Forest Roads and Water Crossings Initiative

Task Team Report

Findings and Recommendations pertaining to

Liability Assessment
Determination of Responsibility
Planning Implications

October 1, 2003
Executive Summary

Forest access roads and water crossings are a common feature on the landscape across the province of Ontario. There are tens of thousands of kilometers of forest roads and a comparable number of water crossings on Crown land. The condition of roads and water crossings or the failure to maintain this infrastructure will result in the development of hazardous conditions that pose a significant risk to public safety or may cause environmental damage.

Criticisms and legal challenges in the form of Environmental Bill of Rights investigations, Independent Forest Audit recommendations, environmental group “investigations”; and user complaints about the status and condition of the infrastructure have increased significantly in recent years. The Department of Fisheries and Oceans (DFO) has also signaled the need to remediate water crossings that negatively impact fish or fish habitat and represent a contravention of the Fisheries Act.

Most forest roads on Crown land have been constructed by the Forest Industry for the purposes of forest management. After the completion of forest operations, roads are typically abandoned and left to deteriorate unless they are maintained usually on an ad-hoc basis by other commercial and recreational users. “Natural abandonment” has been the commonly accepted prescription for management of roads and water crossings after forest operations cease. As a result of the Timber Class EA, a more rigorous approach to evaluating water crossings prior to abandonment was ordered by the EA Board (T&C 52d). This term and condition resulted in the development of the Criteria for the Removal of Water Crossings of Abandoned Roads in 1997. Strict application of this criteria could result in the systematic removal of all water crossings on all roads that are no longer required by the Forest Industry. This systematic decommissioning of forest roads would have enormous economic, social and political implications. However continuing to simply “abandon” roads and allowing them to deteriorate has significant liability implications with respect to public safety and environmental legislation.

It became apparent through discussions between the Forest Industry and MNR that there is continuing uncertainty as to who has responsibility for roads and water crossings which are no longer required for forest management purposes. There is also uncertainty as to what obligations come with the responsibility. Planning and record keeping for some forest roads on Crown land is currently accomplished through the Forest Management Planning (FMP) process. The current FMP process does not however account for the entire existing infrastructure and in many cases road use strategies do not exist for infrastructure that has “dropped out” of the FMP process. In the absence of current road use strategies, decisions to maintain, repair or decommission roads and water crossings are often made on an ad-hoc basis usually in response to a variety of issues or crises.

In Dec 2000, the Forest Roads and Water Crossings Initiative (FRWCI) was assigned the task of developing proposed solutions to deal with this long-standing problematic subject. A joint Forest Industry-MNR task team was assembled as a component of the overall FRWCI project. The task team was given a mandate to provide definitive conclusions as to how to partition and assign responsibility, how to transfer responsibility, and how to maintain an ongoing record of responsibility status.

The task team utilized the findings of a MNR legal review which provided advice on liability and responsibility aspects. The Task team has concluded that MNR and the Forest Industry should jointly commit to establishing local programs to proactively reduce or eliminate public safety hazards and environmental concerns. The first
step in this process is to partition and assign responsibility for all existing infrastructure and future developments. Following an exhaustive review of pertinent legislation, policy and procedures, planning mechanisms and related guidelines, the task team has proposed a fair and equitable approach to assigning responsibility for the existing and future infrastructure. Decision keys have been produced for this purpose. The task team determined there is a significant difference between former Crown management units and former company management units. Additionally, the task team took into consideration the differences across the province including the specific difference between the north and south; these differences have been reflected in the decision keys.

The task team concluded that in some circumstances, it may be appropriate for responsibility and obligations to be shared between two or more parties. This may include SFL holders, the Crown and/or third parties who have a specific and continuing interest in certain roads. These situations must be evaluated on a case by case basis. In order to be meaningful, the parties must be able to formalize the relationship and clearly assign responsibility by a legally binding mechanism. Where a formal partnership cannot be developed, responsibility will default to the Crown and the infrastructure will be managed, maintained or decommissioned according to the road use strategy developed by the Crown. Where the Forest Industry is clearly the primary user and forest operations are determinative of the construction standards and maintenance requirements, it is appropriate for the Forest Industry to assume most or all responsibility and maintenance costs when the infrastructure is being used for forest management purposes. Where the requirements of other permanent users have an equal or greater influence on road-use strategies, infrastructure standards and maintenance regimes and the Forest Industry is not the principal or consistent user, a shared responsibility arrangement should be pursued.

The task team was also asked to provide advice as to how and when responsibility would transfer to and from the Crown, the Forest Industry or third parties and what conditions must be satisfied in order for the transfer to take place. The task team concluded that the Environmental Guidelines for Access Roads and Water Crossings (1988), the Crown Land Bridge Management Report (1989) and the Criteria for the Removal of Water Crossings of Abandoned Roads (1997) were significant relative to the partitioning of responsibility. It was also concluded that information in existing and previous FMPs and TMPs would have bearing on the determination.

The legal review identified the need to clearly assign responsibility in a legally binding mechanism and track the transfer of responsibility for each and every road. The task team has proposed that the method of tracking responsibility could be reasonably accomplished through the forest management planning process. This change could be incorporated into the ongoing exercise to amend the FMP manual as part of the Timber Class EA renewal. The party responsible for the road will have the ongoing obligation to undertake appropriate monitoring and necessary maintenance to achieve road use strategies and ensure safe conditions.

To initiate the responsibility determination exercise it will be necessary for individual forest companies and local MNR offices to work cooperatively to produce a reliable up-to-date road map. The Task team proposes that the exercise to partition responsibility be undertaken as soon as possible on an individual management unit basis. The task team has further concluded that road mapping should be refined to eliminate roads which have degenerated and are no longer travelable.

Upon completion of the initial task to partition and assign responsibility it is anticipated there will be numerous roads which will be lacking a current and/or appropriate road use and abandonment strategy; many of these roads will likely be the responsibility of the Crown. Before the Crown can proceed with maintenance, remedial work or decommissioning, public consultation will be required. The Task team proposes that a planning process to develop road use strategies for these roads be designed and conducted as a one-time, stand alone consultation exercise, and that it be conducted outside of the FMP process and consistent with the Class EA for MNR Resource Stewardship and Facility Development Projects.

The task team is proposing that road use strategies include a standard phrase that clearly specifies that road/water crossings may not be restored in a timely manner if damaged or destroyed by unplanned events (eg. major storm). The strategies would also state that there is no obligation on the Crown or the forest industry to undertake this repair work on behalf of other users and that access to their business or property could be disrupted at any time. It is also concluded that MNR and the forest industry should actively encourage non-industrial users to contribute toward localized monitoring and low cost preventative maintenance. Additionally, the task team proposes that that MNR investigate options to charge other industrial users a fee to contribute to
The report is supportive of efforts to amend the Aggregates Act and the FMPM that would permit Category 14 pits (short term) to be used for emergency repairs and preventative maintenance work.

The task team has proposed that roads be planned, maintained and decommissioned on a “road network” basis and have defined a “road network” as a system of new or existing roads which are designed and constructed to access a defined multi-year forest operating area and/or a distinct geographic area. A road use strategy would be developed for each road network and would replace the requirement to develop separate road-use strategies for individual roads. This approach will ensure that a logical and compatible strategy is developed for a defined road network as a whole including tertiary roads. All existing roads and future roads will be aggregated into logical road networks by the FMP planning team. Once defined, road networks will be carried over into subsequent FMPs. Responsibility transfers would occur on a road network basis and would be synchronized with FMP planning.

The task team concluded that roads and water crossings should never be considered “abandoned” unless they have been fully decommissioned. As long as infrastructure remains on the landscape, some party must assume responsibility and undertake adequate monitoring and maintenance to ensure no public safety or environmental issues arise.

Inventory, monitoring and maintenance programs are essential components in demonstrating that the party responsible is taking adequate reasonable care and practicing due diligence. The initial inventory and adequate ongoing monitoring and maintenance will be performed by the responsible party to ensure that roads and water crossings are safe and do not pose a risk of environmental damage. The frequency and extent of inspections will be the prerogative of the party responsible and will be governed by the level of risk that the party is willing to assume. It will be the prerogative of the party responsible to determine what inventory and monitoring system are established. FRWCI has developed a methodology to inventory water crossings that has been produced with assistance of several forest companies and endorsed by DFO. This methodology is available to the forest industry but there is no obligation to employ this technique. DFO have indicated support for the FRWCI concept which is described as follows:

- partition responsibility for roads and water crossings
- undertake an infrastructure inventory and confirm responsibility
- identify problems and prioritize required remedial work (based on risk assessment and consistent with use management strategies)
- undertake remedial work in a progressive manner according to standards
- conduct ongoing monitoring and update inventory

The committee has identified the need to ensure that industry, MNR and DFO compliance monitoring programs for roads and water crossings are conducted in a consistent manner province-wide and that efforts are complementary. It is further concluded that comprehensive training should be offered to MNR, forest industry and DFO compliance staff to explain the FRWCI concept, responsibility aspects and provide specific direction and expectations relative to compliance monitoring and enforcement. Finally it is also proposed that MNR continue dialogue with DFO to obtain additional clarification with respect to interpretation and enforcement of the Fisheries Act.

Distribution

A DRAFT report was distributed on April 26, 2003 within the Forest Industry and MNR. An opportunity to provide comments on the DRAFT report was extended until June 13, 2003. Input was received from 31 individuals. The Task Team reconvened on August 28, 2003 to consider the submissions and make final revisions to the report.

A FINAL report was submitted on October 1, 2003 to the Chair of the FRWCI Steering Committee and the Director of Forest Industry Relations Branch who in turn will jointly submit the report to MNR Assistant Deputy
Ministers. Direction to implement the conclusions and recommendations will flow down through the respective divisions to the Policy and Planning Sections of the various divisions.

The Task Team will also continue to promote the final report within the Forest Industry and MNR. A corporate decision is also required with respect to determining if this report should receive broader distribution. Numerous NGOs have expressed interest.

It is desirable that this process proceed quickly so as to include as many changes as possible within the FMP manual revision project.

Members of the Forest Industry – MNR Task Team will make themselves available to assist with the development and/or review of draft policy products.

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CONCLUSION - 1
MNR and the Forest Industry acknowledge the civil and environmental risks associated with roads and water crossings and jointly commit to establishing local programs that are consistent with the FRWCI concept so as to proactively reduce or eliminate public safety hazards and environmental concerns.

CONCLUSION - 2
This paper is predicated on DFO’s acceptance and endorsement of the FRWCI Concept. MNR and the Forest Industry commit to work with DFO to secure this endorsement.

CONCLUSION - 3
MNR will continue dialogue with DFO to obtain additional clarification with respect to interpretation and enforcement of the Fisheries Act. This information will continue to be conveyed to the Forest Industry.

CONCLUSION - 4
It is recommended that comprehensive training be offered to MNR, Forest Industry and DFO compliance staff to explain the FRWCI concept, responsibility aspects and provide specific direction and expectations relative to compliance monitoring and enforcement. The MNR compliance monitoring program for roads and water crossings should be reviewed to ensure direction is consistent with the conclusions of this report and that program is implemented in a uniform manner across the province. In particular, there is a need to expand the direction offered in the Forest Operations Inspector training course relative to evaluation of existing/established water crossings in addition to the direction provided for the assessment of “new” installations.

CONCLUSION - 5
The Access Road Manual should be reviewed and redundant components rescinded. The remaining relevant components should be updated and embedded in the most appropriate existing manual or guideline. The existing reference to the ARM in the FOSM should then be eliminated.

CONCLUSION - 6
A consistent provincial approach is required where the review, revision or retirement of redundant LUPs, Maintenance Agreements or MOUs/MOAs is being contemplated. The outcome should be consistent with the findings and approaches recommended by this report.

CONCLUSION - 7
It is appropriate to determine responsibility on former and remaining Crown Management Units in a different manner than that used for former FMAs or company management unit. A separate decision key has been prepared for former and remaining CMUs.

CONCLUSION - 8
In instances where the Forest Industry is one of many users of the forest road or in fact is considered a minor user, the SFL holder and the MNR will work together to develop a partnership arrangement which addresses responsibility for the road(s) in question. MNR needs to develop criterion that will define situations that will qualify for a shared responsibility arrangement and also determine under what circumstances and to what extent, MNR will be prepared to assume partial shared responsibility. Where a formal partnership cannot be developed, responsibility will default to the Crown and the infrastructure will be managed, maintained or decommissioned according to the road use strategy developed by the Crown.
CONCLUSION - 9
The above listing of legislation, policy, procedures, guidelines and mechanisms are the appropriate and correct rationalization of factors that would affect the determination of responsibility for roads and water crossings. There may be situations throughout the province where unique circumstances and additional factors must also be considered eg. Algonquin Provincial Park.

CONCLUSION - 10
Two decision keys are to be used to initially partition and assign responsibility for roads and water crossings on individual management units throughout the province. These keys would also be used to determine if a transfer of responsibility is appropriate at a future time.

CONCLUSION - 11
The FMP is the preferred mechanism to formally record responsibility and track responsibility transfers for roads and water crossings. The process as outlined above should be utilized to bring the full existing road system into the FMP to document assignment of responsibility and maintain a complete record of all roads on the management unit (treat as a “value”). It is recommended that these changes be incorporated into the current FMPM Revision Project.

CONCLUSION – 12
MNR will design a planning and consultation exercise to develop road use strategies for all existing roads (under MNR jurisdiction) that are no longer used for forest management purposes. The process will ensure adequate opportunity for public consultation so that the resulting use strategies may be brought into the existing FMP by an administrative amendment. This process would also be utilized at times in the future when it is necessary to alter road use strategies for any roads not being used for forest management purposes.

CONCLUSION - 13
There is a need to develop and maintain a single reliable digital database for roads. The database should be cooperatively produced and maintained by SFL holders and local MNR. The road database will be used to track responsibility transfers. The protocols for sharing the database, keeping it up to date and disseminating the information will be consistent with FIM requirements.

CONCLUSION - 14
Roads that have degenerated and are no longer travelable by a conventional 4x4 half ton truck should be removed from road maps and location information transferred to a “retired road” map product.

CONCLUSION - 15
The ROAD NETWORK, ROAD NETWORK – USE STRATEGY and the TRANSFER PLAN concepts are a reasonable approach to achieving more specific and meaningful road use strategies for new and existing roads and water crossings. These approaches will ensure that responsibility transfer is done in a logical and equitable manner. It is recommended that MNR provide additional direction with respect to the content of road use strategies and that a common prescription approach be utilized (similar to AOC prescriptions).

CONCLUSION - 16
The concept of “natural abandonment” has been challenged by this report. If infrastructure remains on the landscape, someone has responsibility to monitor and maintain it…so it will not be truly “abandoned”. If this approach is accepted, it will be necessary to purge this terminology from a number of documents including the FMPM, Environmental Guidelines for Access Roads and Water Crossings, the Crown Land Bridge Management Report and the Criteria for the Removal of Water Crossings of Abandoned Roads.

CONCLUSION - 17
Road Network -Use Strategies must include a standard phrase that clearly specifies that road/water crossings may not be restored in a timely manner if damaged or destroyed by unplanned events (eg. major storm). They would also state that there is no obligation on the Crown or the Forest Industry to undertake this repair work on behalf of other users who may not have the resources to replace failed infrastructure and that access to their business or property could be disrupted at any time.
CONCLUSION - 18
It is recommended that MNR explore options to charge other industrial users (occasional or recurring) a fee to contribute to maintenance costs of forest access roads.

