

July 21, 2005

STAFF REPORT

**RE: HALTON REGIONAL FOREST MANAGEMENT PLAN
REGIONAL MUNICIPALITY OF HALTON**

RECEIVED: May 12, 2005

APPLICANT: Regional Municipality of Halton

PROPOSAL: The Regional Municipality of Halton owns 665.72 ha (1,645 ac) of forest on 14 separate tracts that were previously managed as agreement forests by the Ontario Ministry of Natural Resources.

The Halton Regional Forest Management Plan (HRFMP) is intended to guide forest management activities and uses within the Halton Regional Forests (HRF) for a period of 20 years. The HRFMP consists of three component plans: a 20-year plan: 2005-2024; a five –year Operating Plan: 2005-2009; and a 10-year Capital Plan: 2005-2014.

STATUS: Regional Council adopted the HRFMP on May 11, 2005.

It was circulated to the NEC for information, review and comment by July 31, 2005.

NIAGARA ESCARPMENT PLAN: Six of the tracts in the HRF–Cox, Britton, Robertson, Turner, Mahon, and Currie are located within the NEP area. All of these are designated Escarpment Natural Area except for the Cox Tract (which is designated Escarpment Rural Area). The tracts designated Escarpment Natural Area are located within the Halton Forest South Life Science Area. See Map 1. These tracts are also located within the Hilton Falls Complex ESA.

This area is also within the Hilton Falls Conservation Area and designated a Natural Environment Park under Part 3 of the NEP.

The NEP does permit forestry as a permitted use in Escarpment Natural Areas subject to Part 2, Development Criteria. Part 2 has several sections which are relevant to this proposal, 2.9 Forest Management and 2.14 Areas of Natural and

Scientific Interest, 2.8 Wildlife Habitat, 2.6 New Development Affecting Water Resources, etc.

The NEP in Section 2.9 Forest Management and in the Section 2.14 Areas of Natural and Scientific Interest, have policies which address the question of tree cutting within ANSI's, as does Regulation 828/90. Section 2.9 Forest Management states that tree cutting in an ANSI (Life Science) which is in public ownership will only be permitted where it is necessary to maintain the values for which the area was acquired, for emergency access, where existing agreements are in effect or to implement uses permitted in approved Park or Open Space Master or Management Plans which are not in conflict with the NEP.

The Parks and Open Space Zoning Policy of the Niagara Escarpment Parks and Open Space System (NEPOSS) provides that Resource Management Zones (the Zones that permit intensive resource management) will not be established on public lands in the NEPOSS identified as being in a Life Science ANSI except under specific circumstances. In addition, Resource Management Zones will not be established in Provincial Parks or on Public Lands in the Niagara Escarpment Parks and Open Space System identified as being in an Area of Natural and Scientific Interest (life science) with the following exceptions:

- a) where existing forestry agreements are in effect;
- b) to facilitate uses permitted under existing approved master or management plans;
- c) to maintain or protect the unique features of an Area of Natural or Scientific Interest, where such features would otherwise disappear without active management;
- d) for emergency access (e.g., fire protection); and,
- e) on public lands included in the Resource Management Area Class.

The Halton Regional Forest Management Plan (HRFMP)

Prior to the preparation of the HRFMP, a companion document, Profile of the Halton Regional Forest (Gartner Lee et al. 2002) was prepared to provide a historical perspective on the forests, baseline information on the present state of each of the forest tracts and a natural heritage overview of the HRF.

Public consultation and participation was a significant element in the preparation of the HRFMP. A Public Liaison Committee (PLC) was established and a number of public meetings were held. A Technical Agencies Committee was also established. Although two meetings of this committee were held, due to scheduling problems, staff from the NEC did not attend. The consultants prepared a Summary of Comments on the Public Consultation and Response Document. Comments are recorded in this document from the NEC. A

representative of the Ministry of Natural Resources in fact provided these comments.

The authors of the HRFMP indicate that there is strong support for active and appropriate silvicultural management of the HRF; although, Halton residents place a low priority on revenue generation as a management objective.

The HRFMP states a vision for the Halton Forests ...*A major system of regionally owned forest lands managed to maintain and enhance the structure and function of the forests, including ground and surface water, soils vegetation and wildlife while providing social and economic benefits.* Four management goals under the headings (i) Natural Heritage (ii) Recreation, (iii) Education and Research, and (iv) Administration form the basis for objectives and recommended actions for integrated forest management of the HRF. This is to be accomplished through a system of management areas – Restrictive, Passive, Modified and Access. The permitted uses and the level of silvicultural management in a particular stand will depend on the management area designation of the stand.

Tables One and Two to this report are reproduced from the HRFMP. They are Table 2 - Management Areas and Criteria and Rationale and Table 3 Management Guidelines for the Halton Regional Forest. Detailed comments on these tables are provided in Appendix A, Numbers 17 to 18.

A 5-year Operating Plan accompanies the forest management plan. The operating plan provides details of the management activities proposed for 2005 - 2009.

1. Strengthen the administration of the Halton Regional Forest by (i) assigning an appropriate Regional position with the responsibility for the administration and management of the forest. (ii) hiring (or retaining under contract) a registered professional forester to oversee the silviculture management of the forest, and (iii) allocate sufficient operating and capital funds to ensure successful implementation of the management plan.
2. Continue to engage forest users and the public through (i) a Regional Forest Advisory Committee, (ii) consult on the location and appropriate uses of recreational trails and, (iii) encouraging forest users to peer manage their activities.

A 5-Year Silviculture Schedule is provided in Appendix D of the HRFMP. It identifies the stands to be cut, the silviculture system to be used and the estimated expenses and revenues from the cuts. See Appendix A, comment 30.

A 10-year capital plan is also included with this forest management plan. The capital plan identifies various priority infrastructure and other capital requirements.

The Provincial Policy Statement (2005)

The PPS provides policy direction on matters of provincial interest related to land-use planning and development. It is a key part of the Ontario's policy led planning system. The statement says that the Province must ensure that its resources are managed in a sustainable way to protect essential ecological processes and public health and safety, minimize environmental and social impacts and meet its long-term needs.

The new Provincial Policy Statement, Section 2.0 Provides for the Wise Use and Management of Resources and states under the title Natural Heritage that "...development and site alteration shall not be permitted in a) significant habitat of endangered species and threatened species, significant wetlands....

Furthermore, development and site alteration shall not be permitted in:

- a) significant wetlands ...;
- b) significant woodlands ...;
- c) significant valleylands ...;
- d) significant wildlife habitat; and,
- e) significant areas of natural and scientific interests

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions."

