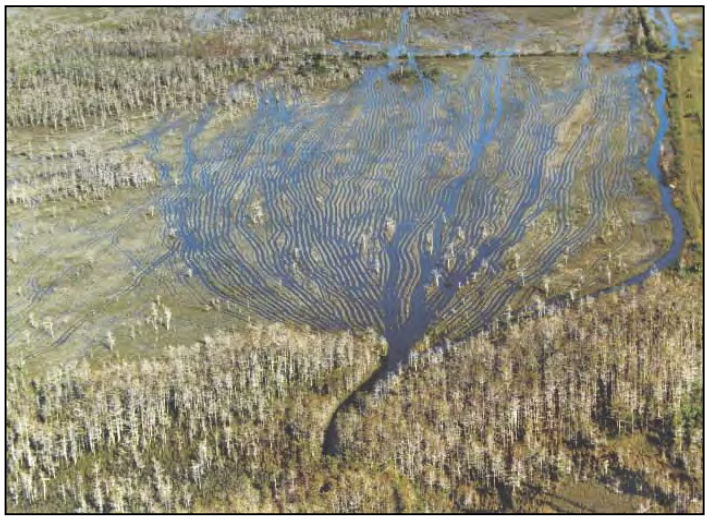
ATV Use on Public Lands, Who's Having the Fun? And Who's Paying the Price?

ATVs (all terrain vehicles) have been sold or manufactured in the US since 1971. It is estimated that in 1982, approximately 750,000 were in use, and the number tripled to more than 2.5 million four years later. There has been a significant increase of environmental damage in our parks and on public lands from motorized vehicles, particularly in sensitive areas such as on slopes and in wetlands. Massachusetts is certainly not alone. Every state in the nation is facing increasing environmental degradation due to ATV use. Damage from ATVs is severe, extensive and often long-term.

Courtesy of BCNorth.ca

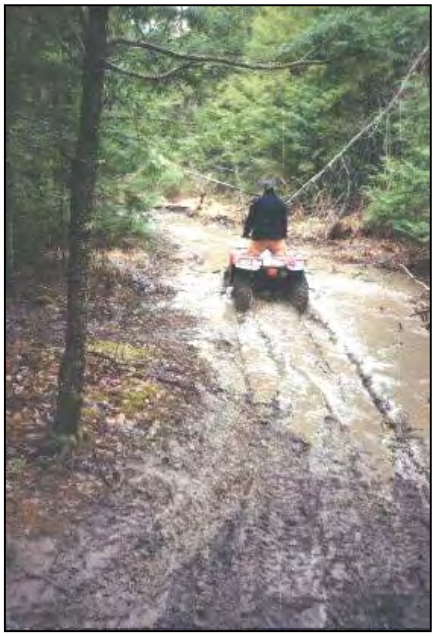
ATV usage disrupts passive recreation activities such as hiking, backpacking, photography and skiing. Each time another ATV follows the same trail, the ruts get deeper and wider until the area is a sea of mud. Recreational trail quality is reduced and requires expanded management efforts to maintain safe, usable trails. The noise and motorized intrusion that is often felt by non-motorized users severely impairs their natural experience of parks and public lands. A single machine, through the noise, dust and speed, can exclude all other recreationists from an area that could otherwise have been enjoyed by many.

Wildlife is significantly impacted by the presence and noise from ATVs, ORVs (off-road vehicles), and snowmobiles. Snow compaction from snowmobile use affects activities and survival of small mammals, and changes the natural freeze-thaw regimes of soils. Use of these motorized vehicles disrupts migration and reproduction cycles of wildlife, kills vegetation, compacts soils, and creates ruts in the middle of wetlands and forests. By further use, these ruts are then widened, opening them up to larger, four-wheel drive trucks that further increase such impacts. When usage coincides with nesting times of birds, noise from motorized vehicles can cause nest desertion. Migrating amphibians and turtles become disorientated by ruts and tire tracks and turtles can have difficulties nesting in compacted soils.