CONCLUSION - 19
It is recommended that MNR and the Forest Industry actively encourage other non-industrial users (eg. tourism operators, cottage owners, trappers, game & fish clubs) to contribute toward localized monitoring and low cost preventative maintenance (eg. unplugging culverts).

CONCLUSION – 20
Part 2, Section 52 of the Public Lands Act should be utilized as required, to authorize and enable short notice/short term road closures intended to protect road integrity, ensure safety and minimize repair costs.

CONCLUSION - 21
This report is supportive of efforts to amend the Aggregates Act and the FMPM that would permit Category 14 pits (short term) to be used for emergency repairs and preventative maintenance work as opposed to the present requirement for a Category 9 pit (long term) authorization.
Table of Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EXECUTIVE SUMMARY</td>
</tr>
<tr>
<td>3</td>
<td>Introduction</td>
</tr>
<tr>
<td>5</td>
<td>Forest Industry – MNR Task Team</td>
</tr>
<tr>
<td></td>
<td>Mandate</td>
</tr>
<tr>
<td>7</td>
<td>Liabilities and Responsibility</td>
</tr>
<tr>
<td></td>
<td>Legislation Review</td>
</tr>
<tr>
<td></td>
<td>Due Diligence and Reasonable Care</td>
</tr>
<tr>
<td>12</td>
<td>Department of Fisheries and Oceans (DFO)</td>
</tr>
<tr>
<td>13</td>
<td>Defining and Assigning Responsibility</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td>16</td>
<td>Applicability and influence of Legislation, Policy, Planning Procedures &amp; Guidelines</td>
</tr>
<tr>
<td></td>
<td>Sustainable Forest Licences</td>
</tr>
<tr>
<td></td>
<td>FMPM, and Access Road Manual</td>
</tr>
<tr>
<td></td>
<td>Environmental Guidelines for Access Roads and Water Crossings</td>
</tr>
<tr>
<td></td>
<td>Crown Land Bridge Management Report</td>
</tr>
<tr>
<td></td>
<td>Criteria for the Removal of Water Crossings of Abandoned Roads</td>
</tr>
<tr>
<td></td>
<td>Road Standards and Current Road Conditions</td>
</tr>
<tr>
<td></td>
<td>Other Mechanisms</td>
</tr>
<tr>
<td>20</td>
<td>How Management Unit History and Status Influences Responsibility</td>
</tr>
<tr>
<td>22</td>
<td>Conditions that must be satisfied in order to initially assign or transfer responsibility</td>
</tr>
<tr>
<td>25</td>
<td>Future Transfer of Responsibility</td>
</tr>
<tr>
<td></td>
<td>Responsibility key Former Company Management Unit</td>
</tr>
<tr>
<td></td>
<td>Rationale for key</td>
</tr>
<tr>
<td>30</td>
<td>Responsibility key Former Crown Management Unit</td>
</tr>
<tr>
<td></td>
<td>Rationale for key</td>
</tr>
<tr>
<td>34</td>
<td>Current Approach to Road Use Planning</td>
</tr>
<tr>
<td>35</td>
<td>Suggested Modifications to Road Use Planning</td>
</tr>
<tr>
<td></td>
<td>that would enable the Assignment of Responsibility</td>
</tr>
<tr>
<td></td>
<td>The Need to Develop Road Use Strategies for All Roads</td>
</tr>
<tr>
<td>40</td>
<td>Mechanisms to Legally Assign Responsibility – Options</td>
</tr>
<tr>
<td>41</td>
<td>Road Classification Issues</td>
</tr>
<tr>
<td></td>
<td>Road Mapping</td>
</tr>
<tr>
<td></td>
<td>Reclassification of Degenerated Roads</td>
</tr>
<tr>
<td></td>
<td>Existing Tertiary Roads</td>
</tr>
<tr>
<td>43</td>
<td>Road Network Concept</td>
</tr>
<tr>
<td></td>
<td>Road Network – Use Strategy</td>
</tr>
<tr>
<td></td>
<td>Transfer of Responsibility</td>
</tr>
<tr>
<td></td>
<td>Transfer Plan</td>
</tr>
<tr>
<td>46</td>
<td>Inventory, Monitoring and Maintenance</td>
</tr>
<tr>
<td>49</td>
<td>Recommended Policy and Planning Modifications</td>
</tr>
<tr>
<td>49</td>
<td>Distribution and Promotion of Report</td>
</tr>
<tr>
<td>50</td>
<td>Report Implementation</td>
</tr>
<tr>
<td>51</td>
<td>Reference Documents</td>
</tr>
</tbody>
</table>

*Forest Roads and Water Crossings Initiative - Task Team Report - October 2003*
## List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Responsibility Determination Key – Former Company Management Unit</td>
<td>26</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Responsibility Determination Key – Former Crown Management Unit</td>
<td>30</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Proposed Process to Develop Road Network-Use Strategies for All Existing Road Networks on a Management Unit</td>
<td>39</td>
</tr>
</tbody>
</table>
Introduction

Forest access roads and water crossings are a common feature on the landscape across the province of Ontario. An analysis of the provincial database indicates there are tens of thousands of kilometers of forest roads and a comparable number of water crossings on Crown land. Knowledge of the present status of this infrastructure is incomplete. The condition of roads and water crossings or the failure to maintain this infrastructure will result in the development of hazardous conditions that pose a significant risk to public safety. Additionally, defective or deteriorating water crossings may cause environmental damage and significantly impact water quality, fish or fish habitat; this can result in violations of environmental legislation. This matter is a concern to both the Crown and the Forest Industry.

The majority of forest roads on Crown land have been constructed over the decades by the Forest Industry for the purposes of forest management. Most roads were left in place following the cessation of forest operations and are utilized by a broad range of resource users for recreation, tourism, mining, forest fire suppression, and access to First Nation communities etc. Over time, users become increasingly reliant on this infrastructure and come to believe they have the right to continuing use and expect that the infrastructure will be reasonably maintained for their benefit. However, at certain stages of the forest management cycle, the Forest Industry does not require portions of the established road infrastructure. Often little or no maintenance is undertaken when forestry operations are inactive and the Forest Industry would like to be formally relieved of the responsibility for monitoring and maintenance when road networks are not being used for forest management purposes. Roads have also been constructed by a variety of other industrial users as well as private and commercial camp owners. Road systems also exist in Provincial Parks, Nature Reserves and Wilderness zones.

Criticisms and legal challenges in the form of Environmental Bill of Rights investigations, Independent Forest Audit recommendations, environmental group “investigations”; and user complaints about the status and condition of the infrastructure have increased significantly in recent years. The Department of Fisheries and Oceans (DFO) has also signaled the need to remediate water crossings that negatively impact fish or fish habitat.

Planning and record keeping for forest roads on Crown land is currently accomplished through the Forest Management Planning (FMP) process. The current FMP process does not however account for the entire existing infrastructure and in many cases, road use strategies did not exist or have lapsed for infrastructure that has “dropped out” of the FMP process. In the absence of current road use strategies, decisions to maintain, repair or decommission roads and water crossings are often made on an ad-hoc basis usually in response to issues or crises. Resources are not currently available to adequately monitor and maintain all of the existing infrastructure that is no longer required by the Forest Industry. Consequently, a means to plan, rationalize and prioritize maintenance and decommissioning decisions is therefore urgently required.

In 1997, the Criteria for the Removal of Water Crossings of Abandoned Roads was developed and implemented to satisfy the requirements of the Timber Class EA (T&C 52d).
In order to ensure absolute compliance and fully eliminate liability, the Forest Industry and in some cases MNR, started to initiate the decommissioning of significant road networks despite the potential impact to other users who had become reliant on this access. This strategy has typically met with mixed reaction as some users adamantly insist that existing access be maintained and new opportunities be maximized, while other parties argue for access reduction in support of wilderness or “roadless area” concepts. Access disputes are often the most controversial aspect of forest management planning and have also been the subject of debate in the consultation and development process for Ontario’s Living Legacy. Concerns are frequently expressed that road use planning for new or existing roads is not handled in a strategic manner. In most cases the decision to formally “abandon” roads has been avoided or deferred because of uncertainties with respect to interpretation and application of the Environmental Guidelines for Access Roads and Water Crossing (1988), the Criteria for the Removal of Water Crossings of Abandoned Roads (1997), the Crown Land Bridge Management Report (1989) and uncertainty pertaining to the determination and assignment of responsibility. Recognition and acknowledgment of this complex situation resulted in the formation of the provincial Forest Road and Water Crossing Initiative (FRWCI) in December 2000.

The Forest Road and Water Crossing Initiative was established to address issues related to the roads and water crossing infrastructure on Crown land in the Timber EA - Area of the Undertaking (AOU). The mandate of this initiative includes:

1. clearly defining the liabilities (civil and environmental) associated with roads and water crossings on Crown land
2. clearly defining individual and/or shared responsibilities for MNR, the Forest Industry and other parties who have specific interests with specific roads
3. determination of the current status of forest roads and water crossings on Crown land throughout the AOU
4. identification of existing infrastructure hazards and potential problems that pose a threat to public safety and/or present a risk of environmental damage
5. development of a multi-year strategic approach in cooperation with recognized users, to plan and undertake as expeditiously as possible, remedial work necessary to reduce or eliminate confirmed liabilities
6. identification of measures to be taken to ensure full compliance with legislation, policy, guidelines and existing resource plans
7. recommending improvements to existing access/road-use planning mechanisms
8. establishing appropriate linkages to any ongoing projects/programs (internal or external to MNR) that relate directly to the FRWCI so as to ensure compatibility, efficiency, avoid duplication and maximize partnership opportunities

To date the Forest Road and Water Crossing Initiative has made significant progress addressing many of the above items. Work has been completed on the review of legislation, policy and applicable guidelines, and clarification has been obtained with respect to liabilities and responsibility; some “gaps” have been identified that require further attention. A water crossing inventory methodology has been developed and tested and a multi-year operational inventory program was initiated in 2002. This assessment will permit the prioritization of remedial work necessary to immediately begin to eliminate or reduce safety and environmental concerns. A water crossing inventory data base and analytical tool has been developed and Version 1 was released in August 2003. The FRWCI road inventory
requirements will be defined and linked with the Ontario Road Network project beginning in 2003 and appropriate linkages will be established with the Forest Information Manual (FIM).

Dialogue with the Department of Fisheries and Oceans (DFO) has been ongoing since the commencement of FRWCI and DFO has indicated strong support for the FRWCI concept. DFO has collaborated on the development of the water crossing inventory methodology. Discussions continue with respect to interpretation of the Fisheries Act and harmonization of DFO and MNR compliance monitoring and enforcement efforts. Appropriate linkages have been established with other programs and projects involved with related work such as the Timber Class EA Review, FMP Manual Improvement Project, the Independent Forest Audit program, and the Resource Stewardship Agreement initiative etc. The FRWCI also continues to explore opportunities to secure adequate funding for inventory and remedial work and fully pursue partnership funding opportunities.

It is anticipated the FRWCI project will be completed in the spring of 2003 at which time project results and products will be transferred to MNR program groups for subsequent policy development, procedural improvements and operational implementation.

There was a particular need to engage the Forest Industry in discussions pertaining to liability assessment and the determination and assignment of responsibility. Additionally there was a need to determine the implications to the existing FMP planning process and recommend appropriate modifications to the Forest Management Planning Manual (FMPM) and the Forest Information Manual (FIM). A joint Forest Industry - MNR Task team was formed in May 2002 to specifically address these aspects.

### Forest Industry - MNR Task Team

The Task Team members are:

- John McLaren MacKenzie Forest Products, Sioux Lookout
- Peter Street Nipissing Forest Resource Management Inc, Callander
- Paul Jewiss Abitibi Consolidated Company of Canada, Fort Frances
- Russ Hughes Bowater, Thunder Bay
- Bill Howe Nexfor, Cochrane
- Riet Verheggen MNR - IRB, Sault Ste Marie (Chairperson)
- Bob McColm MNR - Dryden (FRWCI Project Coordinator)

Forest Industry representatives were appointed by the OFIA and OLMA. Members were selected to achieve the following representation:

- industry sectors
- geographic distribution (north & south)
- small & large SFL companies
- new and long established SFLs
- non-SFL management units
The Task Team wishes to acknowledge the significant contributions of W.D. (Bill) Roll, whose untimely passing precluded his direct involvement on the FRWCI Forest Industry-MNR Task Team.

**Mandate**

The *Forest Industry - MNR Task team* was given the mandate to undertake the following:

- ensure a common understanding of the civil liabilities and actions that may arise from environmental legislation as it pertains to roads and water crossings
- recommend fair criterion to partition responsibility for existing and future infrastructure
- recommend a record keeping approach to formally assign responsibility and track changes
- recommend fair criterion and a methodology to transfer responsibility
- identify any relevant policy and planning changes necessary to implement the proposed recommendations
- submit draft report by February 2003
- promote the report and work to secure acceptance within Forest Industry and MNR

The committee met seven times between June 2002 and March 2003 and produced a DRAFT report by a consensus approach. The DRAFT was distributed within the Forest Industry and MNR in May-June 2003. An opportunity to provide comments on the DRAFT report was extended until June 13, 2003. Input was received from 31 individuals. The Task Team reconvened on August 28, 2003 to consider the submissions and make final revisions to the report.

A FINAL report was submitted to the Chair of the *FRWCI* Steering Committee and the Director of Forest Industry Relations Branch on October 1, 2003.
Liabilities and Responsibility

Legislation Review

Crown Forest Sustainability Act

The Crown Forest Sustainability Act (CFSA) Part VII, Remedies and Enforcement, provides various mechanisms and fines that may be applied if operations are undertaken contrary to the forest resource licence, a forest management plan or work schedule, or if operations cause or are likely to cause impairment of forest sustainability. Road construction and maintenance (including water crossings) for forestry purposes is considered a forest operation under the Act and as such may be governed by the Forest Management Plan, work schedules or terms and conditions of a licence. Remedies are also provided for circumstances where damage is caused to water, soil, plant life or animal habitat. Forest resource licences may be suspended or cancelled for failing to comply with the licence or failing to comply with the four manuals required by the CFSA (Forest Management Planning Manual, Forest Information Manual, Forest Operations and Silviculture Manual, and the Scaling Manual).

Public Lands Act

Section 50 of the Public Lands Act (PLA) provides the Crown with reasonable protection against civil action for damages arising out of negligence or errors for construction or maintenance of roads and water crossings. This finding is only supported by limited case law at the lower court level. Protection appears to be extended to forest companies that are operating pursuant to a forest resource licence issued under the CFSA. In order to put forward a successful due diligence defense, the party responsible will likely be required to demonstrate they exercised "reasonable care" (see below). It must be recognized that under section 49 of the Public Lands Act, the public has a right to travel on all roads other than designated “private forest roads” (PLA s.48) unless the road has been closed pursuant to section 52 or otherwise posted under section 28. Additionally, the Minister may designate a road other than a private forest road as a “public forest road” (PLA s.51) although the purpose and present day value of such a designation is questioned by the Access Road Manual (ARM) RA1-5. Section 54 of the PLA provides the opportunity to enter into agreements for construction, reconstruction or maintenance of private forest roads. Private forest roads are usually authorized by Land Use Permits issued under the PLA (ARM 1-5). Private forest roads that received government funding assistance must be generally open to the public.
The Public Lands Act appears to preclude actions arising from the operation of the Occupier’s Liability Act (OLA). Subsection 10(3) of the OLA states that it does not bind the Crown for public roads (and arguably water crossings, which form part of the road).