While it is clear that the Provincial Policy Statement (PPS) is intended to direct development applications and approvals specifically related to approvals under the *Planning Act*, the OMNR in the Natural Heritage Reference Manual – June 1999 states that the NHR Manual (based on the PPS) is intended to reflect the directions set out in the MNR – Directions 90's and its statement of Environmental Values and to further the objective of managing resources on a sustainable basis.

This policy is clearly illustrated in [A Silvicultural Guide to Managing Southern Ontario Forests](#) which states with respect to forest cutting:

Every silvicultural system has at least some negative impacts on the physical environment and wildlife habitat. Therefore, managers should always encourage the strict protection of wildlife habitat features in forest stands with regionally significant conservation value. Many of these areas have already been identified (e.g., Areas of Natural and Scientific Interest (ANSI's), Environmentally Sensitive Areas (ESA's), potential old-growth stands) and management plans should recognize them (i.e., they would be mapped and described) and state clearly that no silvicultural activities should occur in them, unless required for the maintenance of a particular

habitat or successional stage. Relatively undisturbed, potential old-growth stands should be allowed to undergo natural succession because of their value to so many wildlife species, especially numerous species of conservation concern, and their value as benchmarks for scientific research.¹

Halton Tree By-law

The Region of Halton has recently adopted a new Tree By-law. The by-law replaces the previous by-law passed in 1983 with a new by-law that promotes good forestry practice. This by-law does not apply to a municipality or local board or to activities undertaken under *The Crown Forest Sustainability Act (1994)*.

The new draft by-law is intended to be consistent with the Regional OP. Whereas the previous by-law provided no tree destruction in Environmentally Sensitive Areas, Hazard Lands, wildlife habitats, areas required for flood and erosion control. The new draft by-law provides that in order to cut in Greenlands and Woodlands 0.5 ha or larger (the latter subject to delegation of authority for Woodlands between 0.5 ha and 1 ha by the local municipality to the Region) you either must obtain a permit or provide a valid Forest Management Plan prepared by a Registered Professional Forester.

The Significance of Halton South ANSI and the Regional Forests within It

Three hundred and eighty-two hectares (943 acres) of the HRF are located with the Halton Forest South (Life Science) ANSI. The entire Halton Forest South ANSI area is 1315 ha (3248 ac.). The majority of lands within the ANSI are owned Halton Conservation Authorities. Approximately 25% is held by private landowners.

Sugar Maple Forests dominate the ANSI on the very thin rocky soils of the bedrock above the escarpment. The ANSI includes abandoned fields and conifer plantations, some up to 10 acres in size, where natural regeneration is advanced.

This site is extremely valuable as a representative site. But more significantly combined with the Halton North ANSI which is 800 ha (1976 ac.) in size, it is the largest tract of naturally vegetated landscape along the Niagara Escarpment, south of Grey County. It provides approximately 35 square km naturally vegetative woodland corridor providing a refuge for a high diversity of species requiring large tracts of forest to maintain viable populations. The ecological functions of the area are also measured by the extent of closed canopy. There are 545 ha (1346 acres) of closed canopy forest interior. The value of this is confirmed by the fact that this ANSI has the highest number of Forest Interior

¹ OMNR 2000, A Silvicultural Guide to Managing Ontario Forests, Version 1.1, Ont. Min. Nat. Resour., Queen's Printer for Ontario. Toronto.p. 62

Bird Species at 26, the highest number of breeding Hawks and Owl Species at 4 (with one other area.)² in comparison with the other ANSI's in the Halton section. Not only is this ANSI outstanding in its own right, but regionally, it is also outstanding. The entire description of the ANSI is included as Appendix B to this report.

The conclusion of the Halton South ANSI description states:

“Forest management or other resource uses should consider the significant natural heritage values of this site; site management should focus on enhancing the potentially mature and undisturbed character of this large and exceptional woodland.”

The Halton South Forest was one of 35 sites chosen for evaluation in a study of Woodland Heritage of Southern Ontario,³ published by the Federal of Ontario Naturalists that focused on measures of forest quality and ecosystem health. The aim of the study was to document some of the best remaining heritage woodlands in Southern Ontario. Woodlands that looked like the forests that the Aboriginal peoples and early settlers saw.

Table 3 : Comparison of Halton South with the Evaluation Ranking of 35 other Heritage Woodlands in Southern Ontario.⁴

Rare Woodland Species	South Halton Ranking	Mean	Minimum	Maximum
No. VTE* bird species	3	1.6	0	6
No. S1-S3 bird species	2	1.4	0	5
No. VTE plant species	0	1.0	0	4
No. S1-S3 plant species	1	3.9	0	15
Conservative Woodlands Species***				
No. of indicator bird species	29	19.3	4	32
No. of responsible bird species	33	22.6	11	36
No. plant species with CV>6	43	39.7	7	71
No. of plant species with CV>7	14	13.5	0	30
Floristic Quality****				
No. plant species with CV>6	9	8.7	1	15
No. of plant species with CV >7+ C95	0	2.4	0	9
Mean Conservatism Value (CV)	4.9	5.0	3.8	5.7

² Riley, J.L. J.V. Jalava and S. Varga. 1996 Ecological Survey of the Niagara Escarpment Biosphere Reserve. Vol 1. Significant Natural Areas. OMNR, p.186

³ Larson, Brendon M., John Riley, Elizabeth A. Snell and Helen G. Godstalk, The Woodland Heritage of Southern Ontario, FON. Don Mills. 1999.

⁴ Ibid., p. 123-130 and p 76 -79

Floristic Quality Index (FQI)	44.1	39.9	24.7	49.0
Herb Richness				
No. native woodland herbs /.5 ha	82	64.6	34	84
Mean No. native herbs/m2 quadrant	6.3	2.9	.7	8.2

*VTE – Vulnerable, Threatened, Endangered

** S1 –S3 as defined by the Species at Risk (SARO) rating. 1 indicating greater “at risk”.

*** Conservative species are those with a conservatism value greater than 6 based on Oldham et al (1995). Conservatism values (CV) indicate the fidelity of a species to a specific native habitat and range is from 0 to 10, with higher values indicating greater conservatism.

**** Rather than comparing the total number of species in a community where all species are treated equally, this study focuses on habitat-conservative woodland species. Each species is assigned a conservatism value – the index indicates the species fidelity to habitats that are relatively pristine. MCV – Mean Conservative Value; FQI – MCV x square root of the total species richness (this measure species richness and which correlates to site size).

When compared to the other 35 significant woodlands, it is readily apparent that the trees of the Halton South Forest are young and small, the basal area is comparatively low at 29 m²/ha compared to some of the more mature forests at over 44 m²/ha. The coarse woody debris is also limited. But in terms of the Conservative woodlands species on the site, the floristic quality and the herb richness again this area is outstanding. Table 3 above gives a comparison of Halton South with the Mean, Minimum and Maximum Values of the other 35 Heritage Woodlands in Southern Ontario. Where the Halton South Forests ranks above the mean, these values are bolded.

