

# Benchmark Assessment 1: Access Paths & Trails

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_ Location: \_\_\_\_\_

Trail name/ description	Segment #	Segment length (ft.) (rounded to nearest 50-foot increment)					Average slope (%) of segment	# Functional drainage structures in place	# Drainage structures recommended (see Table 1 in <i>Health Check</i> )	Meets benchmark		Notes
		50	100	150	200	250				Y	N	
	1											
	2											
	3											
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											
	12											
	13											
	14											
	15											

**Conclusion:** If a trail segment meets the Vermont AMP recommendations for erosion control, then check “Y” in the “Meets benchmark” column for that trail segment. If not, check “N”. If all trail segments meet the benchmark, check “Healthy” in the box at the right. If not, indicate that the trail “Needs work” and summarize the work required.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

# Benchmark Assessment 2: Log Landings

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_ Location: \_\_\_\_\_

Landing # & description	Landing slope (%)		Protective strip				Worst soil erosion type					Landing graded & water diversions installed		Meets benchmark		Notes		
	0-5	6+	Slope %	Actual width (ft.)	Recommended width (ft.)	Meets VT AMP standard		None -slight	Sheet	Rill	Initial gully	Marked gully	Advanced gully	Y	N		Y	N
	Y	N	Y	N														
1.																		
2.																		
3.																		
4.																		
5.																		

**Conclusion:** If the landing is 5% or less in slope, has only ‘none-slight’ erosion, has surface water effectively diverted, and is located outside the protective strip, then check “Y” under the “Meets benchmark” column on the tally sheet. If all landings meet the benchmark, check “Healthy” in the box to the right. If a landing does not meet the benchmark, check “N” in the “Meets benchmark” column, check “Needs work” in the box to the right, and summarize the work required.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

### Benchmark Assessment 3: Stream Crossings

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_

Crossing # and location	Type			Culverts		Bridges		Meets VT AMP standard		Crossing Angle		Meets benchmark		Notes
	Bridge	Culvert	Ford	Existing functional diameter (in.)	Recommended diameter (in.)	Existing functional area (ft <sup>2</sup> )	Recommended area (ft <sup>2</sup> )	Y	N	80°-90°	<80°	Y	N	
1														
2														
3														
4														
5														

**Conclusion:** If the stream crossing has an adequately sized structure in place and the access trail crossing is nearly perpendicular to the stream, then check “Y” in the “Meets benchmark” column. If all crossings meet the Stream Crossing Benchmark, check “Healthy” in the box at the right. If not, check “Needs work” and summarize the work required.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

### Benchmark Assessment 4: Stream Protective Strips

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_

Protective strip sample # and location	Protective strip			Meets VT AMP standard		Crown closure		Bare mineral soil		Meets benchmark		Notes
	Slope (%)	Actual width (ft.)	Recommended width (ft.)	Y	N	70%+	<70%	Y	N	Y	N	
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												

**Conclusion:** If the width of the forested protective strip meets or exceeds the recommended width, the canopy is at 70% crown closure or greater, and the 25-foot buffer closest to the stream has little or no bare mineral soil, then check “Y” in the “Meets benchmark” column. If all protective strips meet the Stream Protective Strip Benchmark, check “Healthy” in the box at the right. If not, check ‘Needs work’ and summarize the work required.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

### Benchmark Assessment 5: Stream Condition

Sample Crew: _____	Date: _____		Town Forest: _____				Notes
Stream segment # and location	Dominant condition		Logging slash and debris		Meets benchmark		
	Clean rocks, little sediment in water, no alluvial fans	Rocks coated, active bank cutting, obvious sedimentation	No tops or logs deposited in stream	Tops and logs from harvests present in stream	Yes	No	
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							


**Conclusion:** If the stream segment appears to be in natural condition with clean adjacent rocks, little sediment, and no plumes or alluvial fans, and if there are no deposits of logging debris such as tops and logs, then check “Yes” in the “Meets benchmark” column. If not, check “No.” If all stream segments meet the Stream Protective Strip Benchmark, check “healthy” in the box at the lower right of the tally sheet. If not, check ‘needs work’ and summarize the work required.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>



# Benchmark Assessment 6: Tree Species Richness

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_ Sample site location: \_\_\_\_\_

Native Tree Species	Abundant	Occasional to locally abundant		Native Tree Species	Abundant	Occasional to locally abundant
American beech				Musclewood		
American elm				Northern white cedar		
American mountain-ash				Paper birch		
Balsam fir				Pin cherry		
Balsam poplar				Pitch pine		
Bartram's shadbush				Quaking aspen		
Basswood				Red maple		
Bitternut hickory				Red oak		
Black ash				Red pine		
Black cherry				Red spruce		
Black gum				Red spruce		
Black oak				Scrub Oak		
Black spruce				Shagbark hickory		
Black willow				Showy mountain ash		
Boxelder				Silver maple		
Bur oak				Slippery elm		
Butternut				Striped maple		
Chestnut oak				Sugar maple		
Cottonwood				Swamp white oak		
Eastern hemlock				Sweet birch		
Eastern red-cedar				Sycamore		
Gray birch				Tamarack		
Green ash				White ash		
Heart-leaved paper birch				White oak		
Hophornbeam				White pine		
Mountain maple				Yellow oak		
<b><u>Other species observed:</u></b>						

 Species in shaded boxes may indicate the presence of an uncommon natural community.