Fisheries Act

This legislation poses significant potential liability for the Forest Industry and to a lesser degree the Crown because the Forest Industry is more actively involved in the construction of roads and water crossings. Sec 20, 21, 22 (fish passage) Sec 35 (creation of a Harmful Alteration, Disruption or Destruction (HADD)), Sec 36 (deposition of deleterious substances) and Sec 38 (duty to report and prevent) have relevance to roads and water crossings. Sec 78.6 offers the opportunity to establish a due diligence defense. Limited case law provides an incomplete and insufficient indication of Fisheries Act interpretations. Additional dialogue is required with the Department of Fisheries and Oceans (DFO) to clarify interpretations of these particular sections of the Act. The Fisheries Act provides the opportunity for private prosecutions. The Fisheries Act is enforced by several agencies including DFO, MNR, Environment Canada, MOE and others. Responsibility for enforcing specific sections of the Act has been delegated to DFO and various provincial agencies, including MNR, by the Fish Habitat in Ontario: Compliance Protocol (February 2000). This protocol is currently in effect.

Environmental Protection Act

The Environmental Protection Act (EPA) obligates persons having control of a pollutant that is spilled or a person who causes or permits a spill of a pollutant to report the spill to the Ministry of the Environment (MOE); to clean it up and to restore the natural environment to the state it was in prior to the spill. There is a strong argument that the release of gravel, silt or similar substances into the natural environment due to the failure of a water crossing would be considered a spill for the purposes of the EPA. Failure to take action as prescribed by the EPA constitutes an offence under the EPA. MOE has the expectation that washouts will be reported with particular emphasis on situations that may have a negative effect on water quality, sensitive water bodies or massive failures.

Other Legislation

The intent of this legislation is to provide continued access to private land via established roads and prevent adjacent landowners, including the Crown, from denying or blocking access. It is possible under some circumstances that the removal of a water crossing could be interpreted under this legislation as the creation of a “barrier”. There is however no evidence of this legislation being applied in this manner.
Lakes and Rivers Improvement Act
The purpose of this legislation is to manage the use of lakes and rivers to regulate improvements so as to ensure suitability and provide for fish usage. Approval is required for the construction of a “dam” across a watercourse, which is defined by the Act as a structure or work forwarding, holding back or diverting water. A bridge or culvert may act as a “dam” in certain circumstances.

Navigable Waters Protection Act
The intent of this legislation is to prevent interference with navigation on any navigable water. Authorization is required from the Canadian Coast Guard to construct any “work” over, under, through or across any navigable water. A “work” that is not approved may be removed by the Minister of Fisheries and Oceans on a cost recovery basis.

The Provincial Parks Act including the Class EA for Provincial Parks & Conservation Reserves (approval pending) and the Algonquin Forest Authority Act may also have implications in specific locations.
Due Diligence and Reasonable Care

“Reasonable Care” means the party responsible maintains a high standard of awareness and undertakes decisive, prompt and continuing action. The standard of care will generally vary with the circumstances on a case-by-case basis. In the context of roads and water crossings this could be interpreted to mean: clearly determining and assigning responsibility; maintaining ongoing knowledge of the extent and status of the infrastructure; identifying problems and taking corrective action according to prescribed standards in a timely manner. The Forest Roads and Water Crossings Initiative refers to this sequence of actions as the FWRCI Concept.

**FRWCI Concept**

- partition responsibility for roads and water crossings
  - undertake an infrastructure inventory and confirm responsibility
    - identify problems and prioritize required remedial work (based on risk assessment and consistent with use management strategies)
    - undertake remedial work in a progressive manner according to standards
    - conduct ongoing monitoring and update inventory

The courts have identified a number of factors that are weighed and balanced to assess the level of due diligence. They include:

- The nature and gravity of the adverse effect
- The predictability of the effect
- The alternative solutions available
- Legislative or regulatory compliance
- Industry standards
- What efforts were made to address the problem
- How long the effects have been occurring and promptness of response
- Matters beyond the control of the defendant including technological limitation
- Skill and experience level of the defendant
- The complexities involved
- Preventative systems
- Economic considerations
- Actions of officials

Case law in other jurisdictions (not specifically relating to roads and water crossings) provides an indication that although guidelines (standards) may be helpful to establish the substance of the standard of care, they may not be determinative of it. It may be that following “the standards-of-the-day” (see page 24) in all circumstances may not be sufficient to make out a successful due diligence defense.
Unauthorized Modifications to Water Crossings

It is common practice for third parties (often recreational users) to make ad-hoc, unauthorized modifications to failed or decommissioned water crossings in order to restore access beyond the crossing. Often the ad-hoc modifications involve the deposition of logs, debris and road materials (gravel) into the watercourse which often causes blockage, erosion or pre-disposes the site to further adverse effects during the next peak flow period. In many cases these actions would be a contravention of the Fisheries Act and they may also create an increased public safety hazard (eg. a make-shift bridge). It is very difficult to prevent this activity and equally difficult to pursue enforcement. This activity is most prominent when the Forest Industry is not actively using/maintaining roads either on a long term or short-term basis.

Neither the Crown nor the company would be held liable for the actions of a third party in the event of damages. Under these circumstances, MNR would make best efforts to investigate the occurrence, pursue charges and request that the court order the responsible party to undertake appropriate remedial work. If the offender is not identified or successfully prosecuted, the party responsible for the infrastructure would be required to attend to the problem by removing materials and properly restoring/stabilizing the site if they intend to demonstrate “reasonable care” and ensure due diligence. Where the Forest Industry has properly decommissioned a water crossing and responsibility has been transferred to the Crown, the Crown will be required to attend to the problem. This type of problem could be minimized by either retaining well designed/constructed crossings; modifying crossings by creating stable low water crossings (fords); eliminating roadbeds by site preparation or strategically removing significant crossings that cannot be easily rebuilt with on-site or imported materials.

Un-authorized, ad-hoc modifications to restore access create safety hazards and can have negative effects on fish habitat. Properly decommissioned crossing that has been converted to a safe and stable low level “ford”. Low level crossings provide continued access with minimal maintenance requirements.
The Department of Fisheries and Oceans (DFO) has indicated full support for the FRWCI Concept. DFO understands the magnitude of the task and has realistic expectations with respect to achieving meaningful progress with inventory, monitoring, risk assessment and maintenance of the existing and future infrastructure. There is a need to obtain additional clarification from DFO with respect to interpretation and enforcement of specific sections of the Fisheries Act (20, 21, 22, 35, 36, 38 and 78.6). MNR will continue dialogue with DFO. Additionally there is a need to ensure that the MNR compliance monitoring program for roads and water crossings is conducted in a consistent manner province wide and that it is complementary with DFO’s approach. The MNR compliance monitoring program should also be reviewed to ensure consistency with the conclusions of this report.

CONCLUSION - 1
MNR and the Forest Industry acknowledge the civil and environmental risks associated with roads and water crossings and jointly commit to establishing local programs that are consistent with the FRWCI concept so as to proactively reduce or eliminate public safety hazards and environmental concerns.

CONCLUSION - 2
This paper is predicated on DFO’s acceptance and endorsement of the FRWCI Concept. MNR and the Forest Industry commit to work with DFO to secure this endorsement.

CONCLUSION - 3
MNR will continue dialogue with DFO to obtain additional clarification with respect to interpretation and enforcement of the Fisheries Act. This information will continue to be conveyed to the Forest Industry.

CONCLUSION - 4
It is recommended that comprehensive training be offered to MNR, Forest Industry and DFO compliance staff to explain the FRWCI concept, responsibility aspects and provide specific direction and expectations relative to compliance monitoring and enforcement. The MNR compliance monitoring program for roads and water crossings should be reviewed to ensure direction is consistent with the conclusions of this report and that program is implemented in a uniform manner across the province. In particular, there is a need to expand the direction offered in the Forest Operations Inspector training course relative to evaluation of existing/established water crossings in addition to the direction provided for the assessment of "new" installations.
Defining and Assigning Responsibility

Introduction

It has become apparent through discussions between the Forest Industry and MNR that there is continuing uncertainty and in some cases disagreement, as to who has responsibility for roads and water crossings that are no longer required for forest management purposes. There is also uncertainty as to what obligations come with the responsibility.

A legal review has identified the need to clearly assign responsibility for all existing roads and water crossings as well as any new infrastructure that will be developed in the future. Additionally there is a need to document the initial assignment of responsibility and track subsequent responsibility transfers in a legally binding mechanism.

These requirements may be accomplished by the following steps:

1. define the factors which influence the determination of responsibility
2. develop criteria which will be used to partition and assign responsibility
3. define the existing infrastructure
4. apply the criteria to initially partition responsibility for the existing infrastructure
5. document assigned responsibilities in a legally binding mechanism

Once established, infrastructure records and responsibility documentation must be updated and maintained on a continuing basis. There will be a need to transfer responsibility to and from MNR and the Forest Industry at future intervals. The conditions that must be satisfied in order to initially assign responsibility or subsequently transfer responsibility at a future date must be clearly specified. A commitment is required by both the Forest Industry and MNR to work cooperatively to proceed with the process to define and assign responsibility.

Applicability and Influence of Legislation, Policy, Planning Procedures and Guidelines

The Crown Forest Sustainability Act (CFSA) and the Environmental Assessment Act (Timber Class EA) are the foundation legislation under which forest management activities are permitted including the planning, construction and maintenance of roads and water crossings that are developed/used for the purposes of forest management. Forest companies assume the responsibility to plan and undertake forest management activities on a specific land base by means of a Sustainable Forest Licence (SFL). Forest management activities must be planned, approved and conducted under the authority of an approved Forest Management Plan (FMP). A FMP is prepared following the planning
procedures prescribed by the Forest Management Planning Manual (FMPM), the Forest Operations and Silviculture Manual (FOSM) and the Forest Information Manual (FIM).

The FMPM and FOSM reference numerous “best practices” guidelines and procedures; it is a requirement that they be considered and utilized to guide planning and operations.

*It is concluded that responsibility is influenced by the following:*

**Sustainable Forest Licences**

Although Sustainable Forest Licence documents (SFL) do not specifically deal with responsibility for roads or water crossings, in some cases responsibility for infrastructure may have been determined during SFL negotiations and recorded in SFL Business Plans or supporting documentation. It is more likely that this subject was addressed in a more thorough manner with the most recently developed SFLs (conversion of Crown Management Units to SFLs) as compared to former Forest Management Agreements (FMA) or company management unit conversions. In many cases the subject may have been discussed but not fully resolved on individual management units prior to SFL conversion. Intentions and/or commitments may or may not be clearly understood or documented and could resurface as contentious issues in the future. SFL negotiation records should be thoroughly consulted.

**Forest Management Planning Manual**

The Forest Management Planning Manual (FMPM) and its predecessor the Timber Management Planning Manual (TMPM) specify road and water crossing planning requirements. The need for use management and abandonment strategies was introduced by the TMPM in 1986. TMPs & FMPs do not address the complete road system on the management unit. The FMP is silent on tertiary roads outside of Areas of Concern, as well as roads that are not used for forestry purposes. Currently the FMP (Section 2.4.5) only addresses roads that are being constructed or maintained during the period of the plan. Roads that are no longer used (maintained) for forest management purposes “drop out” of the FMP process and are not currently captured by any other existing planning or record keeping process although this is inconsistent with the provisions of the Access Road Manual (ARM).

**The Access Road Manual**

The Access Road Manual (ARM) 1992, is a compendium of policies and procedures that was originally prepared for MNR use when MNR was in the business of building and maintaining roads on Crown management units. It was not used by the Forest Industry on company management units. The ARM is, however, linked to the FMPM via the FOSM (pg 6). Many
of the policies and procedures that remain in the ARM, may now be somewhat redundant, but they currently remain in force, as they have never been rescinded. The ARM (RA 2-4) clearly specifies that road use strategies are required for all roads (regardless of classification) and that responsibility must be assigned for all roads. The Access Road Manual is deemed to be significant relative to the initial assignment and future transfer of responsibility because it provides the most definitive direction with respect to road use/abandonment strategies and assignment of responsibility. The ARM also provides the most definitive direction relative to abandonment, maintenance and monitoring (RA 2-6, RA 3-5 and RA 4-3 respectively).

Because the FMPM does not fully replicate the requirements of the ARM, most TMPs and FMPs (past and present) do not provide the level of detail prescribed by the ARM. In particular, responsibility is not always clearly specified for individual roads and the FMP likely only deals with primary and secondary roads that are actively being constructed or maintained during the planning period. Tertiary roads and roads that are not used for forestry purposes are not consistently addressed in FMPs or by any other process. As roads “drop out” of the FMP process, strategies, obligations and responsibilities are no longer documented and the commitment to properly follow through with the original road use strategies is often overlooked or ignored. Issues often result from this shortcoming.

The Forest Management Planning Process (or previous TMP process), including application of the FOSM and ARM is deemed to be significant relative to the initial assignment and future transfer of responsibility in the following manner:

TMPs and/or FMPs;
• identify roads that were constructed and/or utilized by the Forest Industry and when these roads were used for forest management purposes
• prescribe road-use and abandonment strategies
• identify if and when roads were formally abandoned by the Forest Industry
• maps provide location information for the overall existing road infrastructure

CONCLUSION - 5
The Access Road Manual should be reviewed and redundant components rescinded. The remaining relevant components should be updated and embedded in the most appropriate existing manual or guideline. The existing reference to the ARM in the FOSM should then be eliminated.
Environmental Guidelines for Access Roads and Water Crossings

This guideline is directly linked to the FMPM via the FOSM (pg 5). This guideline is commonly referred to as the “Water Crossing Guidelines” and this terminology is utilized in this report.

The guideline provided the first specific direction regarding mandatory standards and “good practices” for water crossing construction, maintenance and abandonment. This 1988 guideline remains in effect in 2003 although a revised version has been drafted and submitted to DFO for joint endorsement. Installations prior to April 1989 were not required to meet any specific construction standards although each forest company had their own construction specifications. Flow calculations to determine proper opening/culvert size were however routinely calculated by the late 1980s (actual implementation dates varied by former MNR region). Water crossings constructed after the guideline implementation date (April 89) should have been built according to the prescribed mandatory standards and maintained until they were formally abandoned. It should also be recognized that many MNR districts, sometimes in consultation with Regional Engineering Units, developed and implemented their own supplemental standard conditions of approval for water crossing installations during the 1990s. As a result, the quality of installations across the province is variable.

The Environmental Guidelines for Access Roads and Water Crossings (aka Water Crossing Guidelines) is deemed to be significant relative to the initial assignment and future transfer of responsibility in the following manner:

- Water crossings that were constructed prior to the implementation of the guideline (April 1989) and not subsequently modified/upgraded after April 1989, were not required to meet any particular standard of design/installation other than proper opening size (by mid 80s). Because “natural abandonment” was an acceptable prescription, water crossings of this origin would be eligible for initial assignment and future transfer of responsibility in their current condition.

