Revised March 12, 2013

Draft Report

THE AD HOC LAKE TEMAGAMI FIRE PROTECTION ADVISORY COMMITTEE

Members

Lorie Hunter, Chair – Municipal Councillor
John Kenrick – Municipal Councillor
Patrick Cormier – CAO Municipality of Temagami
Steve Salonin – Office of the Ontario Fire Marshal
Dyane McCullough – Office of the Ontario Fire Marshal
Jim Sanderson – Temagami Fire Chief
Paul Elliot – Marten River Fire Chief
John Harding – The Lake Temagami Permanent Residents Association
Will Goodman – Temagami Lake Association

Ed Matthews, Ministry of Natural Resources, and Roger Assiniwe, Temagami First Nation Fire Chief, were also invited to participate.

Table of Contents

Lake Temagami Fire Protection Committee

List of Appendices

Lake Temagami Fire Protection Committee

1. ORIGIN OF PROPOSAL

During the summer of 2011, there were structural fires on Lake Temagami which illustrated the hazards faced by the volunteer fire pump owners who traditionally respond to fires on the lake. Issues related to power lines and propane tanks raised questions about the need for more adequate equipment, training and insurance.

On October 13, 2011, the Lake Temagami Permanent Residents Association (LaTemPRA) made a delegation to Council requesting a volunteer fire department on Lake Temagami. The submission also noted a fire boat and requested the Municipality provide liability insurance and training for such an endeavor.

On December 15, 2011, Council subsequently passed resolution 11-615 directing staff to draft terms of reference for an Ad Hoc Committee to review the LaTemPRA proposal.

On April 26, 2012, Council approved terms of reference for the Ad Hoc Committee to gather information, develop options and assess the possibility of the LaTemPRA proposal for enhanced fire protection services on Lake Temagami.

The details of the original request and the terms of reference are included in Appendix 1. Also, attached are letters of support from various groups.

2. LAKE TEMAGAMI DEMOGRAPHICS

Lake Temagami is a magnificent 21,000 hectare lake. Five major arms each radiate approximately 20-30 kilometers from the hub of the lake.

The lake contains about 500 kilometers of mainland shoreline (largely Crown land) and 1250 islands (almost exclusively the location of the private property).

The lake also contains the Temagami First Nation on Bear Island. For the purposes of this report, it should be noted that the Temagami First Nation & Teme-Augama Anishnabai have their own fire department.

The map and table in appendix 2 indicate, there are approximately 721 properties on the lake containing about 2000 structures. Of the properties, 88% are seasonal residences (cottages). The remainder are permanent residences or commercial establishments.

The map also indicates that 46% of the properties are within 10 kilometers (or about 20 plus minutes of boat travel time from Boatline Bay). Of the properties, 70% are within 15 kilometers or 30 minutes of travel time from Boatline Bay.

For comparison purposes about 420 residences in the Municipality receive fire protection (hydrant or road accessible). About 900 properties including all those on Lake Temagami currently do not receive any structural fire suppression.

3. LAKE TEMAGAMI FIRE FREQUENCY

Municipal records indicate that there have been 8 requests over the last 5 years (1.6 / year) to respond to structural fires on islands on Lake Temagami.

The Number of forest fires reported by the Ministry of Natural Resources on Lake Temagami islands or within 300 meters of the lake shoreline averages 6 per year over 5 years. This includes on average 3 per year on Islands that are either Crown or private lands. These fires generally include those in the municipality listed above.

By comparison, in 2011, the Temagami Fire Department responded to 2 fires in its service area. (1 structural and 1 non structural). They also responded to 10 highway accidents and 6 other emergencies.

Similarly in 2011, the Marten River Fire department responded to 5 fire calls (1 structural and 4 non structural). They also responded to 14 highway accidents and 1 other emergency.

4. FIRE 101 – FIRE BEHAVIOUR AND RESPONSE

Fires have an incubation period prior to established flaming. In urban areas or structures with close nieghbours and smoke detectors, a fire may be noticed and actioned during this initial period. In remote or seasonal areas, this is much less likely.

Research (Appendix 4) shows that once a fire has started flaming, it takes 2.5 – 10 minutes to reach a heat release level of 1000 BTUs.

In a recent National Survey of volunteer fire departments, the following was noted;

> "Whether a fire is relatively close to a fire hall or many kilometers distant, the fact is that fires double in size for every minute that they are left unattended. A structural fire that is not being actively fought within about seven minutes of ignition will usually result in the firefighters arriving to confront a structure that is already fully engulfed in flames. Their main role in such circumstances is to prevent the spread of the fire to nearby structures and properties."

Also noted in the appendix is the fact that response times vary depending on how long it takes to detect the fire, report an alarm, dispatch the firefighters, preparation time, travel time and set up time.

It should also be noted that aggressive attack on a structural fire depends on a site assessment of the fire departments capabilities and the risks involved. Ideally there are nearly 30 potential tasks to be evaluated. For this reason, aggressive attack of structural fires is not mandated in law. Firefighter safety is a priority.

5. OPTION FRAMEWORK AND EVALUATION CRITERIA

After much deliberation, the committee settled on four options for consideration. These became know as the Continuum of Enhanced Fire Protection Options for Lake Temagami.

The options are:

1. A formal municipal lake based volunteer fire department with marine based lake access.
2. A lake based volunteer fire organization which is at arms-length and independent from the municipality (non municipal) which can independently purchase insurance and training.
3. Enhanced distributed individual fire pumps.
4. Enhanced municipal fire prevention and education. (minimum statutory requirements)

Initially an option related to a private fee for service fire suppression company was considered but no supplier could be found, so the option was dropped.

The feasibility of each of these options will then be compared and evaluated against the following seven criteria.

1. Ability to meet stated objectives and performance standards.
2. Statutory requirements.
3. Availability of firefighter disability and liability insurance.
4. Municipal liability risk.
5. Training and safety requirements.
6. Equipment and maintenance standard.
7. Cost:
   Municipal and/or other
   Capital – initial and ongoing
   Operating - initial and ongoing

It is recognized that Council may also consider the status quo as an option.

6. CURRENT MUNICIPAL FIRE SERVICES

The Municipality currently has two independent volunteer fire departments which each have a Chief and report to the Municipality Chief Administrative Office.

These two departments predated amalgamation and are located in fire halls in the town of Temagami and in Marten River. Each cover the highway and road accessible area in their respective jurisdictions.

All properties in the municipality pay an assessment based portion of the cost of these fire departments.

In 2011, there were 17 volunteers in Temagami and 15 in Marten River.

The operating budgets (appendix 6) in 2012 were $89,683.00 and $53,450.00 respectively. Honorariums for volunteers are 32.8% of the budget, followed by small equipment purchases at 17.6% and equipment & vehicle repairs and maintenance at 7.4%.

It Should be noted that while fire prevention and education are prescribed under the Fire Protection and Prevention Act, fire suppression and a fire department is an optional service.

The Fire Protection and Prevention Act states:

2. (1) Every municipality shall,

(a) establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention; and

(b) provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.

2. (2) In discharging its responsibilities under subsection (1), a municipality shall,

(a) appoint a community fire safety officer or a community fire safety team; or

(b) establish a fire department.

2. (3) In determining the form and content of the program that it must offer under clause (1) (a) and the other fire protection services that it may offer under clause (1) (b), a municipality may seek the advice of the Fire Marshal.

7. OPTION 1 – MUNICIPAL MARINE BASED VOLUNTEER FIRE SERVICE

Proposal

This option most closely reflects the original Lake Temagami Permanent Residents Association request. It has been clarified and scoped as follows:

Service Area:	All properties on Lake Temagami that are safely accessible by boat. This includes both developed and undeveloped private islands. The Ministry of Natural Resources (MNR) has confirmed that due to safety & equipment concerns, they would seldom if ever request Municipal assistance on fire on crown lands.
Type of Service:	The type of service is consistent with services in road accessible areas elsewhere in the Municipality and is referred to as “aggressive exterior suppression” of private structures or property. For safety reasons it does not include entering into a burning building.
Season:	Reliable open water season (likely May to November)
Weather:	Safe weather conditions only. Visibility standards need to be defined. Wind and lightning conditions also need to be considered.
Time of Day:	Daylight response only (must arrive at scene prior to dark).
Minimum Volunteers:	A minimum of 15 active trained volunteer members are necessary to maintain this service. A minimum of 3 volunteers are needed before the boat leaves the dock and 4 must be present to fight the fire.
Suppression Expectation:	Prevent fires from spreading from the original structure to other structures or adjacent property values.
Other Services:	This is a fire service only and not a first responder service for medical calls.
Communications:	Existing Marine band radio augmented with limited satellite phones and phone tree arrangements. Portable radios needed at fire site
Storage of PPE:	Volunteers will be responsible for storing their own gear.

Storage: Boat & Equipment: Short term lease with a marina but look at a longer term arrangement including another island location near the hub. Construction of a fire hall is not considered.

Cost Assumptions: The initial capital cost of the boat and possibly a trailer will be raised from donations and voluntary payments by service users. All other start up capital costs, ongoing operating costs, and replacement cost of the boat, will be municipal costs.

Like any other municipal fire department, this department will be held to a high level of accountability under the Occupational Health and Safety Act. This will be regulated and enforced by the municipality, the Ministry of Labour and the Office of the Fire Marshal.

Other regulatory requirements are provided by the Canada Shipping Act (boat less than 26 feet) and the Fire and Prevention Act. (See Appendix 7)

Detailed charts in appendix 7:

1. The mandatory personal protective equipment for 15 firefighters.
2. The initial fire suppression equipment requirements.
3. List of fire boat specifications and equipment.
4. Training requirements – initial and ongoing.
5. Ongoing annual / recurring costs.
6. Minimum manpower response considerations.

It may take several years to initially raise funds, obtain a commitment from firefighters and obtain initial training & equipment, including the boat.

Evaluation

1. Meet Objectives and Performance Standards: The proposal fully meets the objectives by providing a highly trained fire department with full coverage for insurance and proper training. Performance standards are high and set externally, mostly by legislation.

2. Statutory Requirements: This proposal is highly regulated under the Occupational Health and Safety Act (Ministry of Labour) and the Office of the Fire Marshal.

3. Availability of Liability and Disability Insurance: This proposal provides full coverage to firefighters as an addendum to the current municipal policy.

4. Municipal Liability and Risk: The municipality's liability and risk in minimal (manageable) as the municipality as the employer will enforce (together with the MOL and OFM) a high level of safety, training and readiness. A legal opinion is appended

5. Training and Safety Requirements: The minimum training and safety requirements are outlined in the appendix. A high level of training and safety precautions are provided and legislative requirements are met.

6. Equipment and Maintenance Standards: Equipment needs are fully listed and meet legislative requirements.

7. Costs: (estimates): This option offers the highest level of protection at the lowest level of risk to the municipality. Of necessity, it comes at the highest cost of the options.

As described above, the lake residents would raise the finds for the initial purchase of the boat, motor and marine equipment. All other capital costs and subsequent operating costs will be born by the municipality.

Estimates

Initial boat, motor and trailer	$82,000.00	(community donations)
Initial personal equipment	42,600.00	(municipal)
Initial fire suppression equipment	30,400.00	(municipal)
Initial training costs	20,000.00	(municipal)
	$82,000.00	(community donations)
	93,000.00	(municipal)
TOTAL	$175,000.00	(start-up costs)
Annual Recurring Costs	$47,000.00	(municipal)

8. OPTION 2 - A NON MUNICIPAL LAKE BASED VOLUNTEER FIRE ORGANIZATION

Background

This option was developed as a method of providing volunteers with some level of insurance and training while avoiding some of the additional expenses related to fire department legislative standards imposed by both the Province and the Municipality.

This option draws heavily on information provided by the volunteer Pointe Au Baril Emergency Response Team (PABERT) operating within the boundaries of a Municipality. (See appendix 8)

Proposal

Volunteers could form a charitable volunteer organization which could receive donations and purchase fire suppression insurance. This organization would be at arms length and not related to or funded by the Municipality. It could set its own manpower, equipment, operating and training standards.

Similar to PABERT, this organization could use donations and fundraisers to acquire its equipment. Training could be provided by outside volunteers or purchased from industrial suppliers.

The Municipal Fire Department would continue the status quo and provide the the fire prevention and education function

Evaluation

1. Meet Objectives and Performance Standards

This organization could provide marine based aggressive external structural fire suppression and protection to adjacent property.

2. Statutory Requirements

The Fire Marshals Office has confirmed that they would not have any involvement with such an organization as it is not recognized under the Fire Protection and Prevention Act as a “fire department”.

The Ministry of Labour regulations would not apply to this type of volunteer organization. – NEED CONFIRMATION IN WRITING!!!

Some basic requirements for boat operation, gasoline handling etc. would apply.

3. Availability of Disability and Liability Insurance

This insurance can be purchased by the charitable organization for an estimated $11,000.00 per year.

4. Municipal Liability

As the Municipality does not formally support this organization with either finances or services, nor impose its operating standards, the Municipality is not liable for the actions of the organization. (legal opinions in chapter 11)

5. Training and Safety

These standards and requirements would be set by the organization itself. Training could be provided by commercial providers or by other trained volunteer individuals.

6. Equipment and Maintenance Standards

These standards and requirements would be set by the organization itself. In the PABERT examples, equipment was purchased or consisted of donated used equipment.

7. Costs

a) Annual Operating

If the assumptions include - insurance is purchased, training and equipment is partially donated and honorariums are limited, the operating costs could be in the $25,000.00/year range similar to PABERT. Insurance is the major cost followed by daily operating costs such as fuel and small equipment maintenance and purchase. Communications costs are unknown but minimal if current methods are used.

In the PABERT example, the local cottagers and their association donate about half the annual budget and fundraising accounts for the other half.

b) Start-Up Capital

It is assumed the boat is financed through private donations ($82,000.00); an initial start-up period of 1-2 years may be required while equipment and training is accumulated. Under this scenario it is assumed that some of the equipment may be used or donated, and training may be spread out over several years as part of the ongoing budget.