Big Cypress National Preserve, Florida
Photo by : Don Barry, Wilderness Society

Use of any motorized vehicles in a wetland is particularly devastating. Compaction forces (gravity effects that create mud holes) and shear forces (spinning tires) of motorized vehicles create unnatural berms and gullies that alter natural hydrologic patterns. ATVs kill aquatic vegetation and organisms outright and/or disrupt their migration and reproductive cycles. ATV usage increases sediment loading into streams and wetlands, impacting aquatic organisms and water quality. Sediment loading creates muddy water. This depletes oxygen needed by aquatic life, thereby suffocating the local wetland fauna. Muddy water also inhibits sunlight penetration down to aquatic vegetation, thereby killing off local wetland plants.



ATVs cause soils to destabilize thereby reducing soil infiltration capacity and increasing the frequency and intensity of runoff and soil erosion. Soil generation rates in forests cannot compensate for the amount of soils lost through such erosion. Soil compaction can extend up to a meter deep. The loss of plant life due to higher soil density (compaction) and erosion prevents seed germination, ultimately increasing soil erosion. Erosion reduces available organic carbons, soil nutrients, and soil moisture, thereby reducing revegetation. This in turn, reduces species diversity and can pave the way for non-native invasive species to become established. Invasive species can easily out-compete native species for light, water, and soil nutrients.

Recreational motorized vehicles emit elevated levels of air pollutants. ATVs that are equipped with two-stroke engines release up to 30% of their fuel unburned into the air, or about 118 times as much smog-forming pollutants than modern cars. Snowmobiles also have two-stroke engines that emit a significantly higher percentage of carbon monoxide and unburned gases than do automobiles.

The small segment of the population that use ATVs, ORVs and snowmobiles get a great deal of pleasure from traveling through beautiful forests, remote terrains, having close contact with nature, and as a means of building family ties and friendships. However, this fun is at the increasing expense to society as a whole, and it is not only destructive, but quite often illegal.

Costs born by society include loss of natural habitats, loss of native soils, vegetation and wildlife, degradation to recreational trails, and decreased water quality. Wetlands improve water quality by processing nutrients, suspending materials and other pollutants, and by trapping and filtering sediments and heavy metals. Once the wetland's capacity to filter water is compromised, it can no longer provide society with clean drinking water.

ATV activities and the problems they cause are becoming more and more evident in Mittineague Park and the Bear Hole Reservoir watershed area in West Springfield. Having knocked down trees,

killing native vegetation, creating ruts and berms, and destroying wetlands, ATV trails traverse the parks and forest landscape. West Springfield receives between 15-25% (approximately 1 million gallons per day) of clean drinking water from the 3,500 acre Bear Hole Reservoir area. The ability of Bear Hole to provide clean drinking water is being threatened by the illegal use of motorized vehicles.

ATVs have also opened up areas in Bear Hole Reservoir area that are now used by trucks. These areas are "party spots" where trash and beer cans and spent shotgun shells cover the ground. These party spots have open fire pits where adjacent trees and shrubs are ripped up for firewood. At one such spot in there is tires and trash in the water. There are charred remains of a fire pit, directly adjacent to a standing tree charred from either an attempted burn, or a fire that had gotten out of control.

ATV damage in Bear hole Reservoir - June, 2005

In May of 2004, the environmental firm Tighe & Bond prepared a report regarding conditions at Bear Hole Watershed entitled *"Comprehensive Interior Roadway Improvement Plan"*. In this study, 27 problem key areas were identified within the reservoir, the majority of which are causing extensive damage and disturbance in streams and wetlands. They cited "heavy ATV traffic" is causing significant erosion where exposed soils and ruts are discharging sediments directly into wetlands. There is also possible chemical contamination from fuel leaks or spills. Tighe & Bond recommended "extensive public education combined with an aggressive patrolling and enforcement program by the Town of West Springfield" is needed to combat this problem.

So who is paying the price? Who's *not* paying the price? Whether we are aware of it or not, these damages to our forests, wetlands, and wildlife ultimately affects us all.

Submitted by: Karen Leigh, West Springfield Conservation Officer