Not only is this site outstanding in terms of the region; it is also outstanding in terms of all of the forests of Southern Ontario. What makes it so special is that not only are there a large number of different species but they are specialized species that are found in very few other places. Because of its large size, it provides specialized habitat for a large number of both plants and bird species.

The Profile of the Halton Forest prepared as an inventory for the HRFMP validates the observations of the Halton South analysis and the profile of the entire ANSI. The Halton Region Forests are biologically diverse, with a rich array of flora and fauna. Some 36 tree species were identified during the 2001 forest inventory, with some stands containing up to 12 different species.⁵ The size of the trees is quite variable ranging from seedlings size to 88cm dbh. Most (90%) however, are less than 30 cm dbh.

There are 64 distinct forest stands within the 561.34 ha forest area, ranging in size from .31 ha to 97.15 ha. The majority of the stands are less than 70 years old. Only 4% of the forest is older than 70 years old.

⁵ Garner Lee Ltd. et al., Profile of Halton Forests, 2002. p.36

Table 4 included in this report reproduces Table 18 The Wildlife and Landscape Summary from the Profile of the HRF. It illustrates the number of rare and is sensitive bird species that have been identified by tract in the HRF. It is not simply the tracts in the ANSI which offer specialized habitat for these species.

The consultants have identified 8 different forest types associated with the Halton Regional Forest. We have summarized the forests within the NEP area by type. It is clear that while the majority of the lands within the forests are Upland Maple Deciduous forests, there are small areas of Coniferous Plantation as well as wetland areas.

Table 5 : Halton Region Forest Tracts within the NEPA by Forest Type⁶

Forest Tract	Size	Wetland	Forest Total	Forest type	
Currie	39.2	2.96	36.24	Maple	33.70
				Conifer Plantation	2.54
Mahon	49.06	0	49.06	Maple	49.06
Turner	40.61	10.96	29.65	Maple	19.68
				Conifer Plantation	7.34
				Soft Maple	2.63
Robertson	87.36	16.32	71.04	Maple	57.26
				Mixed	6.41
				Conifer Plantation	7.37
Britton	166.09	43.30	122.79	Maple	110.6
				Conifer Plantation	10.5
				Cedar	7.79
Cox	40.85	.75	31.62	Mixed	25.51
				Conifer Plantation	12.93
				Popular Birch	.39
Total	423.17	74.29	340.4*	353.71*	

* Note: Forest total and forest type above are assumed to differ due to small errors in calculating the areas of the forest types.

Table 6: Forest Type by the Percentage of the Forests within the NEP and the Halton Regional Forests

Forest Type	Acre (hectares)	% of total forest land in the NEPA (353 ha)	% of the Total Forest Land by Class Area in HRF (561 ha)
Maple	270.3	76.4 %	48.1 %
Coniferous Plantation	40.68	11.5 %	7.2 %

⁶ Garner Lee Ltd. et al., Profile of Halton Forests, 2002.

Mixed	31.92	9.0 %	5.7 %
Other	10.81	3.0 %	1.9 %

The description of the Halton South ANSI and the lists of Rare and Area Sensitive Birds From the Profile of the Halton Agreement Forests are included as Appendix B to this report.

DISCUSSION

1. Is Cutting Justified?

The HRMP has created a Restricted Management Area where the Plan says there is on demand silvicultural activities for “habitat maintenance”. Cutting is also permitted in the Passive and Modified Passive Areas for “habitat maintenance and biological diversity”. There are no areas within the Halton Regional Forest where cutting is not proposed.

The dangers that cutting presents to all forests are noted below: ⁷

- Wounds to large residual trees.
- Damage to saplings and polewood.
- Damage to other vegetation – disturbed understorey can be caused by surface disturbances, addition of slash causing smothering, changes in micro-climate causing poor growth and reproduction and the introduction of aggressive non-native plant species such as garlic mustard.
- Damage to soil and water quality due to compaction, rutting, soil and water runoff and soil erosion.
- Disturbance to wildlife – road construction, felling skidding, machine noise, and direct loss of habitat.

These dangers can be minimized by the use of best management practices uneven aged “selection” silviculture and appropriate harvest scheduling etc. but even if best management practices are used repetitive cutting results in a homogenizing of the species composition of the forests. Beech, oak, ironwood, Black Cherry are often removed and seldom regenerate. Structural simplification is occurring, fewer older trees are available for wildlife and the forest crowns are reduced. Martens, Fishers, flying squirrels, some bats, insects and other organisms are becoming less frequent.⁸

⁷ OMNR 2000, A Silvicultural Guide to Managing Ontario Forests, Version 1.1, Ont. Min. Nat. Resour., Queen’s Printer for Ontario. Toronto.

⁸ Landowner Resource Centre, Extension Notes, The Old Growth Forests of Southern Ontario.1999

One of the suggested management techniques proposed in the HRFMP⁹ (but not actually incorporated into the Plan) was to increase the percentage of trees over 90 years of age in the forest. It was proposed that it would be reasonable to increase the percentage of trees over 90 years of age from less than 1% which it is now up to 8% over the next 40 years. The problem with this approach is that if you actually value old age forests the easiest way to obtain them would be to leave the forest alone. Right now there are 202 ha (498.9 ac.) in the age range of 61 to 70 years in the HRF. In 20 to 30 years, 38.8% of the forest will be in the over 90 age group if you simply leave it alone.

Old growth forests are more diverse than some of today's forests. They contained a wider variety of trees, shrubs and provided habitat for many more species, including about 28 birds and mammals that prefer old growth habitat. While the changes in southern Ontario's forests have created more habitats for wildlife species, like white-tailed deer that prefers open land and young growth, the absence of large tracts of undisturbed tracts of mature forests has caused many other species to decline or disappear. The loss of old growth forests has also reduced the level of genetic diversity within individual species and their ability to adapt to stress. Untouched soils of the old growth forests exhibit complex bacterial and fungal relationships, which provide the forest with protection against diseases.

