Species	TR/AC	MDBH	BA
Shadbush	60.10	1.36	0.96
White Oak	23.37	7.21	8.22
White Pine	10.02	9.50	4.57
Red Maple	76.79	4.48	9.05
Grey Birch	3.34	3.00	0.16
Cherry	6.68	3.00	0.33
Hawthorne	1.67	2.00	0.04
Cedar	5.01	1.00	0.03
White Birch	11.69	4.00	1.04
TOTAL	198.67	2.44	24.4

DUCK BROOK VISTA MANAGEMENT REPORT

Crew A

**Bill Bennett
Tom Blake
Nino Chippone
Barry Cunningham
Chris Dirk**

The area selected for management is on the west side of Duck Brook, just downstream from the three arch bridge. It consists of all the land on the steep slope between the carriage road and Duck Brook, starting at the bridge and ending 370 feet downstream (north) on the carriage road (see map).

The area is mostly hardwood, with red oak, white birch, red maple, and shadbush present in large quantities. White pine, hemlock, black cherry, and poplar were present in lesser amounts. Most of this area has a 67 percent slope, sparse vegetation, and is covered with a plethora of loose rocks.

One goal was to remove enough trees to open up a "window" through which the three arch bridge could be viewed. The viewpoint is taken from the carriage trail, at a point 350 feet northeast of the bridge. Another goal is to open up the view of the rapids on Duck Brook from the carriage trail. The last goal is to favor the white pine that are present on the site. These goals seek to emphasize the significant features that the Rockefellers felt were present at this site.

Once the boundaries were marked, the boundary lines were measured and the area was found to be approximately 0.7 acres. We then marked the trees to be saved, which included all shadbush and any trees that would enhance the aesthetic appeal of the area. Trees were also marked to be saved if their removal might have facilitated erosion of the site. Once the stand was marked, all trees 0.6 inches DBH

(diameter breast height) or larger were tallied. We also noted whether or not they were to be saved. Finally, the average stand height was found to be approximately 30 feet.

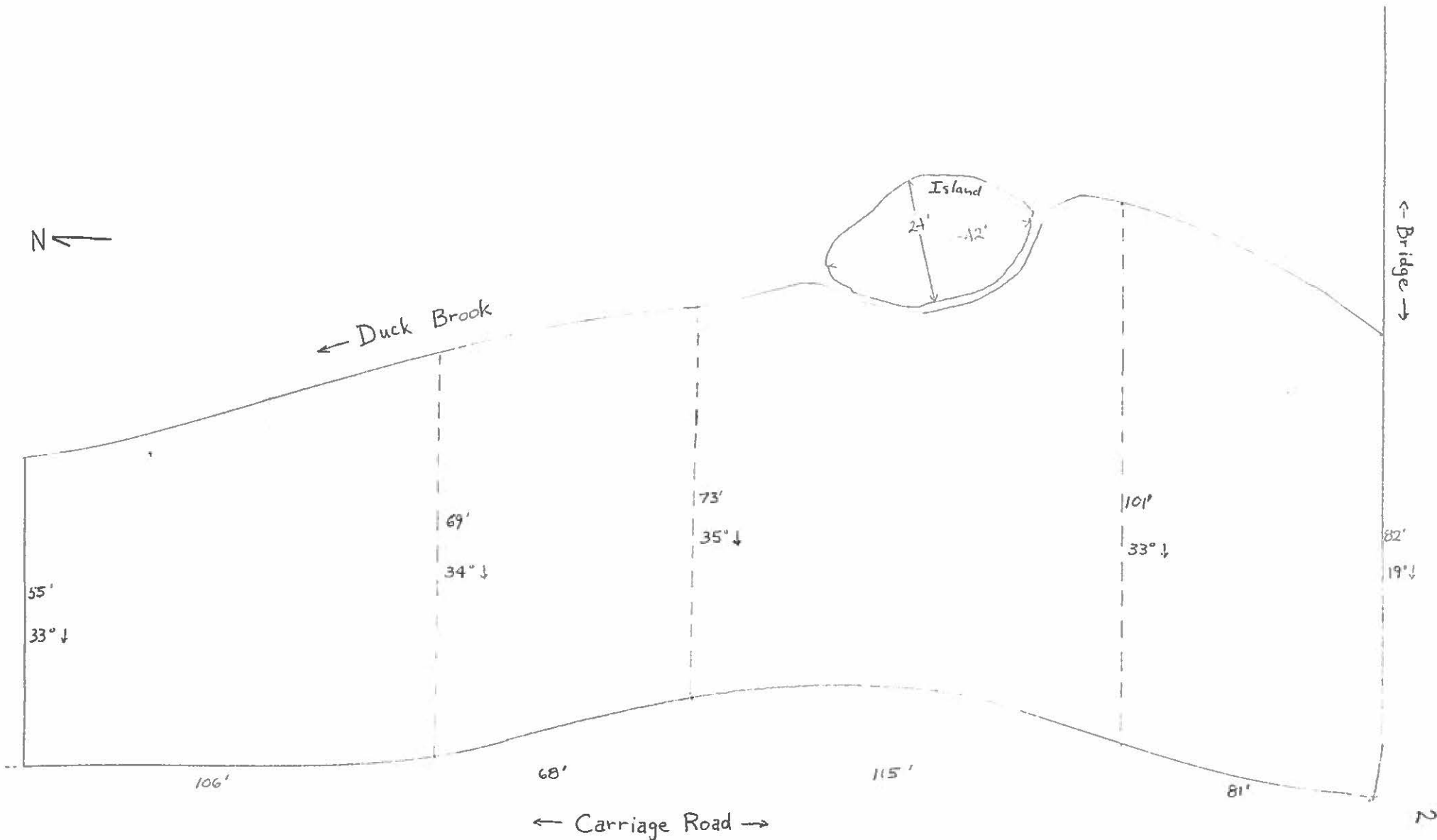
The results of this tally are located on page three. They show the before cut mean diameter, number of trees per acre, and basal area per acre, along with the number of trees per acre and basal area per acre anticipated after the cut.