- Water crossings developed or re-installed after the guideline came into effect (April 1989) would be required to meet the mandatory standards of the guideline in order to be transferred in their current condition.

Crown Land Bridge Management Report

The Crown Land Bridge Management Report was jointly produced by the Ontario Forest Industry Association (OFIA), Ontario Lumber Manufacturers’ Association (OLMA) and MNR. The report/policy was implemented in April 1989. The report contains a policy statement for bridges on Crown Land (pg 58) which specifies that all new bridges and any major structural changes to existing bridges must be designed and constructed according the engineering
standards compliant with the Ontario Highway Bridge Design Code (except specified code deviations – pg 6). Additionally, the design of all bridges on Crown land must be reviewed by a MNR Regional Engineer to ensure compliance with the above noted standards.

The Crown Land Bridge Management Report is deemed to be significant relative to the initial assignment and future transfer of responsibility in the following manner:

- bridges constructed or reconstructed (involving major structural changes) after April 1989 required the approval of an MNR Engineer and were required to meet the Ontario Highway Bridge Design Code (except specified code deviations – pg 6) engineering standards of the day. Bridges that were designed, approved and constructed and maintained according to these standards would be eligible for transfer.

- bridges constructed prior to April 1989 and not reconstructed (involving major structural changes) after April 1989 would not be subject to this policy retroactively and would be eligible for transfer in their current condition.

Criteria for the Removal of Water Crossings of Abandoned Roads

The Criteria for the Removal of Water Crossings of Abandoned Roads (CR) was developed to satisfy the requirements of Timber Class EA T&C 52(d) and was introduced for use in October 1997. The EA Board was persuaded that water crossing washouts could cause sedimentation and harmful effects. The EA Board also determined that the systematic removal of water crossings was not necessarily required “if a water crossing is functioning satisfactorily” (EA pg 130). The notion that all old water crossings need to be either removed or brought up to current standards is therefore neither necessary nor affordable. The EA Board ordered that water crossings must be evaluated for biological, water quality, engineering and safety criteria. The Criteria for the Removal of Water Crossings of Abandoned Roads (CR) was developed to meet this requirement. The CR establishes the requirement for a more rigorous evaluation of water crossings in order to determine the most appropriate abandonment or decommissioning prescription. “Natural abandonment” was the commonly accepted and routinely utilized prescription prior to the implementation of the CR. Natural abandonment is referenced in both the Forest Management Planning Manual (FMPM pg GL-4) and the Environmental Guidelines for Access Roads and Water Crossings (pg 24). Application of this prescription allowed all forest access roads to remain open to all public uses until they deteriorated and became impassible due to lack of maintenance. It was subsequently recognized that this prescription lacked sufficient detail; consequently additional rigour was instituted by the CR in 1997. Therefore as of October 1997 it was no longer considered an acceptable approach/prescription to simply declare “natural abandonment” without fully applying the CR. The CR evaluation does not necessarily preclude a “natural abandonment” prescription but it does require a comprehensive risk evaluation before natural abandonment would be considered suitable.
The **Criteria for the Removal of Water Crossings of Abandoned Roads** is deemed to be significant relative to the initial assignment and future transfer of responsibility in the following manner:

- effective Oct 1997, the **Criteria for the Removal of Water Crossings of Abandoned Roads** was to be applied to each new and existing water crossing on primary and secondary roads where an abandonment decision had not yet been made in the current or previously approved FMP (CR pg 8-10). FMPs/TMPs that were in effect in 1997 range from 93/94 to 97/98. The initial assignment or future transfer of responsibility may occur for crossings where the CR was properly applied and recorded as part of the Annual Reports AR-10 and the Report of Past Forest Operations RPFO-10; otherwise the CR must be applied before responsibility assignment/transfer is considered.

- water crossings that were specifically declared to be abandoned (likely as “naturally abandoned”) by the Forest Industry in an FMP or TMP prior to the introduction of the **Criteria for the Removal of Water Crossings of Abandoned Roads** in 1997 would not be subject to the CR (pg 8). These crossings would become the responsibility of the Crown subject to the conditions described in the above sections **Environmental Guidelines for Access Roads and Water Crossings** and the **Crown Land Bridge Management Report**. (also refer to “Tertiary Roads” on page 42 of this report)

**Road Standards and Current Road Conditions**

Various road construction standards were utilized prior to 1988. The most rigorous application of road construction standards occurred during the FMA road construction program (1980-1991). The Crown essentially discontinued its road construction program on crown management units (CMUs) early in the 1990s. From this point onward, roads were constructed and maintained almost exclusively by the Forest Industry according to their individual needs and road engineering standards now vary across the province.

If roads are not monitored and maintained they will eventually degenerate and hazardous conditions may develop that could endanger public safety. Deteriorating conditions may include: washed out cross-drainage culverts, washed out water crossings, severe erosion on hills and encroachment of vegetation that reduces visibility. As there are no specific standards, it is difficult to objectively and consistently assess the range of conditions that will be encountered.

Road standards and current road conditions are deemed to be significant relative to the initial assignment and future transfer of responsibility in the following manner:

- Any identifiable or known hazardous condition that could be encountered unexpectedly and has the potential for serious consequences (eg. washouts or
obstructions) should be remedied by the party responsible before transfer of responsibility occurs. Remedial work would be consistent with post-forest operation strategies and prescriptions identified in this report (see page 43).

- Apparent deteriorating conditions such as brush encroachment or degenerating travel surface would not influence responsibility transfer. Similarly with water crossings, normal deterioration of wooden bridge materials or normal corrosion of steel culverts would not influence responsibility transfer.

Other Mechanisms

Responsibility and obligations for roads and/or water crossings may be assigned or assumed by other mechanisms. The existence and status of these mechanisms must be determined on an individual district/company basis and may warrant review.

Land Use Permits (LUP)

Various roads throughout the province are designated as private forest roads under the Public Lands Act (PLA s.48). Land Use Permits (LUP) are issued for these roads as a means to authorize control, assign responsibility, specify obligations and transfer liability. Generally these LUPs have been in place for many years and a review of their current suitability may be warranted in some cases.

Maintenance Agreements

Maintenance Agreements are another mechanism that has been used in the past to establish cost sharing arrangements, and to define obligations and responsibilities for the maintenance of specific roads or sections of road. Typically there is a long-standing historical rationale for sharing costs and responsibilities.

Memorandum of Understandings (MOU)

Memorandums of Understanding (or Memorandums of Agreement - MOA) have been used fairly commonly for larger water crossings (usually bridges) to document abandonment strategies and specify obligations for maintenance and/or decommissioning. The use of MOUs increased significantly when the need for Work Permits was discontinued in 1996 and was replaced by provisions of the FMP/AWS process. Use of this mechanism varies across the province (eg. In the Northwest Region, MOUs were only required for temporary bridges, not long-term bridges, commencing in 1989 but the requirement changed in 1997 to include all bridges; in the Northeast Region MOUs were required for all bridges as of 1990).

Each of the above mechanisms may have bearing on the initial assignment and future transfer of responsibility for specific roads and water crossings. The existence and applicability of individual mechanisms must be determined and each applied on a case by case basis.
A consistent provincial approach is required where the review, revision or retirement of redundant LUPs, Maintenance Agreements or MOUs/MOAs is being contemplated. The outcome should be consistent with the findings and approaches recommended by this report.

CONCLUSION - 6
A consistent provincial approach is required where the review, revision or retirement of redundant LUPs, Maintenance Agreements or MOUs/MOAs is being contemplated. The outcome should be consistent with the findings and approaches recommended by this report.

How Management Unit History and Status Influences Responsibility

The history of a management unit is relevant to determining responsibility for older infrastructure. On former company management units or FMAs, the SFL holder or its predecessor(s) was likely responsible for the construction and maintenance of most existing roads and water crossings. The present condition of the infrastructure has been and continues to be under company control unless formally abandoned in a TMP or FMP. It is therefore appropriate to consider this infrastructure to be industry’s responsibility until such time as the responsibility has been properly transferred to the Crown.

This situation is quite different and more variable on former Crown Management Units (CMU) that have been recently converted to SFLs. On CMUs, the Crown managed and controlled infrastructure development and often was responsible for the construction and maintenance of primary and secondary roads while licencees undertook the construction and short term maintenance of most tertiary roads. It is therefore appropriate to consider this infrastructure to be the Crown’s responsibility until such time as it is appropriate to transfer responsibility to the SFL holder.

During the CMU to SFL conversion, responsibility for roads and water crossings was often not specifically or completely addressed. SFL holders that have “inherited” infrastructure on former CMUs are not prepared to accept responsibility or liability for any problems or claims associated with infrastructure that does not meet the Environmental Guidelines for Access Roads and Water Crossings or the Crown Land Bridge Management Report April 1989 standards. SFL holders would however be expected to formally accept responsibility for any water crossings that meet April1989 standards and accept responsibility for roads that do not have any identified hazardous conditions (see page 18), where this infrastructure is required for forest operations specified in the current FMP.

Upgrading of water crossings that do not meet April1989 standards may not be a priority for the SFL holder if access is not presently required for forestry purposes or crossings are currently functioning adequately (eg. undersized culvert adequately passing the flow or old structures that are stable). The same would be true for roads that do not meet minimum...
safety standards. If/when industry finds it necessary to undertake substantial repairs, in
order to meet their specific needs, crossings will be brought up to the standard-of-the-day
(currently April 1989 standard) and the company will then assume full responsibility and
liability for the crossing and the associated road.

SFL holders of former CMUs take the position that the Crown should be obliged to contribute
to a one-time-only upgrade of sub-standard water crossings before the SFL holder would
assume responsibility. In many cases the Crown has offered to make “best efforts” to secure
capital funding to contribute toward upgrades (eg. by supplying culverts or bridge materials).
It must be recognized that the Crown will take action on the most problematic sites, which
may or may not be utilized by industry in the foreseeable future. Prioritization of remedial
work will be dependent on the outcome of risk/hazard analysis. On former CMUs it is
appropriate to conclude that the Crown would retain responsibility for sub-standard
infrastructure that is not required by the Forest Industry and will remain responsible and liable
for sub-standard infrastructure until it is upgraded to standard by the Crown or Forest
Industry.

A few CMUs have not yet been converted to SFLs. The Crown would be responsible for all
infrastructure unless specific agreements state otherwise.

In the northern portion of the province forest road networks are developed and used
predominantly by the forest industry although once established, forest roads are often
extensively utilized by other commercial and recreational users. The FMA road program of
the 80s and the implementation of moose guidelines resulted in an expanded road network
and dispersed cutting pattern. The road infrastructure on management units in the southern
part of the province (eg. south of North Bay) is distinctly different than the north. Southern
units have considerable interspersed private land, many highways and municipal roads.
Forest road networks are often fully developed but are only used periodically by the Forest
Industry for shelterwood and selection harvest operations. In the more southerly portions of
the province, the Forest Industry may be a minority user as larger populations result in multi-
use traffic that greatly exceeds Forest Industry use. Similar use patterns may occur on some
roads or road sections on northern management units but to a lesser degree.

In some circumstances, it may be appropriate for responsibility and obligations to be shared
between two or more parties. This may include forest licencees, the Crown and/or third
parties who have a specific and continuing interest in certain roads. These situations must
be evaluated on a case by case basis and should include consideration of: reasons for
access; frequency and ratio of use; the standards required by users; the relationship between
level of contribution and degree of influence and the probability that obligations can be
equitably financed on a continuing basis. Most importantly, the parties must be able to
formalize the relationship and clearly assign responsibility by a legally binding mechanism.
Where a formal partnership cannot be developed, responsibility will default to the Crown and
the infrastructure will be managed, maintained or decommissioned according to the road use
strategy developed by the Crown (also see page 47).
Management Unit history and status is deemed to be significant relative to the initial assignment and future transfer of responsibility in the following manner:

- It is appropriate to determine responsibility on former Crown Management Units in a different manner than that used for former FMAs or company management unit.
- The Crown would be responsible for all infrastructure on a CMU that has not yet been converted to a SFL, unless specific agreements state otherwise.

**CONCLUSION - 7**

It is appropriate to determine responsibility on former and remaining Crown Management Units in a different manner than that used for former FMAs or company management unit. A separate decision key has been prepared for former and remaining CMUs.

**CONCLUSION - 8**

In instances where the Forest Industry is one of many users of the forest road or in fact is considered a minor user, the SFL holder and MNR will work together to develop a partnership arrangement which addresses responsibility for the road(s) in question. MNR needs to develop criterion that will define situations that will qualify for a shared responsibility arrangement and also determine under what circumstances and to what extent, MNR will be prepared to assume partial shared responsibility. Where a formal partnership cannot be developed, responsibility will default to the Crown and the infrastructure will be managed, maintained or decommissioned according to the road use strategy developed by the Crown.

**CONCLUSION - 9**

The above listing of legislation, policy, procedures, guidelines and mechanisms are the appropriate and correct rationalization of factors that would affect the determination of responsibility for roads and water crossings. There may be situations throughout the province where unique circumstances and additional factors must also be considered eg. Algonquin Provincial Park.

**Criterion to be used to Initially Partition Responsibility for Existing Infrastructure**

All roads on unpatented Crown land are the responsibility of the Crown (MNR) and are governed under Part II of the Public Lands Act unless the responsibility has been assumed by a third party, by means of a legal mechanism. SFL holders assume responsibility relative to the construction, maintenance, monitoring and decommissioning of roads and water crossings.
crossings on Crown land through the terms and conditions of an approved FMP, the FOSM, conditions of the forest resource licence and mechanisms such as Memorandum of Understanding, Land Use Permits or Work Permits.

The Forest Management Plan is the primary mechanism that is used to assign responsibility for roads and water crossings in the forestry context. The *Environmental Guidelines for Access Roads and Water Crossings 1988*, the *Crown Land Bridge Management Report 1989* and the *Criteria for the Removal of Water Crossings of Abandoned Roads 1997* are also deemed to be significant in determining the status of the infrastructure relative to the initial assignment of responsibility as well as future transfers. The year of installation or the year when original infrastructure was upgraded, replaced or formally abandoned is also deemed to be relevant.

Generally, the SFL holder would assume responsibility when construction or reconstruction commences and would retain responsibility for the period of time that the SFL holder utilizes the road and water crossings for the harvest and renewal operations specified in the FMP. SFL holders may have contractual arrangements with Overlapping Licencees that further define responsibilities and obligations between the companies. Responsibility may be transferred to the Crown before tending operations are completed because tending may take place 10-15 years later and only require light traffic for a short duration. The SFL holder may be required to re-establish access if the road has been decommissioned.

Where the Forest Industry is clearly the primary user and forest operations are determinative of the construction standards and maintenance requirements, it is appropriate for the SFL holder to assume most or all responsibility and maintenance costs when the infrastructure is being used for forest management purposes. Where the requirements of other permanent users have an equal or greater influence on road-use strategies, infrastructure standards and maintenance regimes and the Forest Industry is not the principal or consistent user, a shared responsibility arrangement should be pursued.