The Niagara Escarpment Commission has struggled with the question of the impact of cutting in forests within the Niagara Escarpment Plan area since the original plan was prepared. However, there is increasingly more evidence that it is not just how you cut but the fact that cutting is taking place at all that is undesirable. The argument that cutting is acceptable because it can create wildlife habitat and biodiversity is being now being challenged. Recommendations are being made that the best way to preserve old growth forests is simply not to cut.¹⁰

In the conclusions of the Ecological Survey of the Niagara Escarpment Biosphere Reserve it is noted that the extent of forest interior is often a predictable measure of the quality of the woodland ecosystem. One of the main conclusions of the analysis done with the data obtained from the analysis of the ANSI's in the Niagara Escarpment Biosphere Reserve is that size matters.¹¹ The overall number of vascular plants species at the sites was proportional to the size of the site, the diversity of the vegetative communities and the location of the site on the escarpment. The species-diversity of sites increases as the size of the site increases. The number of native species increases as the size increases.

The number of breeding birds increases as the size of the site increases, and the forest interior increases in direct proportion to the over all site size. A particularly important aspect is the degree to which site size ensures that sites support

⁹ HRFMP, p.12

¹⁰ OMNR, Extension Notes – The Old Growth forests of southern Ontario. 1999.p.5.

¹¹

species that are area-restricted in their occurrence and breeding to forest interiors, such as forest-interior breeding birds. Species such as Veery, Ovenbird, and the Rose-breasted Grosbeak have had a greater than 50% decline in their numbers from 1961-1988 and they were all identified in the HRF in 2001. In fact the Profile of the Halton Forests identified 35 Area Sensitive Bird species in the Halton Agreement Forests in 2001 and 14 Rare Birds. By comparing the size of the forest interior with the number of forest interior species it was found that 66% of the variation was accounted for simply by size. The richness of the habitat in the HRF in terms of birds species is indicative of this observation. Although the HRF is not a particularly old forest in terms of actual age or size of trees or even in the amount of habitat – snags, cavity trees etc., the number and variety of area-sensitive birds is notable.

Interior forest birds that prefer the large undisturbed forest interiors do so because they find their preferred food particularly insects here – increased moisture, less nest disruption and fewer predators. There is a greater diversity of microhabitats such as small conifer stands, wet pockets of lowland hardwoods or rare vegetation that contributes to the greater species diversity and greater potential food source.¹²

It is noted in the Profile of Halton Forests that all of the conifer plantations in the HRF with the exception of one were mid-aged to mature and that several regionally rare birds were also identified in the plantations. Since conifer forests are relatively rare in Southern Ontario it is noted that they attract bird species that are typically found further north.

Forest interior was measured as the approximate extent of closed–canopy forest (>70% closed) more than 100 m from fields and other edges and more than 25-50 m from natural edges. The minimum area necessary to conserve the full complement of forest birds of prey has been estimated at about 75 ha. Cooper's hawk, Northern Goshawk, Red-shouldered Hawk and the Broad-winged Hawks were all observed in the HRF.

Foresters have argued that cutting, especially using best management practices does not affect the number of and variety of forest birds and they suggest may even increase wildlife habitat. While this question is not easily answered, recent studies are indicating that cutting does impact the specialized forest interior species. In an on-going study, reported in an article entitled “Can Forest Birds Cope in Managed Woodlots?” by Ken Elliot, this question is being studied. The study is taking place in the Carolinian zone of southern Ontario, in 25 upland forests ranging in size from 19 to 261 ha.¹³ Sixteen harvested sites with varying levels of harvesting – single –tree selection 85% crown closure and heavy cut sites with 66.6% crown closure are being studied and compared with 9 control sites.

¹² Conserving the Forest Interior: A Threatened Wildlife Habitat, 2000

¹³ Natural Resources Canada, Impacts of Selective Logging on the Forest Birds Communities of Fragmented Deciduous Forests in Southern Ontario, Bulletin No. 26,

When nesting success was studied it was found that some of the birds that are showing signs of decline had significantly higher nest success in the (uncut) control sites; although, some species did better in the partially harvested forests. Interestingly, when the nesting success was studied most failures (95%) were due to predation. This on-going study confirmed the results of a study of forest interior birds in Missouri that found that species have different abundances in habitats created by even and uneven-aged forest management and mature forests. A relatively limited number of species specific birds clearly preferred the mature uncut forests. Fragmentation of woodlands had the greatest effect and again the influence of the parasitic cowbirds is noted.¹⁴

In the Frontline Express the author¹⁵ notes that forest birds were not scared away by harvesting. In fact the highest levels of diversity and the total number of birds were found on heavy cut sites but Brown-headed cowbird which is a parasite had a higher density on heavy cut sites whereas Brown Creepers (an area sensitive interior forest bird) was more common on control sites. The effect of the Brown Headed Cow Bird was noted in a report by Martha Allen prepared for the Niagara Escarpment Commission where she noted that Brown Headed Cow Bird parasitism had increased by 30% over 2 years in Halton Forest¹⁶.

In evaluating the effect of cutting on forest habitat, Ken Elliot noted from his study that in comparing the number of dead trees or slags as well as trees with obvious excavated or natural cavities, the control forests had one third more cavity trees per hectare than the other two treatments and the average diameter of trees was higher in the controls. This suggests that by simply leaving the forest alone the habitat for wildlife will be increased. More significantly though, when they did a "floristic quality" analysis they found that the heavy cut sites also had a higher abundance of invasive species and generalists and a decrease in the number of conservative species. The author commented that "In this case the increase in biodiversity actually represents a decrease in quality."¹⁷

Like the dramatic effect that the Brown-Headed Cow Bird can have in reducing nesting success, the effects of non native invasive species including the effects of fungal diseases is having a significant effect on our forests. For instance, because of the butternut canker the Butternut tree is now a provincially threatened species. The ecological effect of invasive species is a dangerous side effect of cutting. Invasive species are carried in on machines, skidders and the boots of forest workers. Twenty-six invasive species were identified within

¹⁴ Annand, Elizabeth M, "Forest Bird Response to Regeneration Practices in Central Hardwood Forests" J. Wildl. Manage. 61(1): 159-171

¹⁵ Elliot, Ken, "Can Forest Birds Cope in Managed Woodlots?" Ontario Woodlot – Woodland Notes Spring/Summer 2004(Vol35) edition of S&W.

¹⁶ Martha Allen, "Forest Bird Productivity in the Niagara Escarpment Woodlands – A Four Year Case Study on Wood Thrushes", Prepared for the Niagara Escarpment Commission, Feb. 2001, p.

¹⁷ Ibid., Elliot, Ken. p. 4.

the HRF in the Profile of the Halton Forests. Because of the large number of recreational users of these forests, the HRF are already susceptible to invasive plants and they can have significant side effects. The West Virginia White butterfly that is listed as Provincially Vulnerable by COSSARO requires Toothworts for the larvae to feed on. But Toothworts is a plant easily displaced by Garlic Mustard. With the loss of the Toothworts the West Virginia White butterfly can no longer survive.