The Initial start up capital is estimated to be as follows:

Initial protective equipment	$10,000.00
Initial fire suppression equipment	$15,000.00
Initial training costs	$10,000.00
	$35,000.00

In summary, total upfront costs, including the boat, amount to approximately $117,000.00. The Annual operating Budget would be approximately $25,000.00.

9. OPTION 3 - ENHANCED DISTRIBUTED INDIVIDUAL PUMP PROVIDERS

Background

There are currently about 50 fire pressure pumps owned by individuals located throughout the Lake Temagami neighbourhood. These pumps are privately owned primarily for personal fire protection but may be transported on a voluntary basis to assist a neighbour.

These units are generally all WH20 (2") Honda Pressure pumps and are therefore interchangeable with one another. They were originally purchased through an agreement with a local business.

The units consisted of the following:
- 1 WH20 pressure pumps
- 1 20' intake (2") hose and strainer
- 1 50' (2") discharge hose (universal couplings)
- 1 100' (2") discharge hose (universal couplings)
- 1 fire nozzle

These volunteers are frequently the first responders to a fire on their property or on a neighbouring property.

These volunteers are only minimally trained on equipment operation or safety. The operating system is generally to keep a structural fire from spreading to neighbouring buildings and values. Communication is through the existing TLA marine radio system.

This fire service operates only during the summer months.

Proposal

Additional pump units (to common standards) have been priced at $1380 including taxes (appendix for chapter 9).

To encourage an expansion of this volunteer form of "self protection", the municipality could subsidize the purchase of these units by any municipal resident with no municipal fire protection, (i.e. not limited to Lake Temagami).

The Municipality could select a subsidy level of say $400 per unit for up to 50 pumps a year. One years cost would be $20,000.

The group of individuals could probably arrange with a contract fire consultant for preliminary safety and operating training.

Evaluating Criteria

1. Meet objectives & Performance standards

   This option meets the minimum objectives of providing some basic external property protection on an individuals own property and nearby. There are no operating standards.

2. Statutory Requirements

   These individuals are not organized and are not subject to standards set by Fire Protection and Prevention Act, or the Fire Marshals Office.

3. Availability of Volunteer Disability and Liability Insurance

   This is a group of volunteers who do not have disability, or liability insurance.

4. Municipal Risk

   There is minimal municipal risk or liability as these citizens operate completely independent of the municipality

5. Training and Safety

   The group of volunteers could purchase minimal fire consulting services from a private contractor.

6. Equipment and Maintenance Standards

   Equipment is individually owned and maintained.

7. Costs

   No operating costs to the municipality. A one or two year capital cost to be limited by the municipality (suggested $20,000 per year for 1 year with a possible extension if a significant demand).

10. OPTION 4 - ENHANCED EDUCATION AND PREVENTION

Background

Fire prevention and education is a key requirement of the Fire Protection and Prevention Act. The Municipalities minimum legislation requirements are to provide a simplified risk assessment, a smoke alarm program, a program to distribute public education and fire prevention inspections on request or complaint.

The Temagami Fire Department currently meets its minimum legislative requirements. Some examples of services on the lake includes; signage on the Lake Temagami access road (smoke alarms), pamphlets at the TLA building and Boatline Bay Marine, youth camp inspections and other inspections (to comply with Fire Code) on request.

Proposal

Two options have been developed. Option A is an expansion of educational printed material only. This option has minimal staffing costs. Option B has the additional component of more intensive onsite inspections. This option would include new salary and equipment cost.

OPTION A:

This option could include regular fire prevention articles in the Temagami Times, update a municipal fire website, mail-box stuffing with pamphlets, fire and prevention information in the Tax bills etc.

The Fire Marshal has advised that one of the most effective ways of reducing fire damage and spread to private property is to aggressively promote the Fire Smart program. Messages related to mineral soil buffers, enclosing under decks and buildings, cleaning needles/leaves from roofs/gutters, closing off roof ends, moving wood piles, propane storage and installing sprinklers are all valuable strategies on Lake Temagami.

It should be noted that the Fire Smart elements of removal of vegetation buffers around buildings and removal of ladder fuels are currently in conflict with the municipalities Zoning By-Law – however the by-law makes some allowances for safety. The Fire Marshal notes that some vegetation too close to buildings poses a significant limitation on the effectiveness of sprinkler systems and MNR water bombing.

Educating residents on the benefits of an internal sprinkler system would also be beneficial.

OPTION B:

This option includes the education component above but also adds a significant inspection program on the Lake.

- Smoke Alarm Inspection program including water access properties
- Fire Smart training for contractors and property inspectors

- Home safety inspections including wood stoves
- Fire hazard awareness sessions
- Fire equipment demonstrations

This option would require the purchase of a boat/motor and truck, operating expenses and possibly the hiring of a full-time certified staff person.
(See supplemental section on staffing option)

EVALUATION OF OPTION A & B

1. Meet Objective and Performances Standards - Both options meet our stated objectives of reducing fire damage on Lake Temagami.

2. Statutory Requirements - Both options meet the municipality's statutory requirements for an Education and Prevention program.

3. Availability of Liability and Disability Insurance - Not generally relevant.

4. Municipal Liability and Risk - Minimal.

5. Training and Safety Requirements – Certificates may be necessary and knowledge of Ontario Building and Fire Code apply to Option B.

6. Equipment and Maintenance Standards - Normal marine and safety operating standards would be enforced by the municipality for Option B.

7. Costs (estimates)

   Option A – "Education" is estimated to cost about $2000/year (+/-) in operating costs and possibly about $5000/7000 in one time Website capital works.

   Option B – "Inspection" is estimated to cost about $10,000 maintenance and travel costs. The start-up capital costs would be $40,000 (truck), $15,000 (boat, motor, and trailer) plus manpower costs for one position. (See note below)

SALARY ADDENDUM TO OPTION 4

It has been suggested that one full-time person is needed if the expanded education and inspection function is chosen then – perhaps it would be best done by a combined full-time Temagami-Lake Temagami Fire Chief. (Note Marten River would remain a separate entity.) This combined full-time Fire Chief might also be rationalized especially if it was found to be a necessary resource to establish and develop the Option 1 – full Municipal based marine fire department on Lake Temagami. (Salary cost estimated at $56,000/year)

11. LEGAL OPINION

KEMP PIRIE

Barristers, Solicitors and Notaries

George W. Kemp, B.Comm., LL.B.
Kathryn J. Pirie, B.A., LL.B.
Website: www.nllaw.ca

Phone: {705) 647-7353
Fax: {705) 647-6473
E-mail: nllaw@ntl.sympatico.ca

July 18, 2012 **VIA E-MAIL & LETTER MAIL**

The Corporation of the Municipality of Temagami
7 Lakeshore Drive, P.O. Box 220
Temagami, ON POH 2HO

Attention: Patrick Cormier

Dear Mr. Cormier:

Re: Opinion on the Issue of Options for Providing Some Level Of Fire Protection Coverage For Permanent Lake Temagami Residents

As requested, set out below is our opinion regarding La Tempra's proposal for fire protection services for residents of Lake Temagami. The following opinion is based upon the assumptions and facts as set out herein.

We note that the initial request was for assistance with liability insurance and training. This "minimal" level of involvement is not in the Town's best interests, since it exposes the Town to as much liability as if the Town were providing the fire service directly. If the Town is to be involved at all, it must have some form of control in terms of the organization and operation of the service.

While not directly relevant to the legal issues, it is important to note that at present the Town has no equipment to service the lake, and therefore, obtaining and purchasing the required boats, pumps, gear, outfits and equipment would be very expensive. This is not an expense for which there is currently any budget. Future costs would have to be accounted for in order to maintain, repair and replace boats and equipment to ensure that it meets all applicable codes and standards.

In addition, the Town would be forced to obtain additional liability insurance coverage, which itself would in all likelihood be difficult to obtain, would come with many conditions, and would be prohibitively expensive. (We suspect that this is the factor that will prevent this request from moving on to the next stage.)

At present there is not fire protection provided by the Town of Temagami to the residents of the lake. Local cottagers sometimes provide assistance on an ad hoc and voluntary basis, to the extent that they are able, given the lack of equipment, training, and availability of volunteers. This form of response recently led to an incident during which one person providing voluntary assistance was injured, leading to the request by La Tempra.

In addition, some coverage is provided at present by the MNR, which focuses on fire fighting order to provide "value" protection. The level of response by the MNR depends entirely upon other demands upon them during fire season. In a year such as 2012, which has thus far had very little rainfall, their resources are stretched to the limit.

In terms of manpower, volunteers would required, who would become members of the current volunteer fire department of the Town. The necessary training would be organized and sponsored by the Town of Temagami, which would hire a third party contactor.

Our opinion is that the Town should refuse La Tempra's request to provide fire service to the Lake. The liability exposure would be very significant given the nature of the service. It is by no means clear that volunteers would provide a level of service that is any more reliable or faster than the current level of service provided by the MNR and/or ad hoc volunteers. Response time may in fact be slower, since volunteers will have to travel to the "hub" staging area from all over the lake. In addition, the number of volunteers needed to provide a response that is needed will likely be difficult to maintain in the summer months, when most cottagers are enjoying the summer on the lake.

In short, any attempt to provide such a volunteer service would give cottagers a false sense of comfort since there would be no way to respond to any fire in a timely manner. In reality, by the time the firefighters arrive, a cottage would likely be all but destroyed, and the real effort would be directed toward preventing the fire from spreading, and protecting any neighbours. This in effect is the service being provided by the MNR right now.

We trust that this is satisfactory. Please call should you have any questions. Yours

very truly,

KEMP PIRIE

Kathryn J. Pirie

KJP/gg
Enclosure

P.O. Box 1540, 22 Armstrong Street, New Liskeard, Ontario, Canada,
POJ 1PO
Website: www.nllaw.ca *E-mail:*
n/law@ntl.sympatico.ca

Opinion Re: Lake Temagami Fire Protection – Option One
Dated: January 28, 2013-01-22 By: Kemp Pirie

Introduction
This firm has been asked to review Option One, which is the detailed proposal provide fire protection on Lake Temagami. There is no protection being provided by the Municipality at present.

Description of Proposal One
Proposal One contains includes several sections, set out below:

a. Manpower Response Considerations;
b. A description of the proposal, which includes a summary of the cost considerations;
c. A list of the Key Regulations Associated with Providing Municipal Fire Service;
d. A detailed table listing the numerous components of the service required, including for example administrative support, communications support, educational requirements, equipment requirements;
e. A breakdown of the set up costs;
f. A breakdown of the annual / recurring costs;
g. Training Requirements;
h. Diagrams and photos of the boat required;
i. A description of the Transport Canada certification required for boat operators.

The proposal appears to be very comprehensive and complete. The committee has obviously done an excellent job of researching what is required to operate a comprehensive Fire Protection service – which you have referred to as “Option One”. The various regulatory requirements have been examined, along with the various components of the service and the many types of support needed in order to operate professional fire protection, ranging from the equipment to the administrative and human resource support needed.

It is obvious that if the municipality is going to implement “Option One” this cannot be done in a haphazard fashion. Several months, if not years will be needed in order to ensure all components of the service are in place. It must be an ‘all or nothing‘ approach if Option One is chosen. Otherwise, the municipality will face huge exposure in terms of negligence claims from the ratepayers, and from the risk of serious injury / death of volunteers, along with all of the resulting additional litigation / insurance / WSIB costs.

“Option One“ therefore does appear to be a realistic and a very useful package of information which can be used to inform the public and municipal council as to the factors which must be considered before a final decision regarding fire protection can be made.

Suggestions in order to Limit Liability of the Municipality:

1. In order to ensure that the package is as complete as possible, the committee should contact the Ministry of Community Safety and Correctional Services for input and further information;

2. We also suggest that the committee contact other municipalities which may be providing a comparable service – such as Kenora, Nipigon, North Bay, Kingston and the Thousand Islands, Parry Sound, and the Muskoka region. These municipalities may have valuable suggestions;

3. As part of Option One, since volunteers will be responsible for keeping and maintaining their own gear, they must sign a written consent and acknowledgement of this duty, and all volunteers must then sign a release, which will clear the municipality of any responsibility / liability for any injuries / damages which result from any volunteer's failure to properly maintain their equipment;

4. If Option One is chosen, all lake residents must be informed that (realistically) the goal of Option One is to protect neighbouring properties. This is because the volunteers will not be able to arrive at any fire in time to save a fully engulfed structure. It must be made clear that the goal of the volunteers is to save neighbouring properties and prevent the spread of a blaze;

5. If Option One is chosen, all lake residents must be clearly informed that in order to respond to a blaze, a minimum level of volunteer responders are required, and that without this minimum number of responders, no response can be provided, for safety reasons. For this reason, all lake residents should be strongly encouraged to have their own pumps and hoses, and to take training as to how to safely fight a blaze, should this be necessary;

6. If Option One is chosen, all volunteers must be required to take training on survival methods and to pass a swimming examination, to ensure that if they do fall into the water while in transit to a fire, that they have a chance of surviving, despite the fact that they will be wearing heavy equipment;

7. If Option One is chosen, all volunteers must be provided with equipment which will allow them to communicate with one another at the time of a call out, and while they are in transit. The whereabouts of all volunteers must be known at all times, and they must be able to determine whether there will be enough responders in order to respond to a blaze;

8. If Option One is chosen, a policy and procedure protocol must be developed with the local police force, in order to ensure police support at the location of a blaze, if this is required. Police presence may be needed in order to ensure that untrained members of the public are kept at a safe distance from a blaze.

14. PROPOSED PUBLIC CONSULATAION PLAN

PURPOSE AND GOALS

The purpose of this Public Consultation Plan is to guide the work of the Municipality of Temagami as it gathers input and feedback from the DRAFT Lake Temagami Fire Protection Report.