**Summary of factors that influence the initial assignment and future transfer of responsibility**

It is concluded that the following factors influence the initial assignment and future transfer of responsibility for individual roads and water crossings:

- outcome of SFL negotiations
- TMP/FMP abandonment records
- *Environmental Guidelines for Access Roads and Water Crossings 1988*
- *Crown Land Bridge Management Report 1989*
- *Criteria for the Removal of Water Crossings of Abandoned Roads 1997*
- Road standards and identified safety hazards
- Other mechanisms (LUPs, Maintenance agreements, MOUs etc)
- Road designations under the Public Lands Act
- Management unit history and status
- Shared responsibility agreements
Conditions that must be satisfied in order to initially Assign or Transfer Responsibility

Because a shift in responsibility also results in a shift of liability, it is imperative that responsibility transfer be done in a fair and equitable manner. It would be unreasonable to expect a party to unwillingly or unknowingly accept excessive liabilities created by another party. It is therefore necessary to have information on the current status of individual roads or water crossings as well as information on the history of the infrastructure.

The following conditions must be satisfied in order to initially assign responsibility or transfer responsibility in the future:

- No roads or water crossings should be transferred until identified safety hazards are corrected (see page 18)
- Water crossings that were constructed according to the standards-of-the-day and have been maintained to that standard would be eligible for transfer in their current condition
- Water crossings that were constructed according to the standards-of-the-day but have not been maintained to that standard, should not be transferred until the party responsible for its current status restores, modifies or removes the crossing so as to be consistent with the post-forest operations strategy and prescriptions (see page 43)
- Sub-standard water crossings that were initially constructed and failed to meet the standards-of-the-day and/or were re-constructed and failed to meet the standards-of-the-day should not be transferred until the party responsible for its current status restores, modifies or removes the crossing so as to be consistent with the post-forest operations strategy and prescriptions (see page 43)

There may be circumstances that do not fall within the proceeding four categories where it is practical and reasonable to mutually agree to a responsibility transfer that would be negotiated on a case-by-case basis.

“Standards-of-the-day” would include a combination of: mandatory standards in applicable guidelines, documented special conditions of approval, and specific statements or conditions in the FMP or Annual Work Schedule (AWS).

The above criteria have been incorporated into two decision keys which will be utilized to determine the initial assignment and future transfer of responsibility for individual roads and water crossings. These keys have been designed to address the majority of situations arising on Crown lands, but recognize that anomalies will be encountered and will need to be addressed on a case-by-case basis at the local level. Separate keys have been prepared for former Company Management Units and former/ existing Crown Management Units.
Future Transfer of Responsibility

Responsibility transfers will be required at various times in the future.

When industry is finished using a road for the foreseeable future (use not expected during next 10 year FMP planning period), it would be determined if the road system or parts of the road system will be retained, modified/downgraded or removed/decommissioned (page 44). Public consultation would be required if an appropriate road use strategy does not exist (see page 35). Industry would undertake the appropriate work; the remaining infrastructure would be left in a condition that requires minimal maintenance; then responsibility would transfer to the Crown unless the SFL holder elects to remain responsible. The Crown would assume responsibility for monitoring and maintenance if the road will remain active.

Where industry has left infrastructure in good condition and responsibility has been properly transferred, it is reasonable to expect that industry will be entitled to re-assume responsibility in the future without unexpected restrictions or constraints that would interfere with forest management (eg. a cottage association or snowmobile club assumes responsibility and is subsequently reluctant to accept a resumption of Forest Industry use at a later date). This intention would be reflected in the Road Network – Use Management Strategy (page 43) and would also be documented in any agreement that is developed with the other users. It should also be recognized that if a road or water crossing is not used for industrial purposes for a prolonged period, its condition will gradually decline and it may require significant upgrading in order to re-establish safe operating conditions for industrial traffic. The Forest Industry would undertake this reconstruction at it’s expense in order to meet it’s needs.

The two decision keys on pages 26 and 30 will be utilized to determine if a transfer of responsibility is appropriate for individual roads and water crossings.

CONCLUSION - 10

Two decision keys are to be used to initially partition and assign responsibility for roads and water crossings on individual management units throughout the province. These keys would also be used to determine if a transfer of responsibility is appropriate at a future time.
**Responsibility Determination Key - Former Company Management Unit**

1. Has a party, other than the Crown or the forest industry, assumed responsibility for the infrastructure* by a legal mechanism?
   - **YES** → Party is responsible
   - **NO** →

2. Did the forest industry build, utilize or modify existing infrastructure* to undertake forest operations?
   - **YES** →
   - **NO** →

3. Was or is the forest industry the principal or priority user?
   - **YES** → If the infrastructure is required for multiple use purposes, can a formal agreement be established to share responsibility with established users?
   - **NO** →

4. **Crown or other specific party(s) is responsible**

5. Has the forest industry assumed responsibility for the infrastructure* by a legal mechanism other than the FMP?
   - **YES** → Crown Responsible
   - **NO** →

6. Does the forest industry indicate it will use/maintain the infrastructure* in the current FMP?
   - **YES** →
   - **NO** →

7. Crown Responsible
   - Develop Road Use Strategy and establish a formal agreement to share responsibility

8. Road Network - Use Strategy

9. Is the forest industry currently using the infrastructure* for forest management purposes?
   - **YES** → Forest Industry Responsible
   - **NO** →

10. **Infrastructure* is not required by forest industry**
    - Does the forest industry elect to remain responsible?
      - **YES** →
      - **NO** →

11. **Forest Industry Responsible**
    - Develop & implement Road Network - Use Strategy

12. Forest Industry implements Post-forest operations prescriptions
    - Responsibility is then transferred to Crown

13. Active infrastructure* must be in current FMP
    - Amend if required
    - Develop Road Network - Use Strategy in FMP

14. Review existing Road Use Strategy
    - Implement existing strategy or revise if required

15. Was the infrastructure* formally abandoned in a FMP prior to Criteria for Removal guidelines (97)?
    - **YES** →
    - **NO** →

16. Was the infrastructure* formally abandoned in a FMP after the Criteria for Removal guidelines (97) were implemented and were abandonment prescriptions properly implemented?
    - **YES** →
    - **NO** →

17. **Crown Responsible**
    - Develop Road Network - Use Strategy

18. Forest Industry completes Post-forest operations prescriptions on a priority basis

19. Develop Road Network - Use Strategy

20. Was the infrastructure* built before the water crossing guidelines** (89) and did the Forest Industry discontinue use before the guidelines were implemented?
    - **YES** →
    - **NO** →

21. Was the infrastructure* built before the water crossing guidelines** (89) and did the Forest Industry continue to use the infrastructure after guideline implementation without replacing or significantly modifying the existing infrastructure?
    - **YES** →
    - **NO** →

22. **Crown Responsible**

23. The infrastructure* was built after the water crossing guidelines** (89) or infrastructure was significantly modified or replaced after guidelines implementation?
    - **YES** →
    - **NO** →

24. **Forest Industry Responsible**

25. Responsibility is then transferred to Crown

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* The term "infrastructure* is used in this key to describe: road(s), water crossing(s) or the combination of both
** Includes the Environmental Guidelines for Access Roads & Water Crossings and Crown Land Bridge Management Report

V: 26/09/03

Forest Roads and Water Crossings Initiative - Task Team Report - October 2003
## Rational for the Responsibility Determination Key

**Former Company Management Unit**

<table>
<thead>
<tr>
<th><strong>Key Box No.</strong></th>
<th><strong>Rationale</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Determine if responsibility is already assumed by a party other than the Crown or the Forest Industry. There is a need to be aware of existing obligations and ensure that the party responsible understands the liabilities and responsibilities associated with the formal arrangement.</td>
</tr>
<tr>
<td>3-4</td>
<td>Determine if/when the infrastructure was utilized by the Forest Industry and to what extent. If the infrastructure was not built or used by the Forest Industry there would be no rationale to expect the industry to assume any responsibility. Another party or the Crown would be responsible. On former company MUs it is likely that most of the infrastructure was build by the Forest Industry.</td>
</tr>
<tr>
<td>5</td>
<td>Determine if the Forest Industry is the main user of the infrastructure and if industry needs dictate infrastructure standards and maintenance requirements; this is likely the situation on former Company MUs. If the Forest Industry is not the principal user of the infrastructure and if the needs of other permanent users have an equal or greater influence on road-use strategies, infrastructure standards and maintenance regimes, it is not reasonable to expect the Forest Industry to assume full responsibility nor cover all or most maintenance costs. If the Forest Industry is the primary user and forest operations are determinative of the construction standards and maintenance levels then it is appropriate for the Forest Industry to shoulder most/all responsibility when infrastructure is being used for forest management purposes.</td>
</tr>
<tr>
<td>6-8</td>
<td>If there are multiple permanent established users then a formal mechanism should be considered to share responsibility and obligations. Other industrial users and permanent established users should rightfully contribute to the upkeep of the infrastructure especially if these parties desire to have influence or if their activities cause damage to the infrastructure. A formal agreement is required to outline individual obligations and secure commitment. MNR and Forest Industry would play the lead in assembling partners and developing a Road use strategy and partnership agreement. If a partnership arrangement cannot be established, the Crown would determine if the infrastructure would be decommissioned or maintained according to the priorities described on page 47.</td>
</tr>
<tr>
<td>9</td>
<td>Determine if the Forest Industry has assumed responsibility for infrastructure by a legal mechanism other than the current FMP. Mechanisms may include: outcome of SFL negotiations, LUP, MOA, maintenance agreements or private road designation under the Public Lands Act. There is a need to be aware of existing obligations to ensure the Forest Industry and the Crown each understands the liabilities and responsibilities associated with the existing formal arrangement. Conclusion 6 speaks to the situation where existing arrangements are possibly now redundant and revision or retirement should be considered.</td>
</tr>
<tr>
<td>10-12</td>
<td>Determine if the infrastructure appears in the current FMP and confirm that the Forest Industry intends to either construct, reconstruct or maintain the infrastructure. The Forest Industry will be responsible for any infrastructure that is actively being used for forest management purposes, not including tending (go to Box 12). It may be determined that all infrastructure currently being used for forest operations is not properly included in the current FMP. If it is active, it must appear in the FMP and the Forest Industry will assume responsibility (go to Box 12).</td>
</tr>
<tr>
<td>Key Box No.</td>
<td>Rationale</td>
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<tr>
<td>------------</td>
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</tr>
<tr>
<td>13</td>
<td>Actively used infrastructure must be detailed in the current FMP. If a suitable road use strategy does not exist, one must be prepared and introduced into the FMP by an amendment. The Road Network-Use Strategy approach proposed by this report would be implemented. Post-forest operations prescriptions would be developed. The Forest Industry would be responsible to undertake the necessary work. When prescriptions are fully completed, responsibility for the infrastructure will be transferred to the Crown.</td>
</tr>
<tr>
<td>14</td>
<td>Identify existing infrastructure that is not required by the Forest Industry to undertake current operations or operations in the immediate foreseeable future (use not expected during next 10 year FMP planning period). The Forest Industry would make this determination. The Forest Industry also must decide if it wishes to assume responsibility for inactive infrastructure. Some SFL holders have indicated they may prefer to retain responsibility as a means of maintaining maximum influence. Any infrastructure that is assumed by the Forest Industry must be detailed in the current FMP. If the Forest Industry does not wish to assume responsibility it is necessary to determine additional information about the history and status of the infrastructure (go to Box 15).</td>
</tr>
<tr>
<td>15</td>
<td>Determine if infrastructure was formally abandoned in a previous TMP or FMP prior to implementation of the Criteria for Removal Guidelines (97). Any infrastructure that was declared in this manner would likely have been declared as &quot;Natural abandonment&quot; with minimal continuing obligations. At this point responsibility would shift to the Crown (go to Box 17).</td>
</tr>
<tr>
<td>16-17</td>
<td>Determine if infrastructure was formally abandoned in an FMP after the implementation of the Criteria for Removal Guidelines (97). These guideline were to be applied retroactively to all water crossings on Primary and Secondary roads and any water crossings on Tertiary roads that were to be removed, that had previously not been formally abandoned. Determine if the guidelines were properly applied and confirm that abandonment prescriptions were fully implemented. If the above items were satisfactorily completed, responsibility would shift to the Crown (go to Box 17). If the infrastructure was not formally abandoned or abandonment prescriptions were not completed satisfactorily it is necessary to determine additional information about the history and status of the infrastructure (go to Box 20).</td>
</tr>
<tr>
<td>18-19</td>
<td>Determine if the existing road use strategy is appropriate or if revision is warranted. There may or may not be a suitable road use strategy in the current FMP. If one does not exist or it is deemed to be unsuitable it will be necessary to develop one. The Road Network-Use Strategy approach proposed by this report would be implemented. Post-forest operations prescriptions would be developed. The Crown would be responsible to undertake the necessary work. Work would be prioritized based on inventory results to ensure that the most urgent safety and environmental problems were dealt with first.</td>
</tr>
<tr>
<td>20</td>
<td>Determine if the infrastructure was built before the implementation of water crossing guidelines (Environmental Guidelines for Access Roads and Water Crossings (April 89) and the Crown Land Bridge Management Report (April 89)) and if Forest Industry use was discontinued before the guidelines came into force. The 1989 guidelines provided the first specific direction regarding acceptable practices for water crossing construction, maintenance and abandonment. Infrastructure that was built prior to this date was not required to meet any specific standards other than appropriate opening size as determined by flow calculations. If use was discontinued prior to the guideline implementation it can be assumed that no upgrading took place after the guidelines were in force. It is appropriate to conclude that the Forest Industry would have no lingering obligations or responsibility for infrastructure of this vintage. The Crown would assume responsibility &quot;as is&quot;.</td>
</tr>
<tr>
<td>Key Box No.</td>
<td>Rationale</td>
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<tr>
<td>------------</td>
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<tr>
<td>21-22</td>
<td>The situation may exist where the Forest Industry continued to utilize pre-1989 infrastructure after the water crossing guidelines (<em>Environmental Guidelines for Access Roads and Water Crossings</em> (April 89) and the <em>Crown Land Bridge Management Report</em> (April 89)) were introduced without significantly modifying or replacing the original structures. If this is the case, the same logic in Box 20 would apply and the Crown would assume responsibility “as is”. If the infrastructure was significantly altered or replaced after the guidelines were implemented, improvements should have been done according to the prescribed standard (go to Box 23).</td>
</tr>
<tr>
<td>23-24</td>
<td>Determine if the infrastructure was built after the water crossing guidelines (<em>Environmental Guidelines for Access Roads and Water Crossings</em> (April 89) and the <em>Crown Land Bridge Management Report</em> (April 89)) were introduced or if pre-1989 infrastructure was significantly altered or replaced after the guidelines were implemented. It would be expected that this infrastructure was built to the prescribed standard and maintained to this standard until formally abandoned utilizing the <em>Criteria for Removal Guidelines</em> (97). As it has been determined in Box 15 &amp; 16 that formal abandonment has not yet occurred this infrastructure would continue to be the Forest Industry’s responsibility.</td>
</tr>
<tr>
<td>25</td>
<td>Determine if a road use strategy exists and if revision is warranted. It is most likely that the infrastructure has “dropped out” of the FMP process and no strategy exists in the current FMP. It is possible that a strategy was prepared in a previous FMP or TMP and was not carried forward. If one does not exist in the current FMP or it is deemed to be unsuitable it will be necessary to develop one. The Road Network-Use Strategy approach proposed by this report would be implemented. Post-forest operations prescriptions would be developed. The Forest Industry would be responsible to complete the Post-forest operations prescriptions (retained, modified, removed, controlled) as detailed in the Transfer Plan. When prescriptions are fully implemented, responsibility would transfer to the Crown.</td>
</tr>
</tbody>
</table>

![Abandoned infrastructure](see page 35)

![Design and construction problems](see page 16)

![Maintenance Issues: Beaver activity and road maintenance](see page 47)
Figure 2

Responsibility Determination Key - Former Crown Management Unit

1. Has a party, other than the Crown or the forest industry, assumed responsibility for the infrastructure* by a legal mechanism?
   - YES: Party is responsible
   - NO: Did the forest industry build, utilize or modify existing infrastructure* to undertake forest operations?
     - YES: Party responsible
     - NO: Was or is the forest industry the principal or priority user?
       - YES: Party responsible
       - NO: Has the forest industry assumed responsibility for the infrastructure* by a legal mechanism other than the FMP?
         - YES: Party responsible
         - NO: Does the Forest Industry elect to assume responsibility regardless of infrastructure* condition or abandonment status?
           - YES: Forest Industry Responsible
           - NO: Does the forest industry require the infrastructure* for current forest management purposes?
             - YES: Does the infrastructure* meet water crossing guidelines** and minimum safety requirements***?
               - YES: Forest Industry Responsible
               - NO: Forest industry undertakes necessary maintenance to meet operational needs. Crown may elect to assist if maintenance work will meet water crossing guidelines** and/or minimum safety requirements***.
                 - YES: Forest Industry Responsible
                 - NO: Does the infrastructure* now meet the water crossing guidelines** and minimum safety requirements***?
                   - YES: Forest Industry Responsible
                   - NO: Crown remains responsible until infrastructure* is upgraded to meet water crossing guidelines** and minimum safety standards and minimum safety standards***.
                     - YES: Does both of these standards been met?
                       - YES: Crown remains responsible
                       - NO: Crown remains responsible

2. Party is responsible

3. Did the forest industry build, utilize or modify existing infrastructure* to undertake forest operations?
   - YES: Party responsible
   - NO: Was or is the forest industry the principal or priority user?