Throughout the HRFMP, the comment is made that silviculture management will be used to increase wildlife habitat and increase biodiversity. The simplest way to achieve that is again, to leave the forest alone, it will age. Any other management may create more habitats for some species but in doing so, reduce the habitat for others. By manipulating the ecology, we are in danger of reducing diversity or reducing the quality of the forest by promoting more generalist species, introducing non-native invasive species, which again will threaten the habitat of specialized and rare native species.

2. Halton Regional Forest Management Plan

There has been considerable work done particularly on the background information prepared for the HRFMP and there has been extensive consultation with the public including specific users of the Halton Forests. However, as the detailed comments regarding the Halton Regional Management Plan included in Appendix A to this report indicate, staff has many specific and substantial concerns and questions with regards to the details of the HRFMP. Generally, it appears that there is a major disconnect between the background work that was done for the HRFMP, the stated objectives and the discussions about the approach that could be taken to developing a silvicultural management plan and the actual plan and recommendations for cutting that was developed.

The first concern is Table 2 and the Management Zones established in the HRFMP. The criteria for the zones are vague, inconsistent, and indefensible. Furthermore, they require additional fieldwork to confirm boundaries, and they do not protect the significant features, which they purport to protect. For instance, Northern Goshawk, Red-shouldered Hawks and Coopers Hawk nests are included in the Restricted Management area but there are no buffers provided to protect those nests. Buffers are identified around some wetland areas and then cutting activity within them is recommended. There is no zone which does not have some cutting proposed for it, although the staff report presented to Regional Council indicated that there was to be no cutting in the Restricted Management Zone that is not what is proposed in Table 3. The criteria for the zones must be re-examined and appropriate levels of activity developed for each zone. This includes the levels of forestry management as well as the amount of recreational activity permitted in each zone.

The forest management recommended does not comply with the Silvicultural Guide to Managing Southern Ontario Forests. As quoted on page 5 of this report this guide recommends identifying ANSI's, ESA's and potential old growth stands and not cutting in these areas.

The choice of the Boreal Modeling system for projecting cutting cycles for the next 100 years seems a very inappropriate one. These are not boreal forests and there is no need to protect moose habitat here; however, the only reference for the system used cites an article promoting the model for that use.¹⁸ The objectives here are clearly stated to protect the environment yet the only policy parameter within the model we are given states that the choice was made to "optimize timber production under a sustained yield area control".¹⁹ It is not clear to what extent Regional staff or Regional Council was involved in this policy choice.

It is a concern that there was considerable public discussion of the HRFMP the goals and objectives but the details of the Management Plan were not necessarily accessible to the public i.e., the extent of cutting recommended by this Modeling system etc. If the details of the cutting proposed in the first five years was made public i.e., that the first stand to be cut was proposed in the Restricted Management Area of the Synder Tract that has Jefferson Salamander habitat and a Goshawk nest, I do not believe that this would have gone unchallenged or to give the benefit of the doubt to the authors uncorrected. (See comment #30 in Appendix A).

There are a number of recommendations made in the first six chapters of the HRFMP that it appears have not been incorporated into the cutting prescriptions. There is still additional work required to identify the trails in the forests and to determine which ones should be closed and which ones should be kept open. The existing cutting prescriptions must be reexamined to ensure that there are no other recommendations such as cutting in stand 5a in the Synder Tract that is clearly unintended? The Region of Halton is encouraged to continue the process of preparing a Forest Management Plan that is worthy of the forest it is responsible for managing.

3. The HRFMP and the NEP

The Niagara Escarpment Planning and Development Act provides the authority for the NEC to prepare and implement the NEP. It also states that no municipality "...shall undertake any improvement of a structural nature or any other development or undertaking within the Area; and b) no municipality having jurisdiction in such Areas shall pass a by-law for any purpose, that is in conflict with the Niagara Escarpment Plan."

¹⁸ G.D. Puttock, I Timossi and I.S. Davis, BOREAL: A tactical planning system for forest ecosystem management, May June 1998 Vol 74, No. 3 The Forestry Chronicle, p. 1.

¹⁹ Gaartner Lee Ltd., et al., Halton Regional Forest Management Plan , Feb. 2005. p.43

It is not at all clear why the authors of the HRFMP have chosen to ignore the provisions of the NEP. They clearly acknowledge the policies of the NEP with regard to cutting in ANSI's. They note that the NEP does permit cutting in ANSI's "to maintain or protect the unique features of an ANSI, where such features would otherwise disappear without active management." They suggest that "This is the case for the relatively small portion of Modified area within the ANSI where many of the forest stands are coniferous plantations and where the objective is to convert the plantations to native deciduous and mixed woodlands through sustainable forestry practices." They do not show these areas on any of the maps although they are referred to in the cutting scheduling.

As Table 6 in this report shows within the NEPA there are only 41 ha (101 ac.) of coniferous plantations. However, approval to cut in these areas would require justification to be provided as required by the NEP. In addition no approval to cut in these areas would be given unless it could be determined that access to the proposed areas would be available without affecting restricted areas. No-cutting buffers would have to be established around the areas proposed for cutting. Cutting would have to be based on the A Silvicultural Guide to Managing Southern Ontario Forests.

The authors have chosen to ignore the policies of the NEP and have treated the lands within the Niagara Escarpment Plan in a manner similar to those outside the Plan area. This is not acceptable. The Region of Halton should re-evaluate whether or not they wish to pursue the idea of silviculture management in the Halton Forests and to what extent given that there will be no cutting within the NEP area except possibly with the very limited exception of those coniferous plantations where cutting **may be** justified in the future.

RECOMMENDATIONS:

1. That the Niagara Escarpment Commission inform the Region of Halton that they should reconsider their endorsement of the Halton Regional Forest Management Plan for the following reasons:
 - (i) The silvicultural management proposed in Table 2 and 3 of the HRFMP does not incorporate the ecological foundations that were identified in the Profile of the Halton Region Forests or the objectives that were discussed in the HRFMP. Nationally, provincially and regionally rare species are not protected. Neither are vulnerable wetlands.
 - (ii) The proposal to cut in the first 5 year period in Stand 5a of the Synder tract, an area designated as a Restricted Management Area (that was identified as having Jefferson Salamander habitat and a Goshawk nest) is indicative of the disconnect

between the principles which the HRFMP states should be used in the silvicultural management and the actual silvicultural management recommendations that have been made. These recommendations should be re-examined and corrected and be based on best practices as identified in the Silvicultural Guide to Managing Southern Ontario Forests.

