

Appendix 8

Summary of Analysis of Management Issues and Threats to Outstanding Resource Values

Eightmile River Watershed Management Plan

Management Issue	ORVs Impacted	Stresses to ORVs	Assessment Tools (* = analysis not completed due to time/resource constraints)
A. Earth Material Extraction	a,b,c,d,e,f	a,b,e,f,g,n	Compare Areas of Existing or Potential Gravel Deposits with Existing Protected Areas Review Soils Data with NRCS for Potential Gravel Areas Review Existing Regulatory Requirements for Such Activity
B. Riparian Corridor Mowing/Cutting/Excavation/Filling/Cultivation	b,d,e,f	b,c,f,k,l,m	Determine Amount of Riparian Corridor Protected - 100 feet from stream edge Assess Riparian Corridor Use With Land Use/Land Cover Data, possibly aeriels, stream walk survey data Review Existing Regulatory Requirements for Such Activity
C. Altering/Filling of Streams/Wetlands/Vernal Pools, especially in headwaters	b,c,e,f	a,b,c,e,f,g,k,	Determine Amount of Wetlands/Vernal Pools/Perennial Streams (especially 1st order) Protected Assess Wetland/Vernal Pool In Context of Land Use/Land Cover Data, possibly use aeriels or streamwalk survey Review Existing Regulatory Requirements for Such Activity
D. Groundwater/Surface Water Withdrawals and Impoundments	c,e	a,c,g,j,k,l	Identify High-yield aquifer areas Review Water Utility Coordination Committee Reports Review Impacts of Existing Impoundments with Fisheries Biologists/Dam Safety Identify potential of new golf courses (see below) and agricultural or commercial diversions Review pertinent individual water supply plans from neighboring water utilities Review Regulatory Requirements for New Impoundments Review State Diversion Permitting Program
E. Residential/Commercial Development 1 Impervious Surfaces - roadways, rooftops, driveways, parking lots 2 Poor Stormwater Management 3 Wetland/Vernal Pool Filling or Alteration 4 Destruction of Riparian Vegetation 5 Failed E&S Controls - enforcement main issue 6 Suburban Lawns 7 Change in Topography from Site Development 8 Septic Systems - esp. maintenance 9 Habitat Fragmentation	a,b,c,d,e,f	a,b,c,d,e,f,g,h,k,l,m,n	Buildout Analysis Analyze Land Use/Land Cover Change since 1985 Assess changes in population/household size Assess rate of building permits issued Impervious Surface Estimate - Present and at Buildout (recognize building footprints are increasing) Review Existing Municipal Stormwater Management Policies/Practices Identify where erosion and sedimentation may be more problematic via slopes and erodible soils see item C. see Item B. Review Existing Regulations By-Product of Build-Out Analysis By-Product of Build-Out Analysis Build-Out Analysis - assess quality of soils on buildable lands Review Existing Regulations Regarding Installation and Maintenance
F. Roadways 1 Stormwater Management 2 Road salt/sand application, catch basin failure & hydrologic impacts 3 Hazardous Material Spill 4 Destruction of Riparian Vegetation 5 Watercourse Crossings 6 New Road Development 7 Habitat Fragmentation	b,c,e, f	b, c,e,f,g,h,j,l,m	Impervious Surface Estimate - See E1. Review Stormwater Management/Maintenance Guidelines for local and state roads Identify Roads Within 100 Feet of Perennial Streams Identify Catch Basin Outfalls within 100 feet of perennial streams Perform Catch Basin/Culvert Assessment * Review Hazardous Spill Emergency Plans - local and state see Item B. Review local/state maintenance practices Field Assess Bridge and Culvert Crossings check UMASS * Review New Road Building Standards
G. Nonnative Invasive Species	d,e	c,k,n	Review Botanical Assessment, Conte Refuge info, stream walk surveys Ask DEP regarding deer population statistics Undertake Additional Field Work/Consult With Experts to Assess Aquatic and Terrestrial Species* Identify Extent Of Current and Potential Invasive Presence/e.g. Meshomesic Study*
H. Forest Management	b,c, d,e	b,c,e,k,l	Identify Riparian Forested Areas Review Existing Guidelines/Requirements for Timber Harvesting, state BMPs, role of local land use commissions
I. Poor Implementation of Agricultural Practices	b,c,d,e,f	a,b,c,d,e,g,h,i,k,m,n	
J. Golf Course/Recreation Areas - creation and management	b,c,d,e, f	b,c,d,e,f,l,k,m	Identify Area Where Additional Recreation Areas May Occur/parcel size, topography, local recreation plans Review Guidelines/Requirements for recreation area management Determine any identified need for, and type of, additional municipal recreation areas
K. Lack of Understanding of Resource Location, Quality, Vulnerability	a,b,c,d,e,f	a,b,c,d,e,f,g,h,i,j,k,l,m,n	Assess the quality and quantity of resource information available to community land use commissions Survey land use commissions to determine if they have adequate information on resources of the area