4. Crown or other specific party(s) is responsible

5. If the infrastructure is required for multiple-use purposes, can a formal agreement be established to share responsibility with established users?
   - YES: Crown Responsible
   - NO: Develop & implement Road Network - Use Strategy

6. Crown Responsible

7. Develop Road Use strategy and establish a formal agreement to share responsibility

8. Review existing Road Use Strategy implement existing strategy or revise if required

9. Does the Forest Industry elect to assume responsibility regardless of infrastructure* condition or abandonment status?

10. Does the forest industry require the infrastructure* for current forest management purposes?

11. Forest Industry Responsible

12. Does the infrastructure* meet water crossing guidelines** and minimum safety requirements***?

13. Crown Responsible

14. Develop Road Network - Use Strategy

15. Crown completes Post-forest operations prescriptions on a priority basis

16. Active infrastructure* must be in current FMP. Amend if required

17. Develop Road Network - Use Strategy in FMP

18. Forest Industry implements Post-forest operations prescriptions Responsibility is then transferred to Crown

19. Forest Industry Responsible

20. Does the infrastructure* now meet the water crossing guidelines** and minimum safety requirements***?

21. Does both of these standards been met?

22. Crown Responsible

23. Develop Road Network - Use Strategy in FMP

*Crown*

**Includes the Environmental Guidelines for Access Roads & Water Crossings**

***Minimum safety standards are defined on page of report**
<table>
<thead>
<tr>
<th>Key Box No.</th>
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<tbody>
<tr>
<td>1-2</td>
<td>Determine if responsibility is already assumed by a party other than the Crown or the Forest Industry. There is a need to be aware of existing obligations and ensure that the party responsible understands the liabilities and responsibilities associated with the formal arrangement.</td>
</tr>
<tr>
<td>3-4</td>
<td>Determine if/when the infrastructure was utilized by the Forest Industry and to what extent. If the infrastructure was not built or used by the Forest Industry, there would be no rationale to expect the industry to assume any responsibility. Another party or the Crown would be responsible. On former Crown MUs, it is likely that much of the infrastructure was developed by the Crown to enable forest management activities.</td>
</tr>
<tr>
<td>5</td>
<td>Determine if the Forest Industry is the main user of the infrastructure and if industry needs dictate infrastructure standards and maintenance requirements. If the Forest Industry is not the principal user of the infrastructure and if the needs of other permanent users have an equal or greater influence on road-use strategies, infrastructure standards and maintenance regimes, it is not reasonable to expect the Forest Industry to assume full responsibility nor cover all or most maintenance costs. If the Forest Industry is the primary user and forest operations are determinative of the construction standards and maintenance levels, then it is appropriate for the Forest Industry to shoulder most/all responsibility when infrastructure is being used for forest management purposes.</td>
</tr>
<tr>
<td>6-8</td>
<td>If there are multiple permanent established users, a formal mechanism should be considered to share responsibility and obligations. Other industrial users and permanent established users should rightfully contribute to the upkeep of the infrastructure especially if these parties desire to have influence or if their activities cause damage to the infrastructure. A formal agreement is required to outline individual obligations and secure commitment. MNR and Forest Industry would play the lead in assembling partners and developing a Road use strategy and partnership agreement. If a partnership arrangement cannot be established, the Crown would determine if the infrastructure would be decommissioned or maintained according to the priorities described on page 47.</td>
</tr>
<tr>
<td>9</td>
<td>Determine if the Forest Industry has assumed responsibility for infrastructure by a legal mechanism other than the current FMP. Mechanisms may include: outcome of SFL negotiations, LUP, MOA, maintenance agreements, or private road designation under the Public Lands Act. There is a need to be aware of existing obligations to ensure the Forest Industry and the Crown each understand the liabilities and responsibilities associated with the existing formal arrangement. Conclusion 6 speaks to the situation where existing arrangements are possibly now redundant and revision or retirement should be considered.</td>
</tr>
<tr>
<td>10-11</td>
<td>The Forest Industry may elect to assume responsibility for the former Crown MU infrastructure regardless of its present status. On former Crown MUs, the Crown managed and controlled infrastructure development and maintenance of primary and secondary roads. Forest licencees usually constructed/maintained tertiary roads. New SFL holders “inherited” this infrastructure when Crown MUs were converted to SFLs. It would be inappropriate to expect the SFL holder to accept responsibility for infrastructure that is no longer required for forest management purposes or sub-standard infrastructure that is unsafe or did not meet the “standards of the day” when constructed. Some SFL holders have indicated they may prefer to assume responsibility as a means of maintaining maximum influence. Any infrastructure that is assumed by the Forest Industry must be detailed in the current FMP.</td>
</tr>
<tr>
<td>12-13</td>
<td>Determine if the infrastructure is needed for current forest management purposes. Forest Industry would make this determination. If the infrastructure is not required and the Forest Industry does not elect to assume responsibility, the Crown would retain responsibility for the infrastructure in its current condition. If infrastructure is required for current forest operations, go to Box 16. Active infrastructure must appear in the current FMP.</td>
</tr>
<tr>
<td>Key Box No.</td>
<td>Rationale</td>
</tr>
<tr>
<td>------------</td>
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</tr>
<tr>
<td>14</td>
<td>Determine if the existing road use strategy is appropriate or if revision is warranted. There may or may not be a suitable road use strategy in the current FMP. If one does not exist or it is deemed to be unsuitable it will be necessary to develop one.</td>
</tr>
<tr>
<td>15</td>
<td>The Road Network-Use Strategy approach proposed by this report would be implemented. Post-forest operations prescriptions would be developed. The Crown would be responsible to undertake the necessary work. Work would be prioritized based on inventory results to ensure that the most urgent safety and environmental problems were dealt with first.</td>
</tr>
<tr>
<td>16</td>
<td>Determine if the infrastructure currently meets the water crossing guidelines (Environmental Guidelines for Access Roads and Water Crossings (April 89) and the Crown Land Bridge Management Report (April 89)) standards and if it meets safety standards. Infrastructure that is required for current forest operations and meets water crossing guideline (89) standards and also meets minimum safety requirements can appropriately be transferred to the Forest Industry. Unlike the Former Company Management Unit Key, it is irrelevant when the infrastructure was constructed or modified.</td>
</tr>
<tr>
<td>17</td>
<td>Forest Industry accepts responsibility for active infrastructure that currently meets water crossing guidelines (Environmental Guidelines for Access Roads and Water Crossings (April 89) and the Crown Land Bridge Management Report (April 89)) standards and safety requirements (Box 16) or infrastructure that is upgraded to standard by Industry (Box 19-20) or by the Crown (Box 21).</td>
</tr>
<tr>
<td>18</td>
<td>Actively used infrastructure must be detailed in the current FMP. If a suitable road use strategy does not exist, one must be prepared and introduced into the FMP by an amendment. The Road Network-Use Strategy approach proposed by this report would be implemented. Post-forest operations prescriptions would be developed. The Forest Industry would be responsible to undertake the necessary work. When prescriptions are fully completed, responsibility for the infrastructure will be transferred to the Crown.</td>
</tr>
<tr>
<td>19</td>
<td>The Forest Industry may elect to complete necessary improvements in order to safely and efficiently carry out forest operations. It may be necessary to undertake various levels of maintenance on failing infrastructure even though responsibility rests with the Crown. The Forest Industry may not be able to wait for the Crown to do this work and may need to complete these improvements in order to continue operations. If the proposed work will upgrade the infrastructure to satisfy water crossing guidelines (Environmental Guidelines for Access Roads and Water Crossings (April 89) and the Crown Land Bridge Management Report (April 89)) and safety requirements, the Crown may offer to assist with remedial costs so that responsibility can be transferred to the Forest Industry.</td>
</tr>
<tr>
<td>20</td>
<td>If the remedial work performed by the Forest Industry satisfies water crossing guidelines (Environmental Guidelines for Access Roads and Water Crossings (April 89) and the Crown Land Bridge Management Report (April 89)) and safety standards, the Forest Industry would assume responsibility for the active infrastructure. If the remedial work performed by the Forest Industry meets their immediate operational needs but falls short of meeting water crossing guidelines or safety standards, responsibility remains with the Crown.</td>
</tr>
<tr>
<td>21</td>
<td>Determine if the Crown has undertaken remedial work and if it was sufficient to achieve water crossing guidelines and safety standards. Crown will complete remedial work on a priority basis. If upgrades meet standards; the Forest Industry would assume responsibility for the active infrastructure (Box 17). The Crown will remain responsible if it is unable to undertake remedial work on the active infrastructure that will satisfy the water crossing guidelines (Environmental Guidelines for Access Roads and Water Crossings (April 89) and the Crown Land Bridge Management Report (April 89)) or safety standards (Box 22).</td>
</tr>
</tbody>
</table>
Key Box No. | Rationale
--- | ---
22-23 | Crown remains responsible for former Crown MU infrastructure that does not meet the water crossing guidelines (Environmental Guidelines for Access Roads and Water Crossings (April 89) and the Crown Land Bridge Management Report (April 89)) and safety standards. If the Forest Industry was able to undertake operations without fully upgrading deficient CMU infrastructure, the Crown will remain responsible. Active infrastructure must appear in current FMP. The Road Network-Use Strategy approach proposed by this report would be implemented. Active forest operation prescriptions and/or Post-forest operations prescriptions would be developed. The Crown would be responsible to complete the Post-forest operations prescriptions (retained, modified, removed, controlled) as detailed in the Transfer Plan. Work would be prioritized based on inventory results to ensure that the most urgent safety and environmental problems were dealt with first. If remedial work is completed while the infrastructure is actively being used, responsibility would be transferred to the Forest Industry.

Examples of Good Water Crossing Management

Modern bridges built of long lasting materials

Proper culvert installation and bank stabilization

Removal of failed or redundant infrastructure and restoration of stream banks
Current Approach to Road Use Planning

The current FMP road use planning requirements are specified in Section 2.4.5 of the FMPM. The Access Road Manual also provides guidance in Section RA 2-4 and RA 2-6. While these requirements form the basis for assigning responsibility and developing useful road use and abandonment strategies, a number of shortcomings have been identified by resource managers and FMP planning practitioners.

The commonly recognized issues include:

- road use planning is undertaken on a road-by-road, as needed basis, from a forest management perspective on individual management units; it is not a strategic approach
- insufficient up-front consideration is given to management implications when roads are no longer required for forest management purposes (except where abandonment is actively addressed in the planning process such as in the case of remote tourism protection)
- a responsibility transfer process is not clearly defined
- FMP road use/abandonment strategies frequently lack sufficient detail
- the FMP process does not account for the full existing road network as roads “drop out” of the FMP when they are not used/maintained for forestry purposes; roads that drop out of the FMP process are currently not captured by any other planning or record keeping process (inconsistent with ARM RA 2-4)
- FMP road use planning and abandonment strategies are not required for tertiary roads except when tertiary roads are within an area of concern ie. water crossing. Conditions on the location, construction or use management must be determined and requirements for removal of water crossings must be specified (FMPM 2.4.5.3). This was a deliberate decision by the EA Board.
- many tertiary roads frequently evolve over time into secondary roads, but they are not always reclassified and consequently often lack road use/abandonment strategies
- secondary road use strategies often do not adequately address associated tertiary roads to ensure that prescriptions are appropriate for the overall infrastructure
- inconsistent interpretation/application of terminology eg. abandonment, natural abandonment, decommissioning, deactivation, closure etc.
- lack of a process or criteria to reclassify roads that have been decommissioned, are overgrown or have degenerated and are no longer travelable by conventional 4x4 vehicles.
Suggested Modifications to Road Use Planning that would enable the Assignment of Responsibility

The Need to Develop Road Use Strategies for All Roads

In order to achieve overall meaningful improvement to the present planning and management approach it is essential that the above noted issues be addressed in a comprehensive manner. There is a need to develop and implement road-use strategies for all roads (existing and future) on Crown Land consistent with the existing direction of the ARM (RA 2-4). Because the current FMP process only addresses a portion of the road system (primary and secondary roads actively being constructed, maintained or abandoned during the planning period) the balance of the system must be addressed by either a separate mechanism or be incorporated into the FMP process. Additionally there are portions of the province that are not organized into forest management units where FMP planning is not undertaken (outside of the Timber EA - Area of the Undertaking).

On most, if not all forest management units, there is a significant portion of the existing road system that is not addressed in current FMPs because this portion of the infrastructure is not currently being used for forest management purposes. It is most likely that road use/abandonment strategies do not exist or have lapsed for this portion of the management unit road system. Roads and water crossings that were “naturally abandoned” will have degenerated to various stages of disrepair and may or may not be travelable (see page 41). It is also likely that there is no reliable defined monitoring or maintenance program and it is probable that responsibility is not clearly assumed by any party. Under these circumstances, the risk of safety hazards or environmental problems increases significantly. Additionally, if individual roads were not subjected to previous TMP or FMP planning, it is likely that there was no public involvement in the development of road use strategies, maintenance or abandonment plans. This situation has created varied expectations by users who have become accustomed to using the road(s) for commercial or recreational purposes. Subsequent decisions to close or remove failing infrastructure in order to deal with existing or imminent safety or environmental problems will be met with resistance especially if this is done in an ad-hoc manner in the absence of an approved road use strategy. An overall rationalization of infrastructure that does not appear in current FMPs is therefore required.