- (iii) There is a need to identify what is described in the HRFMP as High Conservation Value forests where no cutting is permitted and to effectively incorporate this idea into the Forest Management Areas before any cutting, access improvements or trail evaluations proceed.
 - (iv) There is a need to re-evaluate the appropriateness and use of the model BOREAL and to be assured that it reflects the objectives of the HRFMP and the Regional Council. As it now stands this model incorporates a policy to optimize timber production – the advisability of the Region of Halton adopting such a policy in an area of such valuable woodlands should be re-examined.
 - (v) There is a need to address the many concerns, questions raised in Appendix A to this report and those raised by the Ministry of Natural Resources.
2. That the Niagara Escarpment Commission inform the Region of Halton that for the lands within the NEPA, the HRFMP has not provided any justification for the cutting that is proposed within the area designated as a Provincially-Significant Life Science ANSI. The values that led to the identification of the ANSI, its representation, its outstanding collection of nationally, provincially and regionally rare species and its overall size which enables it to function as an outstanding example of “old growth forest” in terms of the biodiversity and the specialized habitat it provides are threatened by any active forest management that is proposed for the area.
3. That the Niagara Escarpment Commission request that the Region of Halton reconsider its decision to hire a forester to actively manage the forests within the HRF given that the NEC will not endorse a program of active forest management in the NEPA.

Prepared by: _____
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Approved by: _____
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Manager

APPENDIX A - DETAILED COMMENTS

From the Public Consultation and Response Document –

The comments attributed to the Niagara Escarpment Commission were in fact provided by Neil Hester – Niagara Escarpment Parks Coordinator, Ministry of Natural Resources not the Niagara Escarpment Commission.

Regional staff were informed that Mr. Hester's comments were not from the NEC prior to those comments being submitted to the consultants for inclusion into this document. We do not understand why this was not corrected.

The Ministry of Natural Resource's comments on Table 2 Management Areas – regarding the protection of the Jefferson Salamander, Coopers Hawk, the definition of rare plants, the Acadian Fly Catcher, the Cerulean Warbler and the Butternut are simply ignored by the consultants.

Halton Regional Forest Management Plan Prepared for the Regional Municipality of Halton by Gartner Lee Limited, Silv-Econ Ltd., and TSH Associates February 2005.

1. On page 4, it is noted that the area on top of the escarpment is characterized by shallow soils < 30 cm over the bedrock, however there are no comments in the HRFMP on the implications of these shallow soil conditions on growing characteristics of the woodlands, or how the silvicultural management has taken this into account.
2. Similarly, it is noted that there are numerous wetlands and a perched water table in this area, with much of the area characterized as hydrologically sensitive, yet no comment is made regarding the need to modify silvicultural techniques to account for these conditions.
3. On page 5, Butternut is described as Provincially and Nationally endangered and the stand where it is located in the Britton Tract is identified but a similar level of detail is not provided for the location in the Robertson Tract. Why not?

In the Tract Specific Management Features there is no mention of the Butternut. If this endangered species is not noted - how can we be assured that protection is provided?

4. The comment is made that all tracts, except perhaps Coulson, provide high quality productive habitat for breeding birds and probably for other wildlife. This is one of the major reasons why this area was designated

as a Life Science ANSI but again no specific modifications are suggested regarding the silvicultural management of the area.

5. The Jefferson Salamander egg masses and breeding pools were found in Britton, Robertson, Mahon and Currie and it is recorded that breeding likely occurs in the Turner tract as well. It is noted that this highly significant population is probably the result of an extensive block of relatively undisturbed mature forest containing a number of suitable fish-free breeding ponds. Why is the Jefferson Salamander the only habitat included in the Restricted Management Area? Why haven't the habitat areas of the Turner Tract been protected? Why is cutting for wildlife management permitted in these areas? Has it been determined that the other areas proposed for cutting in these tracts can be accessed without disturbing Jefferson habitat?
6. The importance of the core Natural Areas and the conductivity of these areas is noted. Seven of the tracts – Britton, Roberston, Turner, Mahon, Currie, Frank and Synder are large enough to meet the criteria of 25 ha of continuous natural habitat. The Profile for Halton Agreement Forests identified a number of area-sensitive bird species in these areas. Why is no consideration given to providing protection for these species?
7. Page 9. We question whether the public support for silvicultural management of Halton Regional Forest would be characterized as strong if the impact of the silviculture and the extent were clearly explained to the public. The discussions in this Plan regarding the extent of cutting are quite technical. There is a modeling program that has been utilized to determine cutting levels that has not been explained, and is not user friendly.

It is particularly disconcerting that extensive work has been done to characterize the forests, the fauna, wildlife etc. suggesting to the public that these factors have been taken into account in the management of the forest, however we see no evidence that this is in fact the case.

8. Under Objective 2 – Conserve and Enhance Native Diversity of Flora and Fauna and Key Forest Attributes and Functions. “Healthy forests include a diversity of naturally occurring vegetative communities habitats These features are achieved by employing a suite of management activities ..” First, no suite of management activities are provided. There has been no evidence provided that silvicultural management contributes to diversity.

9. On page 12 it is suggested that silvicultural systems can be modified to allow a greater portion of the forest to mature to a late seral forest >90 years of age. Has the silvicultural management activities been modified to achieve this aim? We have no way of knowing. The easiest way to increase the age of the forest is to leave it alone. Right now 202 ha are in the age range of 61- 70 years. If this forest is left alone, in 20 to 30 years 38.8 % of the forest will be > 90 years of age. Why would we aim for 8% over the next 40 years when we could achieve 38.8% in 20 to 30 years, by doing nothing?

10. The term High Conservation Value Forests (HCVF) is used several places in this management plan but it is not clear from this report how or why this term is used. Five attributes of these forests are listed. Have they been used to identify High Conservation Value Forests? (Further in the HRFMP, it is evident that these areas have not been identified – Why not?) The Plan states these attributes are generally consistent with the attributes associated with the Restricted Management Areas. A comparison of these attributes with Table 2 shows this is not true. What are the significant portion of the habitat of Jefferson's Salamanders and other species at risk? Stands that contain regionally or provincially rare flora are listed as an attribute but if you consult Table 2, it indicates that buffering of 1.5 times the height of the canopy should be provided. This does not protect the entire stand.

“Native Stands within 30 m of watercourses and ponds” is listed as one of the five attributes proposed for High Conservation Value Forests, but if you consult Table 2 Management Areas, Criteria and Rationale” – Only the actual watercourse, pond or marsh is listed under the Restricted Management Area, the highest level of protection (these areas would have no forest to cut). The buffer area is listed under Passive Level of Protection. Cutting is proposed within the buffer area. Furthermore, another zone is included the “Passive-Modified Area” that includes buffers adjacent to wetlands. Again, it is suggested these areas could benefit from management (cutting?) in order to increase the diversity of the” forest structure.” (See page 23). What is the point of identifying buffer zones if they provide no additional protection?