Outstanding Resource Values Impacted	Stresses to Outstanding Resource Values
a. Geology	a. Alteration of Surfacewater/Groundwater Relationship
b. Water Quality	b. Sediment Loading
c. Hydrology	c. Habitat Loss/Fragmentation - upland, grassland, wetland
d. Unique Species and Natural Communities	d. Nutrient Loading - Eutrophication
e. Watershed Ecosystem	e. Destroy Important Arch./Historic Sites
f. Cultural Landscape	f. Loss of Rural/Eightmile Character
	g. Flow Alteration Changing Natural Flow Pattern
	h. Heavy Metal/Toxin/Salt Loading
	i. Bacteria
	j. Blocked Fish Passage
	k. Loss of Native Species
	l. Thermal Alteration
	m. Eutrophication
	n. Loss of Unique Resource Feature/Species

Note: While all stresses affect outstanding resource values to varying degrees, this process identifies the principal stresses that degrade outstanding resource values.

Management Issue Ranking Exercise Summary - 12/21/2004

Rank	Threat - Sort by Mean Score	Mean Score	# of ORVs Affected	Geology	Water Quality	Hydrology	Unique Species & Natural Communities	River Ecosystem	Cultural Landscape
1	Dev - Habitat Fragmentation	5.00	2				5	5	
2	Nonnative Invasive Species	5.00	2				5	5	
3	Dev - Impervious Surfaces - roadways, rooftops, driveways, parking lots	4.60	5		5	4	5	5	4
4	Dev - Poor Stormwater Management	4.25	4		5	4	4	4	
5	Roads - Habitat Fragmentation	4.00	1					4	
6	Roads - Poor Stormwater Management	4.00	3		4	4		4	
7	Riparian Corridor Mowing/Cutting/Excavation/Filling/Cultivation	3.75	4		4		4	5	2
8	Dev - Suburban Lawns	3.60	5		4	3	4	4	3
9	Lack of Understanding of Resource Location, Quality, Vulnerability	3.60	5		4	2	4	4	4
10	Dev - Wetland/Vernal Pool Filling or Alteration	3.50	4		3	2	5	4	
11	Dev - Destruction of Riparian Vegetation	3.40	5		4	2	4	5	2
12	Altering/Filling of Streams/Wetlands/Vernal Pools,	3.00	5		4	2	4	4	1
13	Groundwater/Surface Water Diversions and Impoundments	3.00	2			3		3	
14	Roads - Watercourse Crossings	3.00	4		3	3		3	3
15	Roads - New Road Development	3.00	4		2	3		3	4
16	Golf Course/Recreation Areas - creation and management	3.00	5		3	4	3	3	2
17	Roads - Road salt/sand application & catch basin failure	3.00	3		4	1		4	
18	Forest Management	2.75	4		3	2	3	3	
19	Dev - Septic Systems - esp. maintenance	2.67	3		3		2	3	
20	Dev - Failed E&S Controls - enforcement main issue	2.60	5		3	2	3	3	2
21	Roads - Hazardous Material Spill	2.50	2		3			2	
22	Earth Material Extraction	2.33	6	1	3	2	3	3	2
23	Dev - Change in Topography from Site Development	2.00	5	1		2	2	2	3
24	Roads - Destruction of Riparian Vegetation	1.75	4		2	2		2	1
Total				2	66	47	60	87	33

Note: Each Management Issue was assessed and ranked for each ORV based on a scale of 1 to 5.
 A score of one (1) indicates a potential for a small impact, a score of five (5) indicates a potential for a high impact.
 A blank cell indicates no potential impact was identified.