CONSULTATION OBJECTIVES

The objectives of the Public Consultation Plan are to:

1. Raise awareness among residents to encourage and support informed involvement;
2. Facilitate resident and community participation through public meetings;
3. Provide opportunity for comment on the proposed Lake Temagami Fire Protection Draft Report before it is taken to the Council of The Municipality of Temagami for a final decision.

PROJECT TIMELINE

The Lake Temagami Fire Protection Report consultation will occur in four major phases, as identified in the table below.

Phase	**Tasks**	**Expected timing**
1.	Completed Draft Plan is to be sent to Council for initial proof. This will ensure that there is no false or omitted information *(to the best of Council's Knowledge)* in the report before going to the public.	April 25, 2103 Regular Council meeting
2.	The Draft Plan be posted on the Municipal Website, sent to Special Purpose Groups, be advertised in local papers (Temagami Talk and Temagami Times) and be made available at the Municipal Office and Library for viewing.	To Start in May of 2013
3.	Two Special Council meetings will be scheduled during the summer months to receive public input on the Draft Lake Temagami Fire Protection Plan. One will take place in the Council Chambers and one on Lake Temagami (location to be determined).	In July & August of 2013
4.	Council will take the comments into consideration and determine any revisions necessary for Final Draft.	September of 2013

The Corporation of the
Municipality of Temagami

7 Lakeshore Drive
P.O. Box 220
Temagami, Ontario
P0H 2H0

Phone: (705) 569-3421
Fax: (705) 569-2834

Website: www.temagami.ca
E-mail: visit@temagami.ca

Date

Address

Dear Recipient,

RE: DRAFT LAKE TEMAGAMI FIRE PROTETCION REPORT

On October 13, 2011, the Lake Temagami Permanent Residents Association (LaTemPRA) made a delegation to the Temagami Municipal Council requesting a volunteer fire department on Lake Temagami.

On April 26, 2012, Council approved terms of reference for the Ad Hoc Committee to gather information, develop options and assess the possibility of the LaTemPRA proposal for enhanced fire protection services on Lake Temagami.

The Committee has completed a draft report on the fire protection options for Lake Temagami and is now seeking written public input. There will also be two Special Council meetings to receive comments from the Public. One will be at the Temagami Municipal Office on ……..2013 at 6:30 pm and the other will be at …….. , on Lake Temagami on …….2013 at 6:30 pm. These meetings will not be for debate, they are to receive comments and clarify any information.

The draft report is available for viewing at the Municipal Office, the Temagami Public Library, TLA Headquarters and the Municipal Website.

Please submit any written comments to the attention of …….., clearly marked “Lake Temagami Fire Protection Comments” to the following address:

Temagami Municipal Office
7 Lakeshore Drive
P.O. Box 220
Temagami, On
P0H 2H0

Sincerely,

John Hodgson
Mayor of Temagami

The Municipality of Temagami

is seeking Public Input on the

Draft Lake Temagami Fire Protection Report

In April of 2012 The Temagami Municipal Council approved an Ad Hoc Lake Temagami Fire Protection Advisory Committee to gather information, develop options and assess the possibility of enhanced fire protection services on Lake Temagami.

The draft report has been completed and is available for viewing at the Municipal Office, the Temagami Public Library, TLA Headquarters and the Municipal Website.

There will be two Special Council meetings to receive comments from the Public. One at the Temagami Municipal Office on ……..2013 at 6:30 pm and the other at…….. , on Lake Temagami on ……2013 at 6:30 pm. These meetings will not be for debate, they are to receive comments and clarify any information.

Please submit any written comments to the attention of …….., clearly marked “Lake Temagami Fire Protection Comments” to the following address:

Temagami Municipal Office
7 Lakeshore Drive
P.O. Box 220
Temagami, On
P0H 2H0

Format of Meeting

The Special Council meetings are to be scheduled in the Summer Months of July & August.

One meeting will take place at the Temagami Municipal Office in the Council Chambers and the other will take place on Lake Temagami, in the hub area, at one of the camps or lodges that can house a large number of people.

These meetings will be open for anyone to attend. Members of Council and the Ad Hoc Lake Temagami Fire Protection Advisory Committee are expected to be in attendance.

Mayor John Hodgson will welcome everyone, introduce the topic of the meeting and explain the format of the meeting.

There will be a brief Presentation outlining the key features of the report and council will than start receiving comments.

If a member of the Public wishes to ask a question for clarification, the head of Council may allow this. In this instance the committee may be called upon for clarification of information.

Once the meetings have been completed, the comments will be compiled, reviewed and taken into consideration.

Estimated Costs

Advertising

Temagami Talk: Can be put in Municipal Update Page already in budget.
Temagami Times: Can be put in Municipal Update Page already in budget.
Post Office Mail Outs: Approximately $60.00

Lake Temagami Meeting

Transportation to Mine Landing:
Water Taxi to and from Lodge:
Lunch or Dinner if required:

APPENDIX

1

3529

Request for presentation to council meeting on October 13th, 2011 with a delegate of more than 2 people

By the Lake Temagami Permanent Residents Association (LaTempra)

Lake Temagami pays approximately 50% of all core taxes in the municipality.

Things we would like to address:

We request a letter from Municipality to explain what number of roll properties are located on Lake Temagami islands, what does the Lake Temagami neighbourhood (islands) contribute to the tax revenues of the Municipality and what do the se taxpayers get for the taxes that they pay in:

Social Services

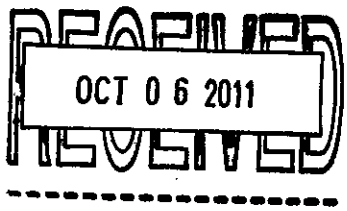
Economic Development

Public Works & Water

Protection to Persons and Property "Fire"

General Government & Finance

Parks and Recreation, Planning



File ☐Incoming ☐Other
Mayor ☐
Council ☐ ☐A Delegation.
CAO ☐
Building ☐
Finance ☐S ☐C
Ec Dev ☐S ☐C
Parks & Rec ☐S ☐C
Planning ☐S ☐C
Public Wks ☐S ☐C
PPP ☐
Social Services ☐
☐_____
☐_____

1) General Government and Finance – fair value taxes for fair value return (request a reply)
2) Public Works & Water
   Wish List
   1) 6 new 40' floating docks at the Mine Landing
   2) 5 new overhead lights at the Mine and Manitou Landings
   3) 4 loads of gravel for the parking areas at both landings
   4) Combine Mine Landing garbage transfer stations bins with Lake Temagami waste dump site and add a compactor to the site (this will create on single job – to be bid on)
   5) Regular weekly schedule for grading of the Access Road and landing
   6) New parking spaces with hydro for permanent residents
   7) Commercial landing updates
   8) New site for septic tank waste or renew old site at Brigg site
   9) See if Bear Island would like to help out with some of the items listed above
3) Protection to Persons & Property
   1) Request for volunteer fire department on Lake Temagami in hub area.
   2) The mobile fire boat would house all firefighting equipment and aid to persons
   3) All monies for the mobile fire boat "house" would come from donations
   4) Fire Boat Hull 26' to 28'
   5) Fire boat with 300 hp motor $ 150,000.00
   6) Equipment $ 75,000.00

7) Training $ 25.000.00
8) Insurance $ 25,000.00
9) Unforeseen costs $ 25,000.00

What we are requesting from town is liability insurance and training

P.S. Possible conjunction with Bear Island Fire Department which already has a chief and volunteers

Solid Waste Management

Mine Landing site 2011

Things needed for Mine Landing transfer site:

2 compactors for household waste

1 dumpster for wood waste

1 dumpster for metal waste

2 dumpsters for recyclables

Haul wood, metal dumpsters to Briggs dump site

Haul household compactors to Briggs dump site or town dump site for disposal

Compact household waste at Mine Landing

Clean up around dumpster, compactor and recycle bins

Needed:

1) 1 person job Monday, Wednesday, Friday, Saturday 10 hours a day
2) Knowledge of solid waste management
3) Compactor operator
4) Site clean up
5) Four wheel drive truck
6) Contracted bid for services

John Harding

LaTempra President

here2@ontera.net

From: "Grant Victoria" <jiimaan@me.com>
Date: September-30-11 6:28 PM
To: <here2@ontera.net>
Subject: Re: information needed for fundraising

John,
We would be more than happy to work with you on this project. Be happy to meet with you. I will be up on the lake the week following the 15th, if you would like to set a time to get together.

Victoria Grant
Chair, Temagami Community Foundation
personal email: jiimaan@me.com
personal phone: 416-999-1978

Contact Information:
P.O. Box 338
Temagami, ON P0H 2H0
P: (705) 569-3737
info@temagamicommunityfoundation.com
www.temagamicommunityfoundation.com

On 2011-09-30, at 1:42 PM, here2@ontera.net wrote:

> Hello
> Many of your foundation members may know me. My name is John Harding, I reside on Lake Temagami and I am the current president of the Lake Temagami Permanent Residents Association (LaTempra). We (LaTempra) are looking for information on how to fundraise for fire fighting equipment, volunteer firefighting training and a fully equipped boat for use on Lake Temagami as well as information on how we would go about obtaining tax receipts for donations which would go through a non-profit organization such as yours. How would we issue receipts and accept pledges? Would it be possible to collect any funds that we raise for the boat and equipment and put that money into your account earmarked for this?
> Any information that you could provide me with would be helpful and greatly appreciated. You may contact me either by e-mail at here2@ontera.net or by phone at 705-237-8505 or 705-237-8911. I am usually home in the evenings after 6:00 PM and weekends.
> Most sincerely
> John Harding
> President
> LaTempra

TEMAGAMI LAKES ASSOCIATION
Group Box 129, Temagami, ON • P0H 2H0 • (705) 237-8927 • Fax 237-8916
tla@onlink.net www.tla-temagami.org

October 26, 2011

To: John Harding, President LaTempra

"The Temagami Lakes Association strongly supports the protection of private lake properties from fire. Protection of property was one of the original reasons cottage owners formed the TLA over eighty years ago. For many years this concern has led us to keep and maintain a fire pump available to all on our dock, assemble, maintain and distribute a list of accessible fire pumps on the lake, and initiate and maintaining the radio communication network used lake-wide for personal and safety communication. Through the radio service, the pumps and actions of its members, the TLA has been involved with fire protection on the lake for decades. Our members are very pleased that LaTEMPRA shares our concerns for fire protection today and are stepping up to do something about a problem they see.

At the TLA Board of Directors meeting of Oct. 19 after considerable discussion regarding the present situation of privately owned and operated portable firefighting equipment the question under discussion kept coming down to: "what is the best way to protect all properties at a reasonable and sustainable cost to the taxpayer/resident?"

This is a discussion that should always be open for discussion.

Certainly the remoteness of properties in the four arms removed from the hub make an effective response from a central location problematic. As a result all residents would not be as well or equally served by a central dispatch. However the value of volunteer training is apparent and is something that the Municipal Fire Department should be encouraged to provide. We would like to support such an initiative.

The purchase of a dedicated firefighting boat, if it was found to be the best way to go for all residents, should proceed only with the ongoing support of both the provincial and municipal governments. An Area Related Charge on the municipal tax bill would fund the municipal component if this solution was pursued. The TLA believes that fire protection is very important on the lake, and would welcome further discussion with LaTEMPRA and the municipality on how to meet the needs of all municipal residents on the lake. "

Peter Healy
Executive Secretary (for the Board of Directors TLA)

EXPERIENCE Temagami

TEMAGAMI AND DISTRICT CHAMBER OF COMMERCE
P.O. Box 57, Temagami, Ontario PoH 2Ho
Tel: (705) 569-3344 Fax: (705) 569-3344
www.temagamiinformation.com
Email: info@temagamiinformation.com

To Whom It May Concern:

I am writing this letter on behalf of the Temagami Chamber of Commerce. We are in support of the Lake Temagami Permanent Residents Association's endeavors to acquire a fire rescue boat and volunteer fire department for Lake Temagami.

With a fire rescue boat and volunteer fire service, the Temagami area will have a much better opportunity for reducing fire risks and protect the community's assets. We believe this service will also assist in promoting the area to potential tourists and investors in Temagami by improving safety.

Please feel free to contact me, if you wish to discuss this further.

Best Regards,

Marilyn MacLeod
President
info@temagamiinformation.com
705-569-3344

Temagami Ambulance Service
7 Stevens Road, Temagami, Ontario P0H 2H0
Ph: (705) 569-3258 ♦ Fax: (705) 569-2557
E-mail: temagamiambulance@onlink.net

July 17, 2012

Municipality of Temagami
Temagami, Ontario
P0H 2H0

The Temagami Ambulance Service supports a Fire Boat for Lake Temagami. It would be beneficial to both the permanent and seasonal residents.

Sincerely,

Edward Riopel

Edward Riopel
Manager

KEEP John's COPY

Support for a volunteer fire department

LAKE TEMAGAMI PERMANENT RESIDENTS ASSOCIATION

LaTempra

Group Box 24
Temagami, ON
P0H 2H0

November 2, 2011

Municipality of Temagami
Temagami, ON
P0H 2H0

Dear Mayor and Councillors,

LaTempra strongly supports a volunteer fire department, fire equipment and fire boat for the hub of Lake Temagami.

LaTempra also has verbal support from the Bear Island Fire Department, OPP department of Temagami and the EMS department of Temagami.

Yours truly,

John Harding
President
LaTempra

TEMAGAMI LIONS CLUB

P.O. BOX 39
TEMAGAMI, ONTARIO
P0H 2H0

October 12, 2011

Municipality of Temagami,
Temagami, Ontario
P0H 2H0

Dear Mayor & Councilors,

It has been brought to our attention that the Lake Temagami Permanent Residents Association would like to obtain a new fireboat for Lake Temagami. We have discussed this idea at our last meeting, and wish to extend our support for it.