If the areas of High Conservation Value Forests are intended to be identified, we do not understand why this was not done as part of the Management Areas and as part of the Plan.

11. Under Goal Two: Provide Opportunities for Recreation Where Compatible with Objectives for Conserving Natural Heritage Attributes and Functions, the NEP in the Escarpment Natural Area permits “Non-

intensive recreation uses such as nature viewing and trail activities except motorized vehicle trails or the use of motorized trail vehicles.” A Park Master/Management Plan which permitted motorized vehicle use in areas designated Escarpment Natural Area, would not be approved.

12. The Management Plan suggests that during the first two years the Region should consult and define appropriate recreational uses and trail locations etc. This should have been part of the preparation of the Management Plan and until this is done no Plan can be approved.
13. With regard to forest access roads, the location of these roads and suitability of these roads should have been evaluated based on their impact on sensitive natural features; rare, threatened and endangered species, flora etc. (It is recommended roads should not be located within 200 m of stick nests, or close to seeps, springs or streams even intermittent ones).²⁰
14. The appropriateness of the parking lot size and the potential for expansion should have been evaluated as part of this Plan. If there is no approved Master Plan in place then a Development Permit for upgrading the parking lots would be required within the NEP area.
15. Regarding the Demonstration of Sustainable Forestry Practices. It may be that cutting in some of the forestry tracts outside the NEP Area (and outside the ANSI designation) might offer comparable lands to those within the NEP so that a comparison of those sites might be valuable. The NEC already has a monitoring site within the Halton South ANSI.
16. Under Goal Four: Provide Efficient and Effective Administration and Management of the Halton Regional Forest – The Development of a Parks and Open Space Management which can be approved by the Niagara Escarpment Plan will permit the continued management of the Regional forests within the NEP area over the long term. This should be the initial management goal. A Forest Advisory Committee could be set up to work with the planners to prepare that plan. With regard to hiring a forester, the Region of Halton may want to reconsider this recommendation given the extent of forest available for cutting once areas of High Conservation Value forests are identified outside the NEP area and given that cutting within the ANSI will not be permitted within the ANSI.

²⁰OMNR. 2000. A Silvicultural Guide to Managing Southern Ontario Forests, Version 1.1 Ontario Min. Nat. Resources. Queens Printer for Ontario. Toronto. p. 81.

17. Table 2: Management Areas, Criteria and Rationale. This table establishes the basis of the management areas within the Plan. It is clear however, that the consultants are not comfortable with establishing such areas. The establishment of the Passive- Modified Areas along the watercourses has been noted in comment 10 above. Under Restricted Management Areas – the habitat of all rare plants is included, but what does this mean? “Rare” is not defined. Are regionally, provincially, and nationally categorized plants included? What does it mean “To be located at the time of prescription writing” – Who will locate them? Using existing data or field surveys at the time? Will the forester do this work? A Silvicultural Guide to Managing Southern Ontario Forests²¹ suggests that managers are advised to seek the advice of a competent biologist prior to building roads or skid trails. Has this been factored into the cost of harvesting in this area? Does this mean that as drawn the restricted areas only include the first three criteria?

Northern Goshawk, Red shouldered hawk and Coopers hawk nests have supposedly been identified and included in these areas but no buffers have been identified around these nests. How, then is any level of protection provided? If the buffer area extends into another area where there is cutting permitted it could be that there is cutting going on immediately adjacent to the nest? This does not provide any protection.

Under the Passive Management Area – “Wetlands, other than those identified above, are included”. Why would cutting in wetlands be recommended? In a Silvicultural Guide to Managing Southern Ontario Forests²² “no silvicultural activities” are recommended for sites that include a provincially significant wetland or ANSI.

Under the Passive category “Endangered, Threatened or Vulnerable Species” as identified by COSEWIC is given for the rationale. Does this mean that we are only protecting species that are nationally recognized?

The buffer of 30 m is suggested around, ponds marshes or streams, the buffer area is included in the Passive Management Area. In this area limited silviculture is permitted and machines can be used. Then there is another category of buffer areas around wetlands that is described as Passive-Modified where it is suggested additional silviculture may occur. These are Provincially significant resources, the point of a buffer area is to protect them – not to permit harvesting in these areas. This is not simply a planning principle, in a Silvicultural

²¹ Ibid., p. 371.

²² Ibid., p.237.

Guide to Managing Southern Ontario Forests²³, under the Basic Rules of Good Forestry Practices – Buffers, it recommends retaining a 30 m buffer of uncut densely growing trees beside open fields or other hard edges and to maintain buffers of natural vegetation between cut areas and water bodies, rare vegetation communities and significant wildlife habitats.

Under the Modified Area – criteria and rationale, it is not at all clear what this category includes – area sensitive species might include Jefferson Salamanders. All species might have specialized habitat requirements. Again the rationale refers to rare species – what does this mean? The tract summaries Table 3 is referred to but there are no summaries in this Plan. How was the information from each tract inputted into the Boreal Modeling program, or was it?

The rationale for the Modified Management Area includes habitat for area species and rare species, this suggests that silviculture management is going to occur in the areas of rare species – then what is the point of the zoning system?

18. Table 3 Management Area Guidelines for Halton Regional Forest. This table gives very little information about the amount/type Silviculture within each Management Area. It does suggest that some silviculture (cutting) is being recommended for all of the areas even the most sensitive. It suggests that silviculture may be used for habitat maintenance – What does this mean? What specific habitat is being maintained? And biological diversity – It is entirely too simplistic to make this statement and not explain what is intended, how this contributes to biological diversity etc.

In Passive Areas it is suggested machines may be permitted to cut in wetland areas, along buffers and in significant habitat areas. This is not good silvicultural management and it is not acceptable.

19. Section 5.2 discusses the Halton Regional Forest and the Niagara Escarpment Parks and Open Space System (NEPOSS). The NEPOSS is described in Part 3 of the NEP. The authors of the HRFMP suggest that this area is subject to the NEPOSS (OMNR 1996a) There is a draft manual with this title that was prepared by MNR for Discussion. It was never approved by the NEC and should not be used for reference.

Within the NEP area, the regional forests have a land use designation and any development requires a Development Permit unless and until

²³ Ibid., p.12.

a Parks Management Plan has been approved by the NEC. While the authors of this Plan acknowledge this section of the NEP they continue to ignore the fact that these lands with the exception of the Cox Tract are designated as Provincially Significant Life Science ANSI's. They offer no explanation of how the NEC could approve a Plan that directly contradicts the policies of the NEP.