VISTA ENHANCEMENT SITE

LOCATION: 3-ARCHED BRIDGE OVER DUCK BROOK

FTY 441

Client: Bill Bennett
Tom Blake
Nino Chiappone
Barry Cunningham
Chris Dirk
May 14, 1991



Initial Stand

DBH (in)	Trees/acre			Total	
	Red Oak	Shadbush	Conifers	Hardwood	Basal Area/acre
1 - 3	176.0	257.6	74.2	772.7	11.43
4 - 6	115.0	1.5	15.2	66.7	18.07
7 - 8	39.4	0.0	13.6	21.2	10.92
9 - 10	11.0	0.0	3.0	0.0	4.29
11 - 12	3.0	0.0	0.0	1.5	2.10
13 - 15	1.5	0.0	0.0	1.5	2.45
TOTAL	345.9	259.1	106.0	863.6	49.26

Anticipated Residual Stand

DBH (in)	Trees/acre			Total	
	Red Oak	Shadbush	Conifers	Hardwood	Basal Area/acre
1 - 3	28.8	257.6	24.2	36.4	3.98
4 - 6	68.2	1.5	12.1	57.6	12.30
7 - 8	19.7	0.0	6.1	6.1	6.24
9 - 10	9.1	0.0	3.0	0.0	3.85
11 - 12	3.0	0.0	0.0	1.5	2.11
13 - 15	1.5	0.0	0.0	1.5	2.45
TOTAL	130.3	259.1	45.4	103.1	30.93

After the site was cleared by the sophomore students enrolled in FTY 241, the area was inventoried again with a 100% tally to determine if the previously set goals had been met. When comparing what we marked to be left and what was actually retained, we noted several discrepancies. Our goal of opening up the view of the bridge was obtained, but on a limited basis because we felt that the bridge could have been opened up more. The goal of improving the view of the rapids in Duck Brook was accomplished nicely, however. In addition, the white pine which were originally favored as a desired species, were kept as such. We also had some desired amounts (trees/acre) that were marked to be retained. The resulting figures show what the final analysis was.

Species	Trees/acre	
	Marked to Save	Actual Residual Stand
Hardwoods	103.1	139.3
Softwoods	45.4	37.8
Red Oak	130.3	147.0
Shadbush	259.1	184.9
Total (BA/Ac)	30.93	45.64

We also noticed some residual damage to the shadbush stems which would have been good to avoid. Overall, our goals were attained within reason, with only minor differences, and with the exception of excessive removal of the shadbush.

Duck Brook

Vista Inventory After Vista Restoration

	HARDWOOD	SOFTWOOD	RED OAK	SHADBUSH	TOTAL
DBH Class	Trees/Acre	Trees/Acre	Trees/Acre	Trees/Acre	BA/Acre
1 - 3	69.7	18.2	36.4	180.3	6.24
4 - 6	63.6	13.6	77.3	4.5	21.09
7 - 8	3.0	4.5	25.8	0.0	10.02
9 - 10	1.5	1.5	3.0	0.0	2.99
11 - 16	1.5	0.0	4.5	0.0	5.30
Total	139.3	37.8	147.0	184.8	45.64

Mean Stem Diameter: 4.1 inches