Yours truly,

Robert L. Sykes

Robert L. Sykes
President, Temagami Lions Club

CC: Lake Temagami Permanent Residents Association

TERMS OF REFERENCE FOR THE AD HOC LAKE TEMAGAMI FIRE PROTECTION PROPOSAL REVIEW COMMITTEE
As adopted by Council on April 26, 2012

Purpose

This is the Terms of Reference for the Ad Hoc Lake Temagami Fire Protection Proposal Review Committee formed and appointed by the Council of the Corporation of the Municipality of Temagami in 2012. The purpose of the Committee is to gather information and make recommendations to Council concerning LaTempra's proposal for fire protection services on Lake Temagami.

It is anticipated that the Committee will submit their report to Council for the September 20, 2012 regular council meeting. Upon Council's receipt of the Committee's recommendations by resolution, this Ad Hoc Committee shall be dissolved.

Background

The Lake Temagami Permanent Resident's Association (LaTempra) made a delegation to the Council of the Municipality of Temagami on October 13, 2011. Among other issues, the delegation spoke to LaTempra's *"Request for volunteer fire department on Lake Temagami in hub area"* and a request for the Municipality to provide *"liability insurance and training"* for such an endeavour. Council received the delegation and directed that the various municipal committees and departments review the appropriate items from the list of requests. At a subsequent meeting of the Protection to Persons and Property (PPP) Advisory Committee, LaTempra clarified that they wanted to look at fire protection for all of Lake Temagami, not just the hub, but that the "Fire Department" (or whatever it may be) should be stationed at the hub of the lake. Following discussion at a meeting of the PPP Advisory Committee the Chair, Councillor Lorie Hunter, requested that Council form an Ad Hoc Committee to review the business case for LaTempra's fire protection proposal and bring recommendations back to Council. Council passed resolution 11-615 directing staff to draft a terms of reference for such a committee.

Committee Members

The committee members shall be appointed by Council by resolution. The Committee Chair shall be the Chair of the Protection to Persons and Property Advisory Committee. This committee shall be comprised of:

1. members of Council (at a minimum the Chair of the Protection to Persons and Property Advisory Committee and the Chair of the General Government and Finance Advisory Committee),
2. members of municipal staff (CAO, Fire Chiefs)
3. members of the community (ideally including but not limited to a representative from LaTempra, and a representative for "seasonal" Lake Temagami residents).
4. a representative from the Ontario Fire Marshall's Office "ex officio" (i.e. the position is appointed, not the person – can attend, speak and vote, but is not counted for quorum).

Additionally others, such as representatives from Bear Island and the MNR may be invited to attend as guests to provide additional information and feedback to the committee.

Meetings

Members of the Committee shall meet, in person or through teleconference, as needed to make recommendations. Notice of meetings shall be made at least 48 hours in advance of such meeting and shall be posted on the Municipal website and on the bulletin board in the lobby of the Municipal Office. Municipal staff shall be assigned to take minutes of the meetings and the minutes shall be

submitted to Council once approved. Additional details regarding procedures for Ad Hoc Committees in the Municipal Procedure By-law 09-845 as amended shall apply to this committee.

Context and Scope

The Committee shall examine options for providing fire protection, including but not limited to the following and advise Council on the **feasibility** of each and make a recommendation as to which option is the most viable.

1. The Municipality provides resources/assistance in the form of liability insurance coverage and training for LaTempra volunteers, who will provide seasonal fire service on lake Temagami outside municipal control; **OR**
2. LaTempra functions as an organization (authorized by council) to provide seasonal fire service on lake Temagami (AKA: private contractor); **OR**
3. The Municipality expands the present fire service coverage area to include the Lake Temagami area (under the umbrella of the fire department/municipality); **OR**
4. The Municipality makes no change in the current status of fire protection on Lake Temagami.

The Committee may also recommend an alternate, reasonable approach to providing a level of fire-service to the properties on the Lake.

Feasibility shall include, but not be limited to, the legality of the option, the level of liability that would be assumed by the Municipality; the cost to the municipality of providing the service in that manner – both short and long term costs; the funding model for who will bear the cost (i.e. area charge versus general levy); and the reality of the level of service that can be provided.

In making their report, the Committee shall also identify/define and advise Council on all pertinent issues such as:

- Service Expectations (i.e. What are the public's/cottagers' expectations for fire service?)
- Potential benefits to property owners.
- Training requirements and the associated cost to the Municipality in time and dollars.
- Level of risk (liability) to the municipality for each model.
- Level of personal liability risk for individuals involved in each of the service delivery models. (i.e. is personal "liability/life/disability" insurance available to private citizen doing this of their own volition?)
- Estimated establishing and annual operating costs (similar to existing fire dept operating costs) which show the total cost to the tax payers of Temagami.
- Minimum response requirements (number of persons present before boat leaves dock).
- Firefighter assembly time (before boat leaves dock).
- Back-up Plans (i.e. what is the fall-back if insufficient volunteers assemble at the boat/dock? – Is some kind of mutual aid available with equipment & training for working/travelling on water)
- Recommended service boundaries (whole lake or just hub area – define specific range).
- Realistic vessel response time to far ends of boundaries in rough weather.
- Level of fire suppression services to be provided (exterior/interior suppression / values protection / rescue / forest fire suppression)
- Consideration of "realistic" structural fire growth (i.e. what will be standing when fire boat arrives?)
- Responsibility for equipment & vehicle(s) (i.e. who owns, maintains, inspects, etc. Where will it be kept, how will access be ensured/restricted?)
- Compliance with Regulations (i.e. who will ensure that all relevant legislation (MOL, TC, OHSA – inc. section 21, MNR – if fighting forest fires) is being met?)

APPENDIX

2

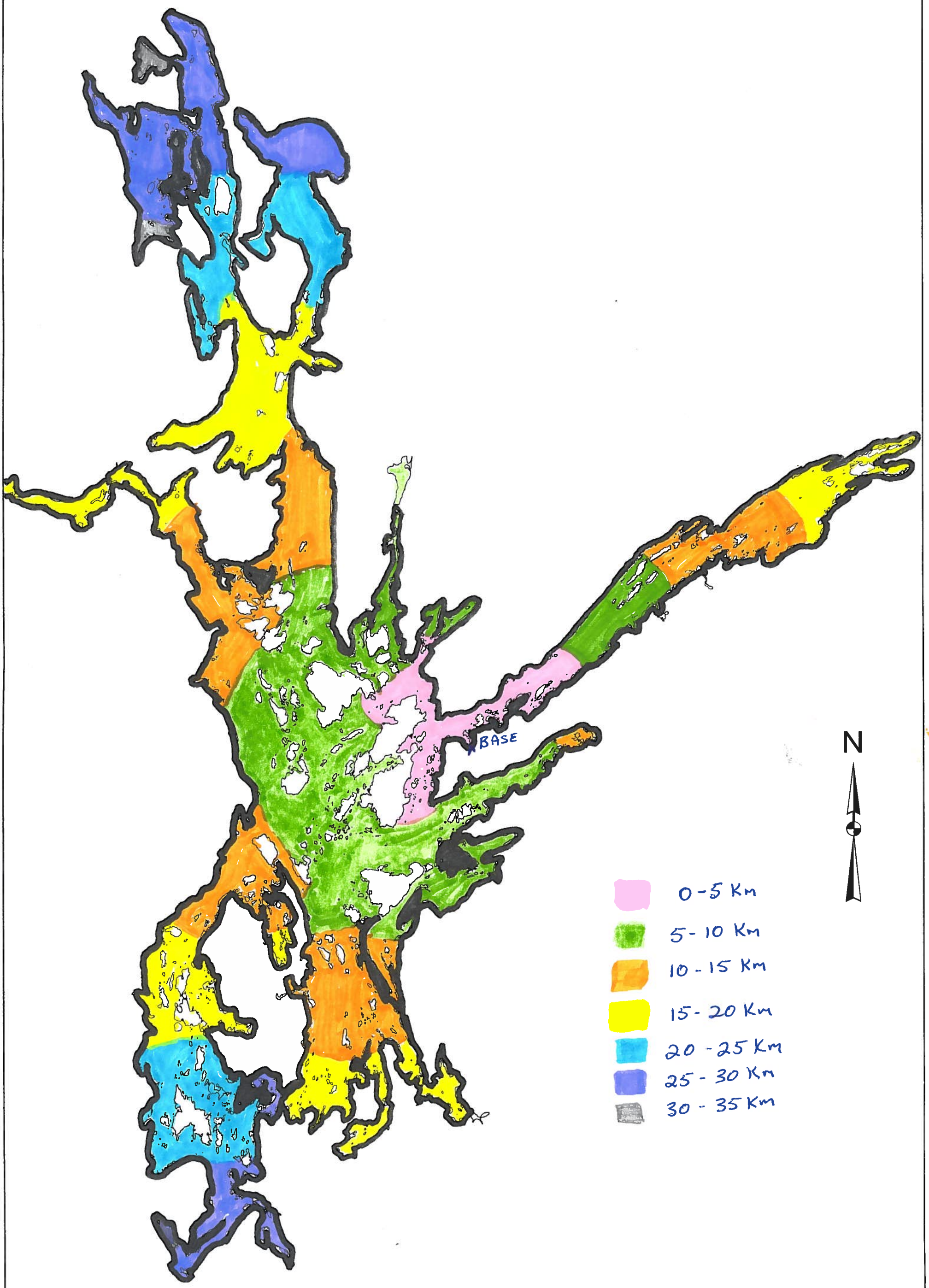
Lake Temagami Properties, by Property Classification, grouped by distance from Boatline Bay Marine

Travel Distance	0 – 5 km	5 – 10 km	10 – 15 km	15 – 20 km	20-25 km	25-30 km	30-35 km
# properties	56	281	167	148	41	25	3
# structures	198	740	453	403	126	96	6
Property code 100	0	3	0	0	0	0	0
Property code 106	0	0	0	1	0	0	0
Property code 110	2	22	5	6	0	1	0
Property code 130	0	3	0	0	0	0	0
Property code 313	7	4	1	3	0	0	0
Property code 363	4	0	0	0	0	0	0
Property code 364	5	0	1	0	0	1	0
Property code 391	34	247	157	137	40	21	3
Property code 395	1	0	0	0	1	0	0
Property code 465	1	2	2	1	0	1	0
Property code 492	1	0	0	0	0	0	0
Property code 496	1	0	0	0	0	1	0
Property code 602	0	0	1	0	0	0	0
Cumulative Number of Properties *	56	337	504	652	693	718	721

NOTE:
Data source: Municipal GIS - SLIMS
Summary of Properties on Lake Temagami – excludes properties with Town street address
7 parcels Flagged as having a Roll Number is in the Assessment file but not corresponding to any parcel on the map (9 structures)

MPAC Codes:

100	Vacant residential land not on water
106	Vacant industrial land
110	Vacant residential/recreational land on water
130	Non-buildable land (walkways, buffer/berm, storm water management pond,etc)
313	Single family detached on water – year round residence
363	House-keeping cottages - no American plan – typically a mini resort where you rent a cabin. No package plan available. All activities, meals, etc. are extra.
364	House-keeping cottages - less than 50% American plan – typically a mini resort where you rent a cabin and package plans are available. Activities, meals, etc. maybe included.
391	Seasonal/recreational dwelling - first tier on water
395	Seasonal/recreational dwelling - not located on water
465	Child and community oriented camp/resort
492	Marina - located on waterfront - defined as a commercial facility for the maintenance, storage, service and/or sale of watercraft
496	Communication buildings
602	Multiple occupancy educational institutional residence located on or off campus


BASE
N
0 - 5 Km
5 - 10 Km
10 - 15 Km
15 - 20 Km
20 - 25 Km
25 - 30 Km
30 - 35 Km

APPENDIX

4

Growth

The primary importance of the appropriate selection of the design fire's growth is in obtaining a realistic prediction of detector and sprinkler activation, time to start of evacuation, and time to initial exposure of occupants.

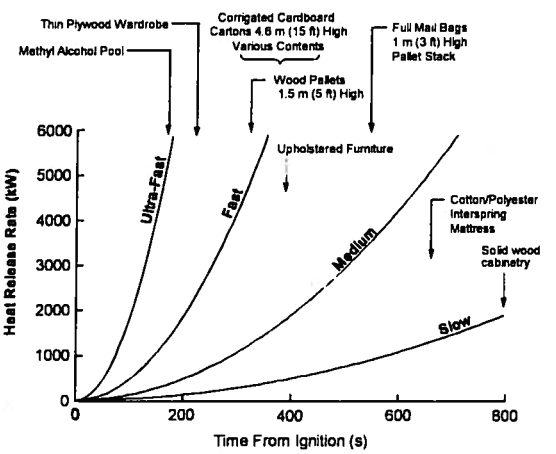
In 1972, Heskestad first proposed that for these early times, the assumption that fires grow according to a power law relation works well and is supported by experimental data [9]. He suggested fires of the form:

$$\dot{Q} = \bullet t^n$$

where: $\dot{Q}$ is the rate of heat release (kW)
$\bullet$ is the fire intensity coefficient (kW/s^n)
t is time (s)
n is 1,2,3

Later, it was shown that for most flaming fires (except flammable liquids and some others), n=2, the so-called T-squared growth rate [10]. A set of specific T-squared fires labeled slow, medium, and fast, with fire intensity coefficients ($\bullet$) such that the fires reached 1055 kW (1000 BTU/s) in 600, 300, and 150 seconds, respectively were proposed for design of fire detection systems [11]. Later, these specific growth curves and a fourth called "Ultra-fast" [12] which reaches 1055 kW in 75 seconds, gained favor in general fire protection applications.

This set of T-squared growth curves are shown in the adjacent figure. The slow curve is appropriate for fires involving thick, solid objects (solid wood table, bedroom dresser, or cabinet). The medium growth curve is typical of solid fuels of lower density (upholstered furniture and mattresses). Fast fires are thin, combustible items (paper, cardboard boxes, draperies). Ultra-fast fires are some flammable liquids, some older types of upholstered furniture and mattresses or other highly volatile fuels.