There are three evident options to deal with this planning and information void:

1. Maintain the current FMP process as is and develop a separate parallel planning and record keeping system to deal with roads not currently covered by the FMP. Under this system when responsibility for individual roads is transferred to and from the Forest Industry, information would move back and forth between the two systems. Information transfer would occur each time a new FMP is prepared or amended due to road changes. Planning and public consultation to develop road use strategies would need to occur both within the existing FMP process as well as the separate parallel planning/record keeping process for roads not included in the FMP. The concern with this option is that it will be complicated and
cumbersome and will unduly confuse and frustrate public participation and consultation.

2. **Modify the current FMP process to account for all roads on the management unit.**
   Roads should be considered a “value” for the purposes of FMP planning. Responsibility for all existing roads would be clearly established using decision keys. Roads required by the Forest Industry would be dealt with by the FMP process including the development of road-use strategies. A one-time planning and consultation exercise, outside of the FMP process would be required to develop road-use strategies for all existing roads currently not included in current FMPs. Once this was completed, the complete road system would be tracked within the FMP/FIM process from that day forward. In most cases, location information is already captured in FMP/FIM databases and map records. The concern with this option is that it should not be misconstrued that the FMP process would be used to plan and approve roads that are constructed for non-forestry purposes; this would be accomplished in a different planning/consultation process. The FMP/FIM data base would however serve as the record keeping mechanism but would not be encumbered with increased amendments arising from changes to road use strategies for roads not currently being used for forestry purposes or new roads built for other purposes. Changes of this nature would be handled as an administrative amendment initiated by the Crown.

3. **Do all road planning and record keeping outside of the FMP/FIM process.**
   This approach would not seem practical from a planning perspective as “access” is a fundamental function of forest management and forest planning. Consideration however might be given to maintaining the master record for roads (and water crossings) within NRVIS assuming this would be compatible with the Forest Information Manual (FIM).

**Option 2** would appear to have the most merit. It is however anticipated that any planning exercise designed to develop road-use strategies (for roads not covered by existing FMPs) will be an arduous process given the expected high level of public/stakeholder participation and the predictable divergence of opinion. Embedding this exercise into the development of a new FMP would create an overwhelming task that could easily compromise the timely completion of a new FMP. The task would therefore best be accomplished as a one-time stand alone planning exercise outside of the FMP process utilizing the *Class EA for MNR Resource Stewardship and Facility Development Projects (Category C)*. This approach would make use of recently acquired road and water crossing inventory information (see page 46) that would identify deficient infrastructure and could be used to rationalize repair versus decommissioning decisions. Once a fully updated infrastructure inventory is substantially completed, comprehensive road-use strategies could be developed for all road networks (see page 43) It would then be possible to maintain the necessary records for the entire infrastructure within the FMP/FIM process.
The steps and approach to undertaking the recommended option (#2) are summarized as follows:

1. SFL holder and MNR cooperatively develop an accurate map of the complete existing road system on the management unit; that excludes former roads that have degenerated and are fully overgrown or roadbed is untravelable (page 41).

2. SFL holder and MNR cooperatively identify and define logical Road Networks (see page 43. SFL holder and MNR utilize the Responsibility Determination keys from this report to partition and assign responsibility for all Road Networks.

3. Road Networks that are required for forest operations must appear in the current FMP. Determine if the SFL holder (and/or overlapping licensees) have interest in any roads that are not presently in the current FMP.

4. SFL holder reviews existing road use strategies and converts them into proposed Road Network – Use Strategies and prescriptions; develop proposed strategies for any additional roads identified in Step 3.

5. Road Networks that are not required by the Forest Industry for forest operations will not appear in the current FMP. These Road Networks require the development of a use management strategy (it is likely one does not exist or is no longer current).

6. MNR develops proposed Road Network - Use Strategies and prescriptions for Road Networks that will not appear in the FMP (see Step 5).

7. Recently obtained inventory information can be utilized to assist with rationalization of decisions for strategies and prescriptions.

8. Public consultation will be required to introduce the proposed Road Network –Use Strategies into the FMP.

9. Changes to existing FMP road use strategies will be handled either as a major amendment or introduced during the preparation of a new FMP (prerogative of SFL Holder).

10. Public consultation will also be required to introduce the proposed Road Network – Use Strategies for roads that are not be covered by the current FMP. MNR will undertake a one-time, stand alone planning/consultation process outside of the FMP process to develop Road Network - Use Strategies and prescriptions for all outstanding existing road networks. The recently revised Class EA for MNR Resource Stewardship and Facility Development Projects (Category C) would be utilized. The consultation process would be comprehensive so as to ensure that results can be brought into an existing FMP without having to do additional/repeat FMP consultation or issue resolution (eg complete steps equivalent to a FMP major amendment process as a minimum).

11. Results would be brought into the FMP at the appropriate time by either an administrative amendment to the current FMP or by incorporating results into the planning process of a new FMP.

12. Public consultation forum may be handled either independently or simultaneously depending on local circumstances and logistics. The objective should be to achieve effective and efficient consultation and economize on consultation costs.

13. Upon the completion of both exercises, all Road Networks and related Road Network – Use Strategies would be documented and tracked in the FMP from that day forward. This includes specifying responsibility.
14. MNR would take the lead in developing legal agreements that would specify the
obligations and responsibilities for non-FMP Road Networks that are assumed by a
third party(s) or are a shared responsibility.
15. Any future Road Network - Use Strategy development for roads that are not required
for forestry purposes would be handled outside of the FMP process (beginning at
Step 6). Results would be brought into the existing FMP by an administrative
amendment at the expense of the Crown and/or a third party (Step 11).
16. Future additions or amendments to Road Network - Use Strategies in the current
FMP would enter the process at Step 4.

These steps are presented diagrammatically in Figure 3.

**Examples of Road Network – Use Strategy Options**

Access that is disrupted by unplanned
events may or may not be restored

High risk water crossings may be
decommissioned, resulting in a reduction
or downgrading of access

When unsafe infrastructure is removed
it may or may not be replaced

Use management strategies may
require that access be restricted

(Also see pages 43 and 46)
Figure 3

Proposed Process to Develop Road Network - Use Strategies for All Existing Road Networks on a Management Unit

1. SFL Holder and Crown cooperate to produce best possible map of existing road system for management unit

2. SFL Holder and Crown cooperate to Define Road Networks. Determine and assign responsibility for all existing Road Networks (using keys)

3. Road Networks that are the Forest Industry’s responsibility (Roads being used for forest management that should appear in current FMP)

4. Review existing road use strategies Convert into proposed Road Network - Use Strategies

5. Road Networks that are the Crown’s or Other party’s responsibility (Roads do not appear in current FMP)

6. Develop proposed Road Network - Use Strategies

7. Utilize Inventory Results

8. Public Consultation as per FMP requirements (major amendment or new FMP)

9. SFL Holder introduces outcome into FMP by major amendment (or during new plan preparation)

10. Public Consultation as per Stewardship EA (ensure equivalent to FMP major amendment)

11. Crown introduces outcome into FMP by administrative amendment

12. Independent or consultative Consultation Forum

13. FMP All Road Networks are documented and tracked in the current FMP (including responsibility, Road Network - Use Strategies & prescriptions)

14. Crown develops legal agreements that assign responsibility and specify obligations for non-FMP Road Networks eg. MOAs

15. Use Strategies

Road Network - Use Strategies now completed for all existing Road Networks on management unit

* Class EA for MNR Resource Stewardship and Facility Development Projects
Mechanisms to Legally Assign Responsibility - Options

The legal review indicated the need to formally assign responsibility by a legally binding mechanism.

As previously mentioned forest companies currently assume responsibility relative to the construction, maintenance, monitoring and decommissioning of some roads and water crossings on Crown land through a variety of mechanisms namely the approved FMP, the FOSM, the forest resource licence, Memorandum of Agreement, maintenance agreements, Public Lands Act designations, Land Use Permits or Work Permits. Despite this lengthy list of mechanisms, significant responsibility “gaps” exist because of incomplete linkages. Gaps and/or overlaps could potentially be eliminated and efficiencies realized by overhauling the current administrative approach.

Four options were evident to the committee and appear in the following table.

<table>
<thead>
<tr>
<th>OPTION</th>
<th>ACTION REQUIRED</th>
<th>ADVANTAGE</th>
<th>DISADVANTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amend FMPM &amp; FIM</td>
<td>• introduce clear statements &amp; requirements that strengthen road-use strategies</td>
<td>• EA and FMPM are currently open to revision</td>
<td>• need to act quickly while opportunity exists</td>
</tr>
<tr>
<td></td>
<td>• define responsibility for all new and existing roads, WC</td>
<td>• this approach could eliminate need for others mechanisms (eg MOAs)</td>
<td>• adds “more” to FMP</td>
</tr>
<tr>
<td></td>
<td>• strengthen linkages to retained portions of ARM consistent with Conclusion 5</td>
<td>• permanent record in one document</td>
<td>• requires a major one-time exercise to deal with roads that are not now in FMP</td>
</tr>
<tr>
<td></td>
<td>• ensure changes result in legally binding wording</td>
<td>• transparent approach</td>
<td>• requires CFSA regulation change (ie. FMPM, FIM)</td>
</tr>
<tr>
<td>Amend SFL document</td>
<td>• add terms and conditions to SFL that clarify responsibility</td>
<td>• non-legislative solution</td>
<td>• likely too much detail embedded in SFL</td>
</tr>
<tr>
<td></td>
<td>• possible linkage modifications with FMPM, FOSM, ARM (retained portions of ARM consistent with Conclusion 5)</td>
<td></td>
<td>• responsibility shifts would still need to be tracked in FMP</td>
</tr>
<tr>
<td></td>
<td>• utilize a standard MOA (updating required)</td>
<td>• template development would be relatively simple</td>
<td>• changes could be frequent and a cumbersome administrative work load</td>
</tr>
<tr>
<td>Memorandum of Agreement</td>
<td>• use for roads &amp; water crossings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Status Quo Combination of above</td>
<td>• continue to use all existing mechanisms</td>
<td>• none obvious</td>
<td>• considerable tinkering required with minimal gain</td>
</tr>
<tr>
<td></td>
<td>• identify and plug up gaps</td>
<td></td>
<td>• unlikely to create any real efficiencies</td>
</tr>
<tr>
<td></td>
<td>• review linkages between all components and modify as required</td>
<td></td>
<td>• probability of gaps over time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• continued problems/issues</td>
</tr>
</tbody>
</table>
CONCLUSION - 11
The FMP is the preferred mechanism to formally record responsibility and track responsibility transfers for roads and water crossings. The process as outlined above should be utilized to bring the full existing road system into the FMP to document assignment of responsibility and maintain a complete record of all roads on the management unit (treat as a “value”). It is recommended that these changes be incorporated into the current FMPM Revision Project.

CONCLUSION – 12
MNR will design a planning and consultation exercise to develop road use strategies for all existing roads (under MNR jurisdiction) that are no longer used for forest management purposes. The process will ensure adequate opportunity for public consultation so that the resulting use strategies may be brought into the existing FMP by an administrative amendment. This process would also be utilized at times in the future when it is necessary to alter road use strategies for any roads not being used for forest management purposes.

Road Classification Issues

Road Mapping

A review of provincial data holdings for roads and water crossings revealed that information data bases are highly variable. There are issues with respect to base information, updating methodology, standards, currency and quality. In some cases mapping does not distinguish between all-weather roads and winter roads. Typically, SFL holders and MNR do not have similar map products. A reliable and up-to-date road map (in digital format) is required in order to complete the initial assignment of responsibility for existing roads and water crossings. This would also be required if roads were considered to be “values”.

Reclassification of Degenerated Roads

It is common practice to retain all roads (including winter roads) on maps even though many roads may have been decommissioned, regenerated, are overgrown, or roadbeds have degenerated and are no longer travelable by a conventional 4x4 half ton truck. Over time, most unmaintained roads transform into narrow trails and eventually disappear as use declines. It is recommended that roads that have degenerated and are no longer travelable by a conventional 4x4 half-ton truck be removed from road maps and location information transferred to a “retired road” map product. Roads that become segmented by washed out crossing(s), as opposed to those that have a degenerated or obliterated roadbed and/or travel surface, should not be classified as a retired road. If former roads become officially sanctioned “trails”, they should be removed from the road map and recorded on an appropriate map coverage. If winter roads are mapped, they should be distinctly designated.
Degenerated roads need to be assessed and if no longer travelable in a conventional 4x4 truck, they should be removed from road maps and location information transferred to a “retired road” database.

**Existing Tertiary Roads**

Currently road use planning and abandonment strategies are not required for tertiary roads although prescriptions for AOCs (eg. water crossings) on tertiary roads must be specified. The Criteria for Removal of Water Crossings of Abandoned Roads (pg 9) indicates there is an obligation to apply the criteria only when the removal of a water crossing on a tertiary road is proposed. Situations therefore exist where road use and abandonment strategies for secondary roads do not appropriately address the conditions or circumstances of associated tertiary roads (eg a water crossing is removed on a secondary road; access is prevented to crossings that have to be retained on tertiary roads thus hampering or preventing adequate monitoring and maintenance of all crossings beyond the decommissioned site). Instituting road use planning for tertiary roads would be an appropriate addition to the FMP process. This change has in fact been recommended by the recent Timber Class EA Review (pg 97).

The process could be further improved by ensuring that individual roads are not planned and managed in isolation of other linked or adjacent roads. It therefore would be preferable to undertake road use/abandonment planning for a defined “ROAD NETWORK” as described in the following section.

**CONCLUSION – 13**

There is a need to develop and maintain a single reliable digital database for roads. The database should be cooperatively produced and maintained by SFL holders and local MNR. The road database will be used to track responsibility transfers. The protocols for sharing the database, keeping it up to date and disseminating the information will be consistent with FIM requirements.

**CONCLUSION - 14**

Roads that have degenerated and are no longer travelable by a conventional 4x4 half ton truck should be removed from road maps and location information transferred to a “retired road” map product.
**Road Network Concept**

The benefits of undertaking road use planning on a ROAD NETWORK basis as opposed to planning individual roads in isolation appears above. The ROAD NETWORK concept is described as follows:

A ROAD NETWORK is a system of new or existing roads designed and constructed to access a defined multi-year forest operating area and/or a distinct geographic area. The network may include primary, secondary and tertiary roads. The road network is defined geographically by a suitable point at the start of the road network such as the intersection of a primary and secondary road or a specific significant water crossing. The road network would include all roads and water crossings beyond that point including any subsequent extensions. All existing roads and future roads will be aggregated into logical road networks by the FMP planning team. Once defined, road networks will be carried over into subsequent FMPs. A “ROAD NETWORK - USE STRATEGY” would be developed for each road network. As individual roads are extended or fully decommissioned it may be appropriate to adjust defined road networks. This would be permissible as long as all individual road segments are accounted for and use strategies remain appropriate.