**Conclusion:** The process of determining the tree species richness of an area generally does not yield hard and fast information upon which specific management practices can be based. However, the species richness does give clues about the health of the forest as indicated by its biological diversity. At best, determining tree species richness will raise your awareness of the present conditions and cultivate your intuitions for future management considerations. If three or more native tree species are identified as *abundant* and there are five additional species that are *occasional to locally abundant*, then check "Healthy" in the box at the right. If not, check "May need work" and summarize the work that might be required.

Healthy	
May Need Work	

## Benchmark Assessment 7: Ecologically Sensitive Areas

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_

Ecologically sensitive area # and location	Ecologically sensitive area type				Meets benchmark		Notes
	Rare upland forest community	Forested wetland	Seep	Vernal pool	Yes	No	
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

**Conclusion:** If the ecologically sensitive area is not disrupted by human activities that result in bare mineral soil and/or soil erosion or compaction, and if there is no evidence of vegetation management, then check “Y” under the “Meets benchmark” column of the tally sheet. If all sampled areas meet the Ecologically Sensitive Area Benchmark, check “Healthy” in the box in the lower right of the tally sheet. If not, check ‘Needs work’ and summarize the work required.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

## Benchmark Assessment 8: Non-native Invasive Trees and Shrubs

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_

Observation # and location description	Norway maple	European black alder	Barberry	Winged euonymus	Russian/ autumn olive	Buckthorn	Black locust	Multiflora rose	Honeysuckle sp.	Meets benchmark		Notes
										Y	N	
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												

**Conclusion:** If you didn’t detect any invasive exotics at a given observation point, then check “Y” under “Meets benchmark” for that point. If you did detect invasive species, check the species you saw at each observation area, and check “N” under “Meets benchmark.” If all observation areas meet the benchmark, check “Healthy” in the box at the right. If not, check “Needs Work” and summarize the work required.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

# Benchmark Assessment 9: Small Woody Debris

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_

Harvest site observation # and location description	Leaves, twigs, needles, & limbs < 3" left in place		Meets benchmark		Notes
	Yes	No	Yes	No	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					

**Conclusion:** If leaves, twigs, and limbs less than 3 inches in diameter were left where they fell in the forest harvest area, check "Yes" in the "Meets benchmark" column. If all harvest areas meet the benchmark, check "Healthy" in the box at the right. If a harvest area does not meet the benchmark, check "No," indicating that small woody debris was very heavy utilized, and note that this should be avoided in the future. If any sites received a "No," check "Needs Work" in the box at the right.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

# Benchmark Assessments 10-12: Legacy Trees, Standing Snag & Den Trees, Large Down Trees or Logs

Sample Crew: \_\_\_\_\_ Date: \_\_\_\_\_ Town Forest: \_\_\_\_\_ Location: \_\_\_\_\_

Diameter class (in.)	Vigorous & Wind-firm Legacy Trees					Standing Snag (dead) or Den Trees (living or dead)					Large Down Trees or Logs					Notes	
	# tallied	# per acre	Total # tallied by # per acre	Bench -mark # trees /acre	Meets Bench-mark Y N	# tallied	# per acre	Total # tallied by # per acre	Bench -mark # trees /acre	Meets Bench-mark Y N	# tallied	# per acre	Total # tallied by # per acre	Bench -mark # trees /acre	Meets Bench-mark Y N		
16							7					7					
18							6					6					
20		5					5					5					
22		4					4					4					
24		3					3					3					
26		3					3					3					
28		2					2					2					
30		2					2					2					
Total trees (add totals for each size class)								Trees > 15"					Trees > 15"				
# points sampled								Trees > 21"					Trees > 21"				
Total trees/ac. (divide total trees by # points sampled)					Y N			# trees/ac. > 15"	4	Y N			# trees/ac. > 15"	4	Y N		
								# trees/ac. > 21"	1				# trees/ac. > 21"	1			

**Conclusion:** If your assessment shows that you meet the minimum number of legacy trees, standing snag and den trees, and large down trees or logs, then √ "Y" in the appropriate columns on the tally sheet above and √ the "healthy" box, right. If not, √ "N" in the appropriate columns above, and √ the "needs work" box, right.

Healthy	<input type="checkbox"/>
Needs Work	<input type="checkbox"/>

# Health Check Summary Sheet

Sample Crew: \_\_\_\_\_

Date: \_\_\_\_\_

Town Forest: \_\_\_\_\_

Benchmark	Status of each benchmark, as determined by benchmark tally sheets		Description of work needed
	Healthy	Needs work	
1. Access Paths and Trails			
2. Log Landings			
3. Stream Crossings			
4. Stream Protective Strips			
5. Stream Conditions			
6. Tree Species Richness			
7. Ecologically Sensitive Areas			
8. Non-native Invasive Trees and Shrubs			
9. Small Woody Debris			
10. Legacy Trees			
11. Snag and Cavity Trees			
12. Large Downed Wood			