In a highly mixed collection of fuels selecting the medium curve is appropriate as long as there is no especially flammable item present. It should also be noted that these T-squared curves represent fire growth starting with a reasonably large, flaming ignition source. With small sources there is an incubation period before established flaming which can influence the response of smoke detectors (resulting in an underestimate of time to detection). This can be simulated by adding a slow, linear growth period until the rate of heat release reaches 25 kW.

This specific set of fire growth curves have been incorporated into several design methods such as for the design of fire detection systems in the *National Fire Alarm Code* [13]. They are also referenced as appropriate design fires in several, international methods for performing alternative design analyses in Australia and Japan, and in a product fire risk analysis method published in this country [14]. While in the

STEP 1

Assessing Fire Risks within the Community

The purposes of this step are to:

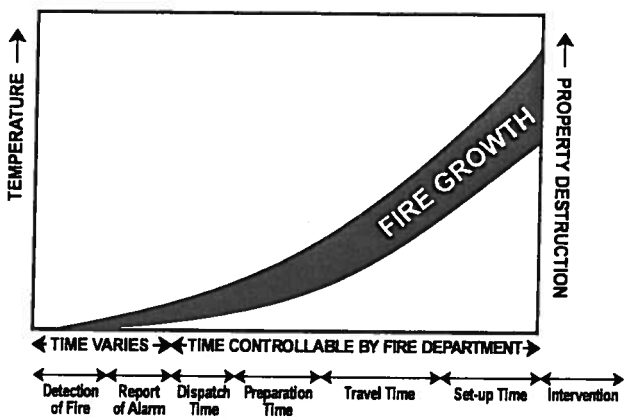
- Understand the Fire Progression Curve to assess risk;
- Complete a comprehensive risk assessment using the OFM Fire Risk Sub-Model; and
- Categorize community fire risks based on the OFM Fire Risk Sub-Model using Form 100.

Understanding and Using the OFM Fire Progression Curve

The Office of the Fire Marshal (OFM) recognizes an organized, rapid, aggressive and offensive approach to fire suppression as the most effective strategy to mitigate a fire, thereby potentially reducing the loss of life and property. This strategy is based upon the OFM Fire Progression Curve (see graph below). A fire grows exponentially—time versus fire growth.

OFM Fire Progression Curve

ILLUSTRATION OF TYPICAL TIME / FIRE GROWTH RELATIONSHIP



NOTES: The fire progression curve is subject to variation due to a number of factors such as the type of material and volume of material involved.

The various factors, from the time the fire begins until intervention takes place, are all subject to variation.

Preparation time for full-time firefighters means the time to dress and depart the station.

Preparation time for volunteer firefighters includes the time to respond to the station as well as to dress and depart the station.

The impact of time on fire growth cannot be underestimated, and an understanding of the time/fire growth relationship is essential when assessing risks and developing response standards, protocols and fireground tactics. Research by the OFM and the National Research Council of Canada recognizes that a fire in a non-sprinklered residential occupancy may extend from the room of origin in approximately 10 minutes or less. OFM test burns have demonstrated that fire can extend beyond the room of origin in as little as three minutes. Slow, medium and fast fire growth rates are defined by the Society of Fire Protection Engineers according to the time it takes for a fire to reach 1 megawatt (MW). A 1MW fire can be thought of as a typical upholstered chair burning at its peak, and a large upholstered sofa at its burn peak would produce roughly a 2MW fire.

STEP 3

Using the Critical Task Matrix to Identify Gaps in Fire Suppression Capabilities

The purposes of this step are to:

- Determine whether responses to actual fire calls (Form 200) correspond to the staffing ranges in the Critical Task Matrix (Form 300A) for each risk level;
- Identify potential gaps in the fire suppression capabilities of the fire department to respond to fires at low, moderate, high and extreme risk levels (specific occupancies/locations) based on an analysis of 11 questions (Form 300B); and
- Identify potential gaps (and the need to preplan for them) in the fire suppression capabilities of the fire department for all occupancies/locations identified on Form 100 for which there is no response data or history, based on an analysis of 11 questions (Form 300B).

What is the Critical Task Matrix?

The Critical Task Matrix (Form 300A) is based on the Incident Management System (IMS). It will assist in identifying fireground staffing capabilities based upon low, moderate, high and extreme risk levels within your community. The Office of the Fire Marshal (OFM) has identified the critical tasks from the Incident Management System that are used during fireground operations. These tasks are consistent with applicable legislation, industry best practices and Ontario Fire College curriculum. It is recognized within the IMS that:

- Upon arrival and rapid size-up, the incident commander can upgrade or downgrade response;
- Crews can be reassigned to other tasks once original assignments are complete;
- Response protocols can be established for occupancies with specific risk levels or used to assist with preplanning to obtain more resources based on the escalating nature of the emergency;
- Fire departments perform rescue and building personnel conduct evacuations according to their approved fire safety plans; and
- Some tasks will never be assigned based on the tactical approach chosen by the incident commander (offensive versus defensive).

FIREGROUND CRITICAL TASKS

- **Incident Command**
- **Pump Operation (Operator)**
- **Fire Attack**
- **Search and Rescue**
- **Rapid Intervention**
- **Ventilation**
- **Water Supply**
- **Forcible Entry**
- **Utilities Management**
- **Laddering**
- **Exposure Protection**
- **Incident Safety Officer**
- **Accountability**
- **Entry Control**
- **Rehabilitation**
- **Salvage**
- **Lighting**
- **Scribe**
- **Sector Officers**
- **Air Management**
- **Logistics Officer**
- **Administrative and/or Finance Officer**
- **Planning Officer**
- **Evacuations**
- **Communications**
- **Public Information Officer**
- **Overhaul**
- **Patient Stabilization (Evacuation Large Scale)**

entrainment is constrained; but most models do not include this. This can lead to an underestimate of the temperature and smoke density and an overestimate of the layer volume and filling rate -- the combination of which may give predictions of egress times available that are either greater or less than the correct value. In the model CFAST [8], this constraint is implemented by stopping entrainment when the plume temperature drops to within one degree (Kelvin) of the temperature just outside the plume; where buoyancy ceases.

Documentation

Only models which are rigorously documented should be allowed in any application involving legal considerations, such as in code enforcement or litigation. It is simply not appropriate to rely on the model developer's word that the physics is proper. This means that the model should be supplied with a technical reference guide which includes a detailed description of the included physics and chemistry with proper literature references, a listing of all assumptions and limitations of the model, and estimates of the accuracy of the resulting predictions based on comparisons to experimental data. Public exposure and review of the exact basis for a model's calculations, internal constants, and assumptions are necessary for it to have credibility in a regulatory application.

While it may not be necessary for the full source code to be available, the method of implementing key calculations in the code and details of the numerical solver utilized should be included. This documentation should be freely available to any user of the model and a copy should be supplied with the analysis as an important supporting document.

Input Data

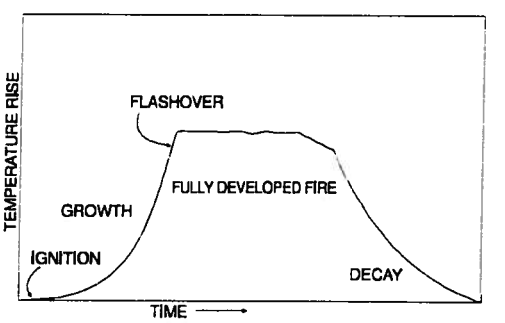
Even if the model is correct the results can be seriously in error if the data input to the model does not represent the condition being analyzed. Proper specification of the fire is the most critical, and will be addressed in detail in the following section on selecting the design fire(s).

Next in importance is specifying sources of air supply to the fire -- open doors or windows, but also cracks behind trim or around closed doors are important. Most (large) fires of interest quickly become ventilation controlled; making these sources of air crucial to a correct prediction. The most frequent source of errors by novice users of these models is to underestimate the combustion air and underpredict the burning rate.

Other important items of data include ignition characteristics of secondary fuel items and the heat transfer parameters for ceiling and wall materials. In each case, the FHA should include a listing of all data values used, their source (what apparatus or test method was employed and what organization ran the test and published the data), and some discussion of the uncertainty of the data and its result on the conclusions (see section, Account for Uncertainty).

Selecting Design Fire(s)

Along with selecting an appropriate model, choosing a relevant set of design fires with which to challenge the design is crucial to conducting a valid analysis. The purpose of the design fire is similar to the assumed loading in a structural analysis -- to answer the question of whether the design will perform as intended under the assumed challenge. Keeping in mind that the greatest challenge is not necessarily the largest fire (especially in a sprinklered building), it is helpful to think of the design fires in terms of their growth phase, steady-burning phase, and decay phase.



APPENDIX

6

Operating Expenditures

Marten River Fire Dept		
	Honorariums	16,300
	Benefits	1,800
	Business Travel	1,600
	Conferences Expenses	800
	Training Expenses	2,500
	Membership Fees	100
	Telephone	2,700
	Utilities	7,000
	Communications	2,600
	Office Supplies	600
	Small Equipment Purchases	10,900
	Fire Inspection	50
	Building Repairs Maintenance	1,500
	Materials & Supplies	1,000
	Fire Prevention	500
	Vehicle Operations	500
	Vehicle Repairs Maintenance.	3,000
	Marten River Fire Dept	**53,450**
Temagami Fire Dept		
	Honorariums	30,668
	Benefits	1,900
	Redistributed Wages	
	Redistributed Benefits	
	Contracted Services	3,018
	Business Travel	585
	Conferences Expenses	1,571
	Training Expenses	5,500
	Membership Fees	300
	Natural Gas	2,300
	Telephone	4,200
	Utilities	1,400
	Communications	1,441
	Office Supplies	200
	Small Equipment - Operations	4,250
	Small Equipment - Purchases	14,300
	Public Education	1,950
	Building Repair Maintenance	1,200
	Janitorial Supplies	100
	Material and Supplies	600
	Fire Prevention	2,400
	Vehicle Operations	4,100
	Vehicle Repairs Maintenance	7,700
	Bunker Gear Replacement	
	Temagami Fire Dept	**89,683**

APPENDIX

7

Key Regulations Associated With Providing Municipal Fire Service

While there are a number of acts & regulations that apply to municipal equipment, buildings, employees and reporting requirements, the following 3 Acts, and associated regulations, will have the most impact with providing a Municipal water based fire suppression response service on Lake Temagami.

Occupational Health & Safety Act - Ministry of Labour - key sections include:

- Sections 25-26 – duties of employers
    - supply safety equipment (protective equipment; provide training; maintain equipment in good condition; measures and procedures prescribed are carried out in the workplace; appoint competent persons as supervisors; WHMIS; **25(2)(h):take every precaution reasonable in the circumstances for the protection of a worker**
- Section 27 – duties of supervisor
- Section 29 – duties of owners
- Section 32 – duties of directors and officers of a corporation
- Safety Guidelines for Ontario's Fire Service - prepared under section 21 of OHSA – these guidelines are recognized as standard or best practices
- Industrial Regulations of OHSA

Canada Shipping Act -Transport Canada - Marine Personnel Regulations, *2001 Small Vessel Regulations* - boat is a commercial vessel – minimal requirements for licensing a boat under 26'3", on-board safety equipment, operator licenses

Fire Protection and Prevention Act: - subsection 2(1) - certain mandatory requirements to do inspection on complaint or request and public fire education.

- Lake area is currently done by the Temagami Fire Department
- if established as a separate department this would become the responsibility of the Lake department. The Fire Chief would have all powers & responsibilities associated with becoming a Chief Fire Official.

Regulations, Standards, Models/Best Practices	Example(s) of Application	Why?	Consequences	Alternatives
Policy side of service delivery				
Administration				
Municipal Affairs	Reporting requirements for financial data, pension plans	Meet mandated requirements	Compliance	None
Communications				
MOE	Report the status and provide ongoing communications during certain emergencies	Mandatory requirement	Proper persons or agencies deal with environmental issues	None
Industry Canada	Licensing, allowable output wattage, etc.	Mandatory	Co-ordinate system infrastructure	None
Fire Prevention & Public Education				
NFPA	Maintenance standards for building components such as commercial cooking equipment	Mandated requirements under the O.F.C.	Improved public safety	None
Gasoline Handling Act & Code/ Propane Act and Code / (Medical Gas)/ Gas Utilization Code	Inspection of equipment and installations	Certain mandatory requirements	Improved public and environmental safety	None
FPPA	Inspections on request, complaint, provide public fire education	Mandated minimum requirements under the F.P.P.A. & Risk Assessment	Improved public safety	Mandatory
Stations, Fleet & Equipment				
MOT standards	Testing and certification issues	Mandatory	Improved worker and public safety	None
MOL	Safety issues including guidelines issued	Mandatory	Improved worker and public safety	None

References:
Public Fire Safety Guidelines PFSG 04-06-13
Canada Shipping Act 2001
FPPA

Regulations, Standards, Models/Best Practices	Example(s) of Application	Why?	Consequences	Alternatives
NFPA	Testing criteria for various equipment	Make use of recognized existing standards	Improved firefighter and public safety	Transfer of liability via leasing of equipment
ULC	Design standards for fire fighting vehicles	To obtain accreditation for vehicle	Vehicle meets minimum requirements	Use of other standards
CSA/ NIOSH/ OSHA	Standards for design & maintenance of equipment such as pure breathing air compressor & breathing apparatus	Mandated requirements	Improved worker safety	None
Ontario Building Code	Design considerations for fire stations	Mandatory	Code compliance	None
Ontario Fire Code	Maintenance considerations for fire stations	Mandatory	Code compliance	None
Electrical Safety Code	Design and maintenance considerations for fire stations	Mandatory	Code compliance	None
Transport Canada - Canada Shipping Act 2001 Small Vessel Regulations	commercial vessel requirements & licenses	Mandatory	Improved worker safety	None
Emergency Operations				
Dallas, Ottawa, OFM, NFPA, IAFC, ICM, IAO, CAFF (pending)	Staffing recommendations re number of firefighters	To determine appropriate staffing levels for a community	Efficient and effective deployment of resources	Automatic aid to supplement internal resources
Ontario Standards for Firefighters	Training to curriculum	Method of providing for standardization	Common practices among participating firefighters	Local initiative
MOL	Protective clothing standards	Mandatory	Compliance with regulations	None
MOH	Response standard protocol for CPR, de-fib programs	Meet minimum response criteria	Improved public safety	Do not provide the service
Internal SOGs	Response guidelines for risks such as senior citizens' complexes	Mandatory requirement (MOL)	Consistent approach	None

References:
Public Fire Safety Guidelines PFSG 04-06-13
Canada Shipping Act 2001
FPPA

Regulations, Standards, Models/Best Practices	Example(s) of Application	Why?	Consequences	Alternatives
Mutual Aid Plan	Possibility of mandated requirements for membership re equipment and staff	May be mandatory participation criteria	Improved public safety	Provide internal capability
Highway Traffic Act	Training in special applications of act to firefighters	Mandatory	Properly trained staff	None
Transport Canada - Marine Safety	Operator licenses (pleasure craft or Captain's papers)	Mandatory	Improved worker safety	None
MNR standards for Municipal fire fighters	training requirements under Municipal Forest Fire Agreement	Method of providing for standardization - S103 training	Improved worker safety	None
Water Supply				
Training & Education				
Ontario Standards for suppression forces	Training to curriculum	Method of providing for standardization	Common practices among participating firefighters	Not mandatory
Ontario Standards for support services	Training to curriculum	Method of providing for standardization	Common practices among participants	Not mandatory
Support Services				
Pay Equity, Employment Equity, Human Rights Code, Charter of Rights and Freedoms	Human resources issues	Mandatory	Compliance	None
Financial	Determination of ability to pay and comparisons to other communities (arbitration)	Mandatory	Compliance	None

References:
Public Fire Safety Guidelines PFSG 04-06-13
Canada Shipping Act 2001
FPPA

Municipal Fire Department providing marine based, aggressive exterior structural fire suppression & forest fire suppression on all boat accessible islands on Lake Temagami.