**Road Network – Use Strategy**

A ROAD NETWORK -USE STRATEGY would replace the requirement to develop separate road use strategies for all roads individually. This approach will ensure that a logical and compatible strategy is developed for a defined road network as a whole. The ROAD NETWORK -USE STRATEGY would address two specific time frames:

1. the period when the road network is used for **active forest operations**
2. the period after forest operations are completed (**post-forest operations**)

The approved road network use strategy for **active forest operations** period will specify the construction, maintenance, control restrictions and monitoring prescriptions/standards to be undertaken by the company. Individual **active forest operations** prescriptions will be consistent with the defined **post-forest operations** strategies and prescriptions so as to ensure an efficient and economical transition. Effective and complete public consultation will be required to ensure the suitability and compatibility of strategies and prescriptions for both time frames. For example: if the **post-forest operations** strategy specifies that a road is to remain accessible after forest operations are completed, then the **active forest operations** strategy and prescription should be consistent with the longer term plan ie: a temporary bridge would not be an appropriate prescription.

Traditionally the term “abandonment” was used to describe the default management strategy for the **post-forest operations** period. A “natural abandonment” prescription was typically used to describe a “do nothing” approach where roads and water crossings were permitted to deteriorate without maintenance and little or no monitoring. As this approach does not always adequately deal with public safety concerns and environmental risks, it...
becomes necessary to develop appropriately detailed strategies and prescriptions for the post-forest operations period. It must be recognized that infrastructure will only be retained, monitored and maintained by the Crown if it is required for MNR programs or where partnerships are arranged to share management responsibilities (Ontario’s Living Legacy-Land Use Strategy (6.1.5)). It should also be recognized that a concerted effort will be required to initially define road networks and develop strategies and prescriptions for the existing infrastructure that does not appear in current FMPs (see pages 36-39). The approved road network use strategy for post-forest operations period will specify monitoring, maintenance, control restrictions or decommissioning prescriptions for the existing infrastructure that does not appear in current FMPs (see page 35).

ROAD NETWORK and will specify whether individual roads and/or water crossings will be:

- Retained - left in proper condition and monitored/maintained (see below)
- Modified - eg. culvert converted to a ford and monitored/maintained
- Removed - decommissioned, resulting in a permanent barrier to the remainder of the road network
- Controlled - left in proper condition but access is restricted (eg RSA provision)

Strategies and prescriptions must be consistent with any approved Resource Stewardship Agreement (RSA) provisions (Note: achievement of tourism objectives is not related to safety or environmental concerns). It is recommended that a set of common prescriptions (similar to the approach used for Area of Concern planning) be developed and utilized as a means to ensure consistency and efficiency. Where possible, a common prescription would be applied to the entire road network. If individual roads or water crossings require unique prescriptions they would be handled on a site specific basis.

When any crossing is removed, all crossings beyond that point will become isolated, and must be properly assessed and left in an approved condition that is consistent with the post-forest operations strategy and prescriptions. The Environmental Guidelines for Access Roads and Water Crossings, the Crown Land Bridge Management Report, the Criteria for the Removal of Water Crossings of Abandoned Roads and appropriate retained sections of the Access Roads Manual will be utilized to prepare appropriate prescriptions.

Transfer of Responsibility

When an individual road network is no longer required for forest operations purposes, the Forest Industry will decide if it wishes to maintain the road network or transfer responsibility to the Crown. It is proposed that responsibility transfer be linked to the FMP planning cycle. The intent to transfer responsibility for a road network will be declared at the start of the FMP planning process so that appropriate consultation can occur during FMP preparation. Consultation would focus on confirming the prescriptions of the ROAD NETWORK - USE STRATEGY previously developed for the post-forest operations period. Early declaration of intent to transfer responsibility will also assist MNR with work planning and budgeting considerations. The logistics associated with the transfer of responsibility and the implementation of the post-forest operations use strategy for affected ROAD NETWORKS will be defined and scheduled by a “TRANSFER PLAN”.

Forest Roads and Water Crossings Initiative – Task Team Report - October 2003
Transfer Plan

ROAD NETWORK - USE STRATEGIES and the post-forest operations prescriptions that are approved in the new FMP may be initiated during the period of the plan. A TRANSFER PLAN will be developed to determine the logical sequence for implementing the approved post-forest operations strategy and prescriptions. The TRANSFER PLAN will re-confirm monitoring, maintenance, control restrictions and decommissioning prescriptions for the individual roads and/or water crossings that comprise the specific ROAD NETWORK. If there are any proposed revisions to the original post-forest operations prescriptions that are subsequently required by the Crown (or another party) and the changes will result in increased costs to the company, the cost of implementing the changes will be negotiated on a case by case basis (eg. the Crown requires that a planned temporary bridge now be retained on a permanent basis).

The Environmental Guidelines for Access Roads and Water Crossings, the Crown Land Bridge Management Report, the Criteria for the Removal of Water Crossings of Abandoned Roads and appropriate sections of the Access Roads Manual will be utilized to assess the status of existing infrastructure and implement appropriate prescriptions. The TRANSFER PLAN will ensure that any infrastructure that is to be retained, removed or modified will be left in a safe and stable condition as per the guidelines and the standards-of-the-day when originally installed or subsequently upgraded. Infrastructure will be jointly inspected by qualified personnel who will verify the status of the infrastructure and confirm that prescriptions were completed satisfactorily before responsibility is transferred. Responsibility transfer would normally take effect when post-forest operations prescriptions had been completed and verified by joint field inspection. Responsibility transfer will be documented in the FMP.

CONCLUSION - 15
The ROAD NETWORK, ROAD NETWORK – USE STRATEGY and the TRANSFER PLAN concepts are a reasonable approach to achieving more specific and meaningful road use strategies for new and existing roads and water crossings. These approaches will ensure that responsibility transfer is done in a logical and equitable manner. It is recommended that MNR provide additional direction with respect to the content of road use strategies and that a common prescription approach be utilized (similar to AOC prescriptions).

CONCLUSION – 16
The concept of “natural abandonment” has been challenged by this report. If infrastructure remains on the landscape, someone has responsibility to monitor and maintain it…so it will not be truly “abandoned”. If this approach is accepted, it will be necessary to purge this terminology from a number of documents including the FMPM the, Environmental Guidelines for Access Roads and Water Crossings, the Crown Land Bridge Management Report and the Criteria for the Removal of Water Crossings of Abandoned Roads.
Inventory, Monitoring and Maintenance

As previously stated on page 10, “Reasonable Care: means the party responsible maintains a high standard of awareness and undertakes decisive, prompt and continuing action”. Inventory, monitoring and maintenance programs are essential components in demonstrating that the party responsible is taking adequate reasonable care and practicing due diligence.

Inventory

Once responsibility has been clearly assigned, the party responsible needs know the extent and current status of the infrastructure including identifying public safety and environmental problems. This may be accomplished by conducting an initial inventory of roads and water crossings.

Conclusions 13 and 14 recommend that SFL holders and MNR work cooperatively to develop a reliable and up-to-date digital data base for bonified roads. A preliminary product may be produced by utilizing existing company and MNR records including the recently available results from the NRCAN Ontario Road Network project (available from MNR, Base Data Infrastructure Section, Peterborough). In some cases field verification will be required to confirm road status and this can be accomplished as part of the water crossing inventory program. Old, overgrown, untravelable roads will be encountered; limited or no effort should be expended to inspect and inventory this type of infrastructure.

Some SFL holders and some MNR districts/areas have undertaken road and water crossing inventories. Methodologies vary across the province; many companies and MNR districts/areas do not have inventory programs. To address this void, the Forest Roads and Water Crossing Initiative (FRWCI) developed a water crossing inventory & risk assessment methodology in cooperation with SFL holders and DFO. This methodology will be used by MNR and has been made available to SFL holders. SFL holders are not obligated to use the FRWCI water crossing inventory methodology and may elect to continue to use their own inventory systems.

Monitoring and Maintenance

Ongoing monitoring is required to detect infrastructure changes and identify new public safety or environmental problems. Changes may occur gradually (structure deterioration) or suddenly (storm event damage). While it is not necessary to “re-inventory” infrastructure on a reoccurring basis, it is essential that ongoing monitoring be undertaken to identify significant changes and problems; inventory data bases should be updated accordingly. Failure to systematically update inventory databases will significantly reduce the reliability of the database, as valid information will become indistinguishable from outdated information, thus making the complete inventory suspect.
Identified problems should be corrected to current prescribed standards as soon as possible on a priority basis. Problems that pose the greatest risk to public safety or potential for environmental damage should rightfully be given a higher priority for remedial action. Less significant problems will be attended to as a lower priority, as time and resources permit. An effective ongoing monitoring program will detect emerging maintenance problems and permit corrective action before problems become large and costly to remedy.

Adequate monitoring and maintenance will be performed by the responsible party to ensure that roads and water crossings are safe and do not pose a risk of environmental damage. The frequency and extent of inspections and degree of maintenance will be the prerogative of the party responsible and will be governed by the level of risk that the party is willing to assume.

When the Forest Industry is responsible, ongoing monitoring, maintenance and emergency repair work will be prioritized to meet 1-safety, 2-environmental and 3-industry operational needs. The needs of other users will be considered and accommodated as a lower priority (4). The Crown or other parties may elect to assist the company with emergency repairs on a case-by-case basis where such assistance can be justified and capital funds are available.

When the Crown is responsible, ongoing monitoring, maintenance and emergency repair work will be prioritized to meet 1-safety, 2-environmental and 3-MNR program priorities and 4-the general needs of all users according to the use management strategy for the road network.

Road network-use strategies will specify that road/water crossings may not be restored in a timely manner if damaged or destroyed by unplanned events (eg. major storm). Remedial work may be limited to eliminating or reducing safety hazards and/or interim measures to stop environmental damage. It is important that other users who typically do not contribute to maintenance or do not have the resources to replace failed infrastructure understand that access to their business, property or favourite recreational area could be disrupted at any time. There is no obligation on the Crown or the Forest Industry to undertake repair work to restore infrastructure and access. Situations could also arise where it is determined that damaged/deteriorating infrastructure is unsafe and continued use must be prohibited until a permanent solution is implemented.

Options should be explored to encourage third parties to contribute to monitoring and maintenance programs. Consideration should be given to developing a mechanism that would require other industrial users (eg. heavy industrial traffic) to contribute toward maintenance costs. Other non-industrial users (eg. tourism operators, game & fish clubs, cottage owners) could contribute toward localized monitoring, low cost preventative maintenance (eg. trapping agreements, unplugging culverts) or contribute toward a maintenance fee. Formalized agreements (eg MOAs) and contribution commitments may influence management strategies and emergency repair priorities. Depending on the level of involvement, training may be required to ensure that “partners” are capable of undertaking their obligations in a safe and effective manner.
Traffic can cause significant damage to road surfaces under certain weather conditions (spring break up, periods of prolonged rainfall). Damage and maintenance can be minimized if appropriate traffic controls are implemented promptly and kept in place until weather influences subside. There is a need to inform other road users of the benefits of short term closures and secure their cooperation. A reliable mechanism (Part 2, Section 52 of the Public Lands Act) exists and should be utilized as required, to authorize and enable short notice/short term road closures intended to protect road integrity, ensure safety and minimize repair costs.

Changes are being contemplated to the Aggregates Act and the FMPM that would permit Category 14 pits (short term) to be used for emergency repairs and preventative maintenance work as opposed to the present requirement for a Category 9 pit (long term) authorization. This change would facilitate maintenance obligations and could result in reduced response times to correct hazardous situations.

CONCLUSION – 17
Road Network -Use Strategies must include a standard phrase that clearly specifies that road/water crossings may not be restored in a timely manner if damaged or destroyed by unplanned events (eg. major storm). They would also state that there is no obligation on the Crown or the Forest Industry to undertake this repair work on behalf of other users who may not have the resources to replace failed infrastructure and that access to their business or property could be disrupted at any time.

CONCLUSION - 18
It is recommended that MNR explore options to charge other industrial users (occasional or recurring) a fee to contribute to maintenance costs of forest access roads.

CONCLUSION - 19
It is recommended that MNR and the Forest Industry actively encourage other non-industrial users (eg. tourism operators, cottage owners, trappers, game & fish clubs) to contribute toward localized monitoring and low cost preventative maintenance (eg. unplugging culverts).

CONCLUSION - 20
Part 2, Section 52 of the Public Lands Act should be utilized as required, to authorize and enable short notice/short term road closures intended to protect road integrity, ensure safety and minimize repair costs.

CONCLUSION - 21
This report is supportive of efforts to amend the Aggregates Act and the FMPM that would permit Category 14 pits (short term) to be used for emergency repairs and preventative maintenance work as opposed to the present requirement for a Category 9 pit (long term) authorization.
**Recommended Legislation, Policy and Planning Modifications**

Many of the conclusions and recommendations contained in this report have legislation, policy and planning implications. The conclusions and associated text should provide policy developers with an adequate description of the recommended change and rationale for the modification. Members of the Forest Industry – MNR Task Team will make themselves available to assist with the development and/or review of draft policy products.

There are policy and planning implications with Conclusions: 1, 4, 5, 6, 8, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20 and 21

**Distribution and Promotion of Report**

A DRAFT report was distributed on April 26, 2003 under a covering letter from the FRWCI Chair and the Director of Forest Industry Relation Branch to the following:

- OFIA and OLMA
- all SFL holders
- FRWCI Steering Committee
- Legal Services Branch
- ADM Field Service Division > Regional Directors > District Managers, Enforcement Branch
- ADM Forests Division > Forest Management Branch & Industry Relations Branch
- ADM Natural Resource Management Division > Lands & Waters Branch & F&W Branch
- ADM Science & Information Resources Division > Information Resources Management Branch, Science & Information Branch
- ADM Corporate Management Division > Finance and Business Services, Policy & Planning Coordination Branch

Industry representatives contacted individual companies and promoted the DRAFT report at OFIA, OLMA and Forest Solutions Group meetings.

MNR representatives established direct contact with Legal Services Branch, Timber EA Renewal and FMPM Revision project, Regional Management Teams, Forest Management Branch, Land Management Section, Land Use Coordination Section and Accommodations, and Assets and Financial Analysis Section (Capital Program).

An opportunity to provide comments on the DRAFT report was extended until June 13, 2003. Input was received from 31 individuals. The Task Team reconvened on August 28, 2003 to consider the submissions and make final revisions to the report.

A final report was submitted to the Chair of the FRWCI Steering Committee and the Director of Forest Industry Relations Branch on October 1, 2003.
The Task Team will also continue to promote the final report within the Forest Industry and MNR. A corporate decision is also required with respect to determining if this report should receive broader distribution. Numerous NGOs have expressed interest.

Report Implementation

This report puts forward 21 specific conclusions. Because many of the recommended actions are strongly linked, the Task Team will advocate that the report be accepted as a complete package.

The Chair of the FRWCI Steering Committee and the Director of Forest Industry Relations Branch will jointly submit the report to the Assistant Deputy Ministers listed above. Direction to implement the conclusions and recommendations will flow down through the respective divisions to the Policy and Planning Sections of the various divisions.

As stated above, members of the Forest Industry – MNR Task Team will make themselves available to assist with the development and/or review of draft policy products.

For more information contact:

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Reference Documents


Legislation

Crown Forest Sustainability Act
Environmental Protection Act
Fisheries Act
Lakes and Rivers Improvement Act
Navigable Waters Protection Act
Occupier’s Liability Act
Public Lands Act
Road Access Act