The authors suggest that in a relatively small portion of the Modified Areas where the forest stands are coniferous plantations and where the objective is to convert the plantations to native deciduous and mixed woodlands through sustainable forestry practices that the requirements of the NEP are being met; however, no explanation is provided as to how the NEP requirements are being met. Nor is any explanation provided as to why extensive silvicultural activity is being proposed for all the other maple, mixed forest lands within the NEP area?

With regard to Table 6, to simply ignore the policies of the NEP and pretend that the HRFPM has zones equivalent to those suggested in the NEP is deceptive and really quite unacceptable. The public is given the impression by the use of this table that this plan complies with the NEP.

It is difficult to comment on the permitted recreational uses without having agreement on the zones that are being discussed. It is incorrect to state that the zones suggested in the NEPOSS are equivalent to those in the HRFMP.

20. Silvicultural Management of the Halton Regional Forest. In the second paragraph under Section 6.1 the statement is made "In some cases, these approaches to management may need to be modified in order to conserve the diversity of floral or faunal communities...protect core forest areas.... It is not clear if any of these things have been done or, if they have been done, how have they been done? The citing of a number of sources suggests that this may be important but what exactly is suggested in terms of exact management techniques etc. is not clear.
21. With regard to the Wildlife and Biodiversity the comment is made that as the forest ages, greater abundance of habitat features can be expected; we have already commented on the question of increasing the age of the forest. To suggest guidelines should be consulted during the development of forest management prescriptions prior to silvicultural management activities begs the question. Have they been consulted before these prescriptions were made? Have they been incorporated into the modeling that was done?

22. It is suggested that a forest-level approach to bird habitat management is recommended over the traditional stand level approach and again several references are given. Again, what are the implications for management in this forest? We see no evidence that this has been done.
23. Under Sustainable Timber Management, the long term sustainable timber management for the HRF is estimated following the approach described in BOREAL - A Tactical Planning System for Forest Ecosystem Management. The only reference for this modeling program Pullock *et al.* (1998)²⁴ describes how this modeling system was developed for the boreal forests – and applied to Algonquin Park with the objective to maintaining habitat areas for moose. How this is relevant for application in the Halton Region Forests, is not clear. There are apparently any number of modeling programs that are available, the choice of a program based on a boreal forest which has different climate, trees etc. is highly questionable, therefore, must be justified.
24. On page 40, it is stated that the Restricted Management Areas will form the foundation of the proposed system of High Conservation Value. Again what does this mean? “Limited management activity such as might be appropriate for habitat enhancement.” What does this mean?

The areas in the paragraph before 6.5.2, do not compare with the numbers in Table 4 – why are they different?

Here it suggests there may be additional areas which may not be cut. “These areas are best identified during the development of stand – specific forest management prescriptions prior to any silvicultural activities” What then is the point of the Plan?

25. Under 6.5.2 Silvicultural Systems and Forest Yield – The statement is made” It is assumed that the growth factors in the Passive Management Areas will be comparable to that of non-managed forests of similar forest types and stocking.” One of the most basic observations made regarding this area is the depth of the soil to bedrock is very shallow but there has been no evaluation or comment on how this might affect the levels of growth.
26. Table 12 outlines the level of cutting that is proposed for the Halton Forests. It is not clear where the application of allowing some of the

²⁴ Puttock, G.D., I. Timossi, and L.S. Davis. 1998: BOREAL: A tactical planning system for forest ecosystem management. For Chron. 74(3): 413-420.

forests to mature to over 90 years fits into this prescription. This table does not follow the guidelines of A Silvicultural Guide to Managing Southern Ontario Forests regarding the cutting in wetlands, cedar forests.

27. Under Section 6.5.3 Sustainable Management Policies, the application of the Boreal planning system is referenced and it is indicated that a policy of “optimizing timber production under sustained yield area control was chosen”. We wonder why this policy was adopted, when clearly the indication was that timber harvesting and economic return was not the priority of this Plan. We question how the modeling incorporates the stated Goals of the Plan. We question whether it actually incorporates any of the statements regarding the preservation of the special attributes of this area, or for that matter any of the objectives and comments made in any of the preceding chapters.
28. Five Year Operating Plan – Without finalization and approval of this Management Plan by the Niagara Escarpment Commission, implementation of the Plan will be difficult. The mapping of the recreational trails and the finalization of the access roads must be done before the Plan can be considered for approval. Decision regarding the extent of forestry on lands outside of the NEP Area will have to be made.

If Halton Region decides to continue with their plans to cut outside of the NEP Area then this Plan will have to be modified to identify those areas which are suitable for resource management.

29. Section 7.2.1 This section starts with the sentences “All forest stands within the Passive, Modified and Passive Modified Management Areas were assessed for management requirements based on current forest conditions and past silvicultural treatments. The total area scheduled for silvicultural treatments over 2005-2009 operating period has been identified and is consistent with sustainable forestry objectives as described in Chapter 7.” Chapter 7, entitled, Five Year Operating Plan says virtually nothing about forestry objectives. What about the objectives referred to in the rest of this document?
30. Appendix D provides the 5-year Silvicultural Schedule. The first stand proposed for cutting is “5a” – 15.52 hectare in the Synder Tract (this tract is outside the NEP area). It is described as Mixed Forest type and the recommended silvicultural system is Selection/group selection. The estimated expense to cut in this area is \$4,408; the estimated revenue is \$7,760.

If you look at the Forest Stand Map for this area, (it is not numbered or given a page number but it is labeled "Synder") there is only one area identified as "5a" – **It is a Restricted Management Area!** The Tract Specific Management Features of the Synder Tract on page C-13 under Restricted list:

Protect salamander breeding habitat (250 m restricted zone around breeding habitat). Permanent watercourse. Goshawk nest (*no buffer in place yet*).

Is this a mistake? When if ever, would this mistake have been identified? Would the forester, who had no knowledge of this Plan, have attempted to implement this five year operating plan by cutting in this Jefferson Salamander breeding zone? In an area where a Goshawk nest has been identified.

If the Goshawk nest has been identified, why was no buffer area identified? This cutting is recommended for 2006.

The total revenue generated by the first 5 year is \$42,833. (The cutting in the Synder Tract contributes over half of the first years revenues). The expense is \$23,545, the difference of \$19,288. This does not include the funds it will require and staff time to amend this Plan or the expense of hiring a biologist to assist the forester as suggested by A Silvicultural Guide to Managing forests in Southern Ontario. The economic viability of this Plan should be re-evaluated once the appropriate zones have been identified.

31. Staff has not reviewed the Ten-Year Capital Plan.

APPENDIX B

From the Profile of the Halton Agreement Forests

Rare Birds and Area Sensitive Bird Species

The Site Summary of the Halton Forest South ANSI