Personal Protective Equipment, Suppression Equipment and Training requirements to provide both structural and limited forest fire suppression is listed below.

Personnel Protective Equipment -for 15 firefighters			
		Approx cost	
bunker gear	Associated hazards of structure the committee felt suits necessary	$1200 ea. For suits reduced cost/suit with higher # units	18,000
Nomex / wildland suit – coat & over pants or coveralls	**Under Section 21 guidelines** if more than 10% responses are wildland fire then should have wildland gear - review with Municipal H&S Committee	$200 -ea – sized to fit - heat exhaustion potential would tip the scales in favour of requiring these if fighting forest fires any distance from the lake	3000
Cold Water suits (Floater suits)	**Working on water early spring & late winter**	10 X $200 floater suits – less if have their own	3000
Boots (recommend leather as rubber boots not good for fighting forest fires)	**Mandatory –** green patch-	Consider boot allowance Rubber boots = 150 Leather boots = 150	2250
Gloves (hand protection)	**Mandatory** – heat protection & cut resistant	70 – 80 ea	1200
Hard hat	Mandatory- do not need fire helmets (interior)	Up to $40 – structural around $200	600
Safety glasses / goggles	**Mandatory** – safety glasses ($10) goggles ($70+)	Suggest safety glasses (+$4) provide sufficient protections	150
Hearing protection	**Mandatory** (pump operator) – hearing plugs	foam plugs rather than muffs	60
Nomex hood	Not required	$35 ea	0
SCBA (2) - minimum c/w 4 spare bottles	**Mandatory** as there is a potential for structure associated smoke inhalation	4,000 – 5,000 ea compatibly with Temagami for fills / spare bottles	$10,000
Spare SCBA masks	Sizes for all members	$800 each (3 sizes)	2400
MASK FIT testing	**Mandatory** for all using full / half masks	$30 – 40 each (every 2 years)	600
Self inflating life jackets	**Mandatory** - working near water (min. of 2)	$250 ea	500
Sub-total PPE for 15 members			$41,760.00

Fire Suppression equipment			
Portable pumps	20 hp pump (volume with good pressure)	$5000 ea + spare unit	10000
Light weight pump (Spare)	Recommend Wajax – double duty (forest fires)	$3000	3000
Hose (8)– lightweight 45mm attack hose	Look for percolating feature (protection from embers)	250	2,000
Hose (2-4) – 2.5" volume	Low friction loss – use for first 50 – 100 ' from boat (and for portable monitor)	250 – 400	1200
Nozzles (min of 2)	Combination style –	500 – 800	1500
Hose adaptors, reducers /wyes	Water supply	200 – 400	1000
Fire investigation	tools (cameras, notebooks, ½ masks?)		300
Portable radios	Mandatory for communications with MNR aircraft	$1000 ea – recommend minimum of 3 – lithium batteries??	5000
Satellite phone (1-2)	Contact with dispatch?	$800 - $1000 each	0
Dispatching	How will firefighters be alerted (pagers, telephone tree? / marine band)	Telephone & marine radio to start ($0 cost) Dispatch agreement is operational cost /month	0
Water cannon / monitor	Optional – benefit if low manpower – consider "vessel mounted" with portable option	3500	3500
Sub-total for Structural fire fighting equipment			**$ 27,500**
Hose – 1 ½ forestry hose – MNR standard unit is 2400'	Number of lengths depends on distance to fire	$125/length – suggest 1200' would reach the center of most islands	1500
Hose packs	For small dia. hose – ease of transport / storage	100 ea – carry 4 forestry hose or 3 – attack hose	400
Hose stranglers (2)	recommended	150	150
Hand tools (shovels, axes, pike poles, back-packs)	Backpacks – 250 ea	25 – 300	800
Sub-total for fighting Forest Fires on islands			**$2850**
Grand Total			**$30,350**

One reviewer's comment**: need more radio's** – almost to a point that everybody needs to be issued a portable fire radio

Fire Boat			
26’ 0” Vessel – costs are for discussion purposes only and should not be considered accurate figures - Overall length MUST be less than 26’3” to avoid mandatory SVOP training for personnel; (although I would recommend training taken at some time) - May have to add an extra $5,000 for a trailer			80,000
Safety equip to marine regulations	Mandatory – lifejackets, boarding ladder, charts,…		1000
Commercial registration	Small Vessel Compliance Program –help ensure in compliance with regulations	$50 / 5 year license - no cost to enter the SVCP	50
Depth sounders / radar	Consider forward depth / radar electronics, digital maps…	$1,200(sonar c/w GPS & digital map)+	1200
			$82,250

ANNUAL RE-OCCURRING COSTS

Annual / Re-occurring costs		
Honorariums	# training sessions / # incidents /attending conferences/workshops /outside training; per-diem for officers; (Unknown – estimated @ between ⅓ and ¼ of Temagami Fire wages)	9000
Benefits	(WSIB/EHT/other) Based on wages	400
Training – supplies & instructor costs	Mask FIT testing (every 2 yrs – 30/person) Instructors 150-200/session (or more)	3000
Dispatching Sat phone	Answering /dispatch service $900 Subscription $50/mo /phone (1)	1500
Small Equipment repair & maintenance	Bunker suits – annual inspection (1,000) SCBA flow testing (100/unit/year) portable pump maintenance hose testing (at minimum - wages) radio batteries,	2300
Vehicle servicing & maintenance	Oil changes – engine winterizing & pre-season inspections, licensing	500
Storage costs	Rental of boathouse for open water season ($500/mo) - Winter storage ($35/foot)	5000
Business travel	Mileage for admin purposes, conferences,	600
Office supplies	Admin supplies	100
Prevention	Public fire education & fire prevention inspections – education materials, boat gas	1,500
Small Equipment (replacement)	Includes $5500 for 10 year replacements of portable pumps, PPE, hose, 1,500 for additional small equip. / PPE	7,000
Vessel replacement	Replace boat every 20 yrs ($60,000)	3,000
Motor replacement	Replace motor every 10 years ($20,0000)	2,000
Estimated annual operating expenses (budget + capital upkeep)		**$35,900**

Training Requirements

Ontario Fire Collage - *Firefighter Curriculum*

- *Recognized as the standard used by most Ontario fire departments*
- *Most topics should take 1 meeting (2hr) to complete – 90% have classroom and performance testing components to them - usually performance testing is done at a the same meeting or at another meeting (depends on lesson plan) – there may be parts of a topic that will not apply to the service being provided and formal training & performance testing would not necessarily apply to that section*
- *One of the biggest components of fire department training is "repetition" / practice and re-practice the evolutions to ensure ability to performance requirements during an emergency situation.*

Consider these topics as required	
1 Introduction to the Firefighter Curriculum	**2** Fire Department Organization
3 Professionalism	**4** Safety in the Fire Service
5 Chemistry of Combustion	
6 Protective Clothing	**7** Self-Contained Breathing Apparatus **(annually refresher)**
11 Hoses and Appliances	**12** Fire Streams
13 Portable Fire Extinguishers	**14** Fire Suppression
19 Overhaul (& 18 Salvage)	**20** Size Up
21 Introduction to Incident Management System	**24** Fire Scene Assessment
26 Pre-Incident Planning	**27** Communications
28 Portable Pumps	**32** Electrical Emergencies

Other Training Requirements

- **Pleasure Craft Operators Card** (PCOP) - acceptable as long as vessel is under 26'3" -Operators MUST have SVOP if boat is longer than 26'3" - ALL on-board must have PCOC
- **WHMIS** – 2 hrs mandated under MOL ($30/person)
- **Standard First aid & CPR** (internal only – for employee safety – MOL requirement) 12-16 hrs ($130/person)
- **SCBA Mask Fit testing** – requirement under OHSA section 21 (+$30/person)
- **Developing & training on internal Standard Operating Guidelines** – awareness of department policies and guidelines to be followed while performing duties. Reference – relevant legislation, including OHSA section 21 (guidance for improving Health & Safety in the Fire Service)
- **Chainsaw operator / cutter's course** – 2 day – outside trainer – safety under MOL (trainers can charge $1,000 or more day)
- **S-103 Forest Fire Training for Municipal Fire Departments** – 2 day course – in-house training program – needed to fight forest fires under Municipal Forest Fire Management Agreement with MNR (internal trainers?)

- **Accessibility training / WDHP / Other municipal training policies** (ie. Lightning)? (possibly related Fire Dept SOG)

STRONGLY RECOMMENDED TRAINING:

- Legislation 101 – Recommended for all – at minimum needed by officers - 8 hr course through OFC (+$60/person)
- Incident Command – 4 day course – recommended for Incident Commander (IC could be anybody depending on who responds to the call ($400 or higher)
- Wildfire Strategies & Tactics Workshop recommended for Incident Commander on forest fires ($250/person)
- Fire Investigation

TRAINING – INITIAL SERVICE ESTABLISHMENT: $20,000

32 - 40 hrs – OFM training ($450/firefighters + $200 instructor/2hrs) = 650x20= $13,000
2 hrs - WHMIS - $30/person ($450 firefighters + $450 course) = $900
1 hr - SCBA mask testing - $30/person ($225 + $450) = $675
12 hrs – standard First aid + $130/person = $310/firefighter * 8 firefighters = $2480
16 hrs - S103 Forest Fire training ($3600/firefighters + 1200 instructor) -= $4800
16 hrs - Wildfire Strategies & Tactics workshop (Officers)

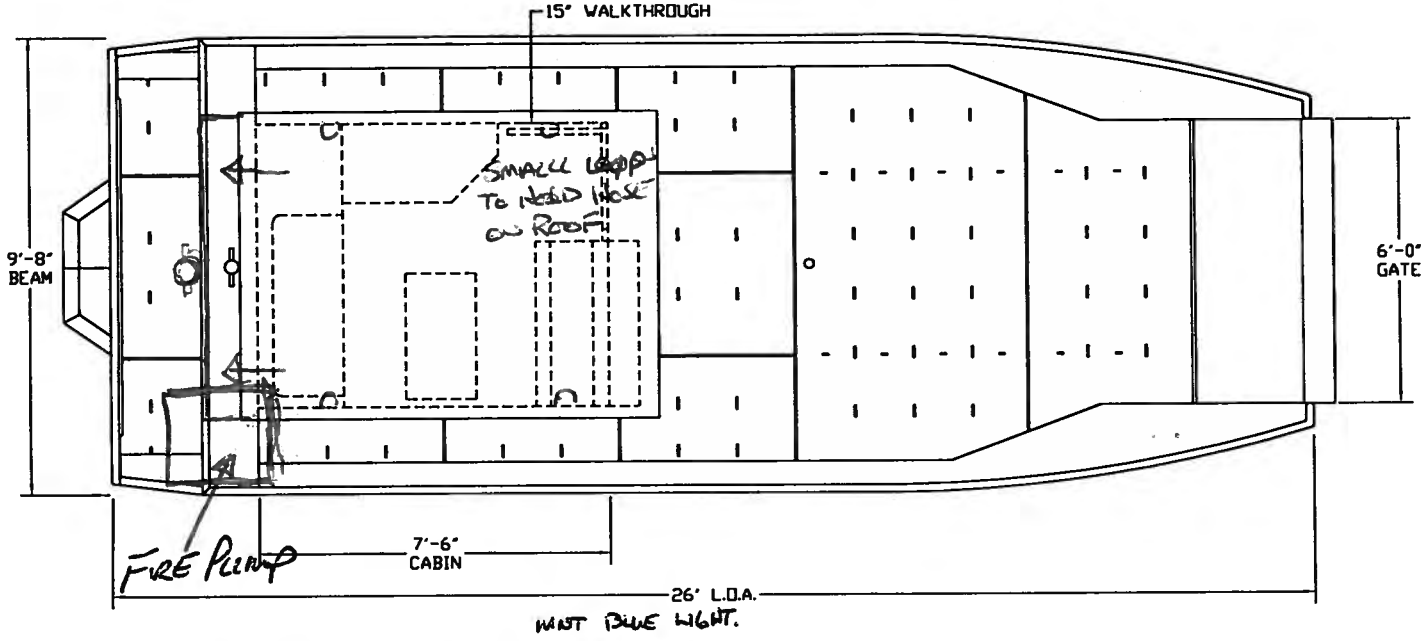
Management – INITIAL ESTABLISHMENT:

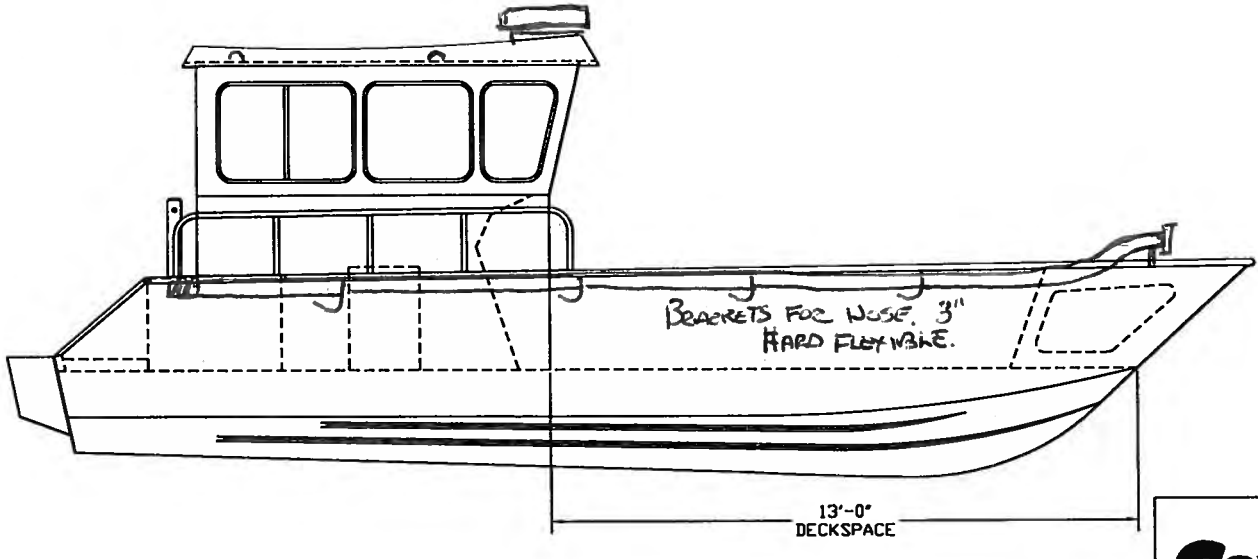
10-15 weeks – creating SOG's / Equipment purchasing / vessel set-up / training / understanding legislation/

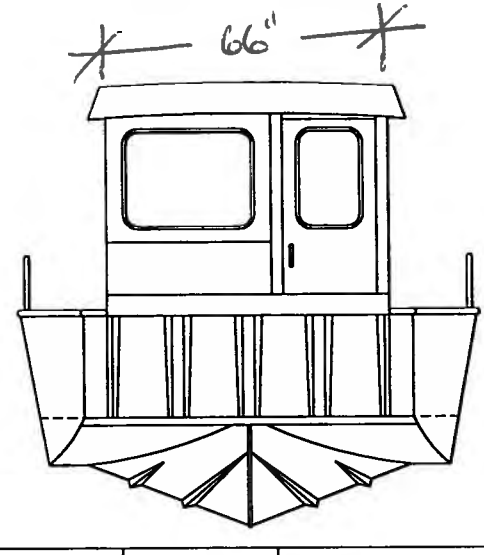
250, Mod. $40,000

15 four stroke
26 ft boat
30,000 equipment

26' BULLNOSE (OUTBOARD) LOCATIONAL LAYOUT







CONNOR INDUSTRIES

AUG. 26, 2010

26' BULLNOSE (OUTBOARD) LOCATIONAL LAYOUT

M.N.

Brian Higgins
(Sales Rep)

26' Stanley boat with Motor

$80,000.00

Raven Rescue

- Water
  - Summary
  - NEW! Rescue from Vehicles in Water
  - Swiftwater Awareness
  - Swiftwater Operations
  - Surface Water First Responder
  - Swiftwater Rescue Technician - Level 1
  - Swiftwater Rescue Technician - Advanced
  - Swiftwater Rescue Technician - ProBoard Evaluation
  - Rescue for River Runners (R3) 1
  - Rescue for River Runners (R3) 2
  - Management of Water & Flood Incidents
  - Standby Rescue and Safety Services
- Ice
  - Summary
  - Ice Rescue Technician
  - Standby Rescue and Safety Services
- Rope
  - Summary
  - NEW! Medical Considerations for Technical Rope Rescue
  - Fall Protection
  - Rope Operations for Road Rescue
  - Technical Rope Rescue - Operations
  - Technical Rope Rescue - Technician
  - Tower Rescue
  - Technical Rope Rescue - Technician (ProBoard Evaluation)
  - Standby Rescue and Safety Services
- Boat
  - Summary
  - Boat Safety and Handling
  - Customized Boat Handling Sessions
- WildMed
  - Summary
  - Wilderness First Aid (WFA)
  - Wilderness First Aid For Field Services (WFAFS)
  - Wilderness Advanced First Aid (WAFA)
  - Wilderness First Responder - Bridge Course (WFR-B)
  - Wilderness First Responder (WFR)
  - Wilderness First Responder - Re-Certification
  - Custom WildMed Courses
  - Wilderness Emergency Medical Technician Upgrade
- Other
  - Summary
  - Emergency Medical Responder
  - Confined Space - Awareness

- Light Structural Collapse

- Our Company
  - Our Company
  - Our Clients
  - Our Approach
- Our Instructors
  - Overview
  - Technical Rescue Instructors
  - Wilderness Medical Instructors
  - Becoming an Instructor
- Testimonials
- Contact Us

- Links
- FAQs
- Resources

Frequently Asked Questions

What Transport Canada certification is required to operate a small boat for work?

A. The short answer is "most likely just a PCOC"—but read on to find out for sure.

New Legislation
There is considerable confusion across Canada in the wake of new Transport Canada boating legislation that came into effect at the end of 2010. Before that, the only certification required for small boat operators was for those using boats for recreation.

In November 2010, new legislation was introduced that affects anyone operating a "small commercial vessel", ie. a boat under 15 tons, generally under 12 metres, that is not a fishing vessel* or a pleasure craft. This category also includes boats operated by government agencies and volunteer organizations, which, although not operated for profit, still fall under the "commercial" umbrella because they are not being operated solely for pleasure.

Now, anyone operating a small commercial vessel must have either a:

- PCOC (Pleasure Craft Operators Certificate)
- SVOP (Small Vessel Operator Proficiency) Certificate

The Name (Doesn't) Say it All
Part of work place confusion is arising because "Pleasure Craft Operator" implies recreational use only—and so anyone wanting to use a small boat for work assumes they need the SVOP. Not so. In

fact, **most** inland boat operators as well as ocean-going boaters who stay close to home **only require the PCOC**.

The other source of confusion is that we've found that most front line employees at Transport Canada don't understand who needs what, and in fact, some "higher ups" will even provide incorrect information.

To sort this out, we kept trying until we found a Transport Canada employee who really knew what they were talking about. We hit "gold" when we found a senior staffer in Nautical Certification and Examination, Transport Canada, who personally wrote a good chunk of the new legislation and understands its implications inside out. To the best of our abilities, here is what we've determined:

Who Requires a PCOC?
A PCOC is required if you are the operator of a small commercial vessel that is:

- Under 8 metres (~26.3') in length
- Operated in sheltered waters (see definition below)
- Not carrying more than six passengers* (*see definition below)
- Not towing another vessel

A PCOC is still all that is required if:

- the boat is not carrying any passengers and provided the operator does not travel more than two nautical miles from shore on a body of water classified as near coastal, Class 2 (see definition below).
  or
- the boat is a fishing vessel* under 15 gross tons, less than 12 m in length, and travelling on sheltered waters or not more than two miles from shore on "near coastal, Class 2 waters".

Does everyone on board need a PCOC?
No. Only the principal operator of the vessel requires a PCOC, others on board (crew and passengers) are not required to have this certification.

Who Requires an SVOP?
An SVOP is required if you are operating a boat that is:

- More than 8 metres (26.3') in length
- Being operated more than two miles from shore in near coastal, Class 2 waters
- Transporting more than six passengers* (*see definition below)

Definitions

Sheltered waters voyage: Defined by Transport Canada as a voyage:

- on a body of water that is a lake or river above tidal waters, where a vessel can never be further than one nautical mile from the closest shore (ie. the lake or river can't be more than two miles wide at any point)

or

- larger bodies of water and coastal waters including bays, inlets and harbours listed in Transport Canada's "Schedule 1: Sheltered Waters" during specified times of year. For example, sheltered waters include Nanaimo Harbour all year round, and Toronto's Outer Harbour between May 1 and October 31. Transport Canada's current list of "Sheltered Waters" can be obtained here: http://laws.justice.gc.ca/eng/SOR-2007-31/page-4.html#anchorsc:1

Note: Transport Canada has asked the Coast Guard in each province to compile a list of bodies of water considered to be "sheltered", but it is far from complete at this point, and in fact, there are no listings for any of Alberta and only one for Manitoba as of yet. Therefore, if an operator is in doubt, they should contact their regional Coast Guard office.

Near coastal, Class 2 voyage: Defined by Transport Canada as a voyage where the vessel is not more than 25 miles from shore. This would include voyages on larger lakes such as Babine Lake (153 km/95 miles long but only 2-10 km/1.2-6.2 miles wide) and coastal waters such as the Gulf of Georgia. However, many voyages on a massive body of water such as Lake Huron would not be considered "near coastal", however, many of its harbours, bays and inlets are considered sheltered waters (see above).

Nautical mile: A nautical mile, or 6,076 feet, is one minute of latitude. A land mile, of course, is 5,280 feet.

Passengers: Defined by Transport Canada as anyone not part of the crew, or normally required for the operation of the boat. This includes colleagues being transported to a work site. People do not have to pay a "fare" to be considered passengers.

MED Certification
Captain and crew members (not passengers) also need a MED ("Marine Emergency Duties") certification (essentially firefighting aboard a boat). There are are various MED levels, depending on the type of boat and the size of boat, but MED A3 (an 8-hour course) is the most common requirement for the small vessels considered here.

First Aid Certification
One person aboard (usually the "captain" or principal operator) needs a first aid certification, such as Marine Basic First Aid, or any basic first aid certification of 16 hours or more. More information on first aid requirements can be found here: http://www.tc.gc.ca/MarineSafety/bulletins/2009/03-eng.htm

PCOC & SVOP Course Content
These Transport Canada certification courses are almost always delivered entirely in the classroom (or, in the case of the PCOC, online) and very rarely include a practical, boat-based component. The SVOP includes topics such as chart work, shipboard safety, pollution prevention, meteorology, Canadian buoyage system, and radar. You can be certified to operate a boat "safely" for work purposes without ever having stepped foot in one.

Raven Rescue Boat Handling & Safety Courses
Raven Rescue's approach to motorized boat handling courses is very different. You actually get into a boat, on the water, behind the controls, and learn to drive it yourself, in a safe manner. Clients bring their own boats and ideally, we conduct the course on the body of water in which they will be working.

We believe that boat operators should obtain *both* the relevant Transport Canada certification (usually PCOC for our clients) as well as our course, or one of a similar practical, hands-on nature, in order to be in compliance with legislation *as well as* experienced in the safe operation of a motorized watercraft.

Personal Responsibility
Please be aware that this summary is not a definitive guide, nor has it been approved by Transport Canada, and that you have a duty to make yourself thoroughly familiar with the laws and regulations that apply to your particular vessels and area of operation. Additionally, some employers may choose to exceed the minimum certification required by Transport Canada and train their personnel to the higher level of the SVOP.

More FAQs

Courses

Schedule

Upcoming Dates

Aug 24-25, 2012

Swiftwater - Operations

- $299
- Ottawa, ON
- Register

Aug 24-26, 2012

Swiftwater - Technician (SRT 1)

- $435.
- Ottawa, ON
- Register

Aug 28-30, 2012

Swiftwater - Technician (SRT1)

- $435
- Smithers, BC
- Register

See full schedule

> Your expertise and knowledge is enviable and your straight forward approach was refreshing and professional.
>
> Steve Amazzal, Comox Valley Search & Rescue

Human Factors in Teamwork Management

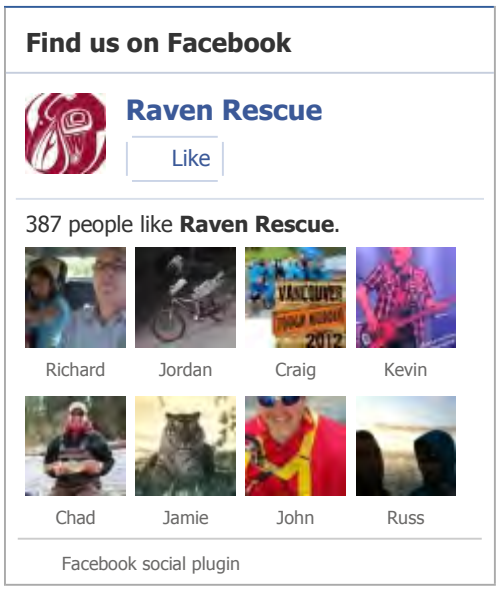
July 9, 2012

How active is your rescue team and how does this affect the efficiency of the rescue?

A rope rescue always has an element of risk. The goal is to minimize the risk by removing the victim/s and rescuers from the situation to a position of safety as efficiently as possible.…

read THIS ENTRY >

see MORE BLOG ENTRIES >



resources

How many people drown in Canada each year?

The most recent Canadian statistics around drowning deaths are from a report by the Red Cross in 2003. It cites trends from 1991-2000 and examines drowning deaths by locations including lakes, rivers, boats, ice, pools, bathtubs etc.

Read More >

our approach

We believe training should be tailored to the specific needs of each client. While we teach all the skills and knowledge necessary for certification, we approach a course for emergency personnel in an entirely different manner than one for resource managers or outdoor guides.

Learn about our approach >

- Our Company
- Resources
- Testimonials
- FAQs
- Links
- Contact Us
- Instructors
  Login

- home
- site map
- keyword search

Toll-free 1-800-880-0287 | Email Raven Rescue

Manpower Response Considerations

Single Hose / attack line (requires a minimum of 3, preferably 4 firefighters)

1 – Incident Commander (not actively involved in suppression efforts)
1 - nozzle person –
1 – first hose handler
1 – pump operator (& second hose handler – based on MNR Forest fighting crew)

Second Hose / attack line (additional 2 to 3 firefighters)

1 - nozzle person –
1 – first hose handler
1 - pump operator if using a second pump

NOTE: Very limited ability to fight a fully involved structure fire with 1 hose line

Volunteer numbers.

The OFM report indicates a general rule of expecting a response of 40-60% of the number of volunteers assigned to a station on any given call. The actual level of response is largely dependent on the time of day and day of the week. With most volunteers working days and a large number working out of the Township, the number of volunteers responding may be minimal for many daytime calls. Response numbers on evenings and weekends tend to be better.[1]

2011 Temagami Fire Department response data evaluation:

- Complement of 17 members
- 16 activations between 6:00 & 22:00 hrs
- Avg. manpower response was 6.25 members (37% of complement);
- Maximum responders 11 members – 1 call – Saturday at 10:10 A.M.
- 31% of calls had only 4 members respond (24% complement)
- 2 calls during the overnight hrs, average response was 8 members(1 with 5, 1 with 11)

- Fire fighters performing tasks under direction of the municipality must be trained, protected & working according to municipal guidelines (considered employees)
    - Injury sustained by employees is a serious issue, especially if as a result of not following rules. In instances, where supervisory staff are found partially responsible they could face serious fines and/or jail time.

Recruitment of private citizens to assist at an incident is <u>extremely dangerous</u>, and should not be considered at any point in the evaluation.

- When the municipal fire department arrives on scene they have to kick all private responders "off the island". If not, it:
    - significantly increases liability exposure to the municipality and the person in charge (potential for multi-million dollar lawsuits)
    - if a member of the public is injured at a fire under municipal control, all sorts of hell would rain down on supervisory staff, managers, & council. The IC would not be protected from law suits, or Ministry of Labour (fines / jail time?)

[1] Lanark Highlands Fire Services 2011 Review and Recommendations Final Report pg. 20

APPENDIX

8

Record of discussion with PABERT (Pointe Au Baril Emergency Response Team)

PABERT Contact Mike Payne – 705 – 366 – 2296
Municipality of the Archipelago Contact CAO Steve Kaegi – 705 – 746 – 4243

The Municipality is essentially adjacent and about 12 miles out into Georgian Bay. It surrounds Parry Sound (North and South) but excludes Parry Sound.

Archipelago covers about 85, 000 hectares, has about 600 permanent residents but swells of about 10,000 seasonally – largely on Georgian Bay and its Islands.

The Municipality provides no fire department or fire services nor does it tax its residents for any. A temporary contract with Seguin Township was tried in the southern portion of the Municipality and later dropped. There are no fire charges on any tax bills.

The Municipality meets its prevention and education minimally with notices, mail outs and has provided smoke detectors.

In the northern portion of the Municipality (Pointe Au Baril area and islands, fire suppression, not prevention) and medical first response is provided by a charitable organization of volunteers not associated to the Municipality in any way, (PABERT – Pointe Au Baril Emergency Reponses Team). The Group serves about a 5000 population in the summer.

This group is entirely supported by donations and fund raisers. They received one grant 10 years ago for $15,000 for a pump from Northern Ontario Heritage Fund.

The annual operating costs are about $25,000. About $11,000 of this is insurance and about $5,000 is distributed to the volunteers annually on a point system.

Funding is obtained through $12,000 donation from the PAB Islanders Association. Individuals make donations and a Lobster fest fundraiser collects about $11,000.

The group sets its own standards and receives first responder medical training from the West Parry Sound Health Centre. Fire training is provided by volunteers from neighbouring fire departments. Some equipment has been bought but most is donated (used) from neighbouring municipal Fire departments.

Insurance is provided by Broker Link in Parry Sound (Contact Patti Christie)

Only normal MOL safety rules apply.

The Group built their own 26 foot boat used for both medical and fire response. It contains a 55 hp and water cannon as well as several portable pumps. It operates 24/7 during open water as all volunteers have extensive marine experience on Georgian Bay.

APPENDIX

9

North Bay Cycle & Sports Ltd.

2665 TROUT LAKE ROAD - NORTH BAY, ONTARIO P1B 7S8
Phone (705) 472-4550 • *Fax* (705) 472-2617 • 1-888-431-7777
www.northbaycycle.com

NAME _____

DATE Quote on 3 units minimum

PHONE _____

Requested Shipping Date	Carrier	Terms

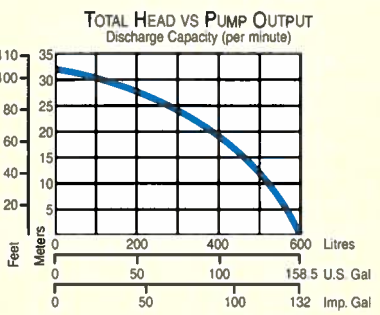
Qty.	Part No.	Description	Unit Price	Amount
	WH20	Pump list		1019 00
				X
		sell		895 00
1	hose kit -	20 ft intake		194 00
		50 " discharge		
		all couplers / strainer / nozzle		X
		sell		165 00
1	additional	100 discharge ⓦ coupler.		160
		ⓦ knozzel.		
				1220 00
				15860
				137860

TOTAL

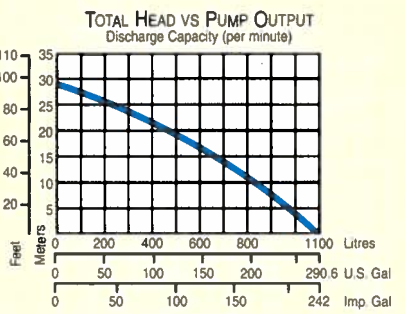
Deluxe Pumps

Honda water pumps are renowned the world over for durability and dependability. The Deluxe WD20X and WD30X are the latest pumps to emphasize those characteristics. Extra-thick pump housings and cast-iron impellers combined with Honda OHV (overhead valve) engines will provide years of trouble-free service in even the most demanding applications. The full tubular steel frame and rugged coil-spring mounts complete a package that's ready for any job site.

WD20X – *Featuring a 4hp OHV engine, Oil Alert®, tubular steel frame, 600 litres/min. through 50mm (2in.) ports, heavy-duty cast aluminum housing with cast iron impeller*

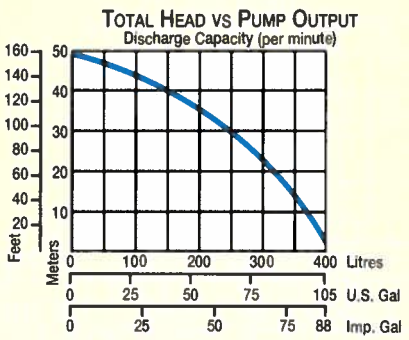


WD30X – *Featuring a 5.5hp OHV engine, Oil Alert®, tubular steel frame, 1,100 litres/min. through 80mm (3in.) ports, heavy-duty cast aluminum housing with cast iron impeller*

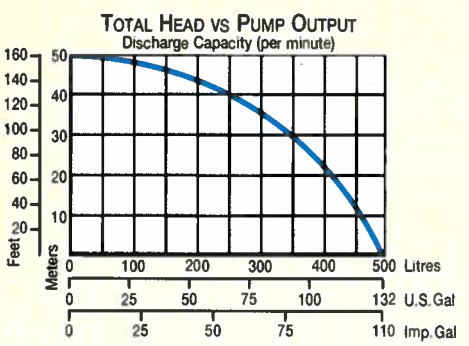


High Pressure Pumps

WH15X – *This is a high output, high pressure pump with a 4HP OHV engine, 38mm (1.5") ports and a maximum capacity of 400 litres per minute.*



WH20X – *This is a high output, high pressure pump with a strong 5.5HP OHV engine, with 50mm (2") ports and a maximum capacity of 500 litres per minute.*



Accessories

Spray nozzle

Suction (A) and Discharge (B) hose

Suction hose strainer

Specifications:

	STANDARD PUMPS						HIGH PRESSURE PUMPS		DELUXE PUMPS		TRASH PUMPS		
Model	**WX10C1**	**WX15CX1**	**WN20CX1**	**WN30CX1**	**WP20XCX6**	**WP30XCX6**	**WH15XK1C1**	**WH20XK1C1**	**WD20XK1C2**	**WD30XK1C2**	**WT20XK2C**	**WT30XK2C**	**WT40XK1C**
Length	324mm (12.8in.)	330mm (12.9in.)	460mm (18.1in.)	525mm (20.9in.)	470mm (18.5in.)	505mm (19.9in.)	415mm (16.3in.)	425mm (16.7in.)	520mm (20.5 in.)	520mm (20.5 in.)	620mm (24.4in.)	660mm (26in.)	715mm (28.1in.)
Width	255mm (10.1in.)	270mm (10.6in.)	390mm (15.4in.)	400mm (15.7in.)	350mm (13.8in.)	375mm (14.8in.)	360mm (14.2in.)	375mm (14.7in.)	400mm (15.7 in)	400mm (15.7 in)	435mm (17.1in.)	485mm (19in.)	485mm (19in.)
Height	350mm (14in.)	337mm (13.4in.)	365mm (14.4in.)	445mm (17.5in.)	360mm (14.2in.)	450mm (17.7in.)	405mm (15.9in.)	405mm (15.9in.)	450mm (19.3 in.)	450mm (19.3 in.)	405mm (15.9in.)	510mm (20.1in.)	560mm (22in.)
Dry Weight	7 kg. (15 lb.)	10 kg. (22 lb.)	18 kg. (39 lb.)	21 kg. (44 lb.)	22 kg. (48 lb.)	28 kg. (62 lb.)	22 kg. (48 lb.)	23.5 kg. (52 lb.)	25 kg. (55 lb.)	30 kg. (66 lb.)	38 kg. (84 lb.)	58 kg. (128 lb.)	68 kg. (150 lb.)
Pump	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Type	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming	Self-priming
Suction Port Diameter	25.4mm (1.0in.)	38mm (1.5in.)	50mm (2.0 in.)	75mm (2.8 in.)	50mm (2.0 in.)	80mm (3.0 in.)	40mm (1.5in.)	50mm (2.0 in.)	50mm (2.0 in.)	80mm (3.0 in.)	50mm (2.0 in.)	80mm (3.0 in.)	100mm (4in.)
Discharge Port Diameter	25.4mm (1.0in.)	38mm (1.5in.)	50mm (2.0 in.)	75mm (2.8 in.)	50mm (2.0 in.)	80mm (3.0 in.)	40mm (1.5in.)	50mm (2.0 in.)	50mm (2.0 in.)	80mm (3.0 in.)	50mm (2.0 in.)	80mm (3.0 in.)	100mm (4in.)
Pumping Capacity — Litres per minute	125	240	600	1100	600	1,000	400	500	600	1,100	650	1,300	2,300
Pumping Capacity — Imp. gal. per minute	33	53	132	242	132	220	88	110	132	242	143	286	506
Pumping Capacity — Litres per hour	7,500	14,400	36,000	66,000	36,000	60,000	24,000	30,000	36,000	66,000	39,000	78,000	138,000
Pumping Capacity — Imp. gal. per hour	1,980	3,180	7,920	14,520	7,920	13,200	5,280	6,600	7,920	14,520	8,580	17,160	30,360
Total Head	35m (96 ft.)	40m (130 ft.)	32m (105 ft.)	30m (98.4 ft.)	32m (105 ft.)	30m (98 ft.)	50m (164 ft.)	50m (164 ft.)	32m (105 ft.)	28m (92 ft.)	26m (85.3 ft.)	30m (98.4 ft.)	29m (95.1 ft.)
Suction Head (Total Lift)	8m (26 ft.)	8m (26 ft.)	8m (26 ft.)	8m (26 ft.)	8m (26 ft.)	8m (26 ft.)	8m (26 ft.)	8m (26 ft.)	8m (26.2 ft.)	8m (26.2 ft.)	8m (26.2 ft.)	8m (26.2 ft.)	8m (26.2 ft.)
Priming Time @ 5m(164 ft.)	110 seconds	110 seconds	110 seconds	110 seconds	90 seconds	120 seconds	40 seconds	60 seconds	110 seconds	110 seconds	50 seconds	50 seconds	50 seconds
Pump Body	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Impeller	Aluminum	Aluminum	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron	Chromed Ferrocast	Chromed Ferrocast	Chromed Ferrocast
Engine Type	Honda GX31 mini four-stroke, OHV, air cooled single cylinder	Honda GXH50 four stroke, OHC air cooled, single cylinder	Honda GC135 four stroke, OHC air cooled, single cylinder	Honda GC160 four stroke, OHC air cooled, single cylinder	Honda GX120K1 four-stroke, OHV air cooled, single cylinder	Honda GX160K1 four-stroke, OHV air cooled, single cylinder	Honda GX120K1 four-stroke, OHV air cooled, single cylinder	Honda GX160K1 four-stroke, OHV air cooled, single cylinder	Honda GX120K1 four-stroke, OHV air cooled, single cylinder	Honda GX160K1 four-stroke, OHV air cooled, single cylinder	Honda GX160K1 four-stroke, OHV air cooled, single cylinder	Honda GX240K1 four-stroke, OHV air cooled, single cylinder	Honda GX340K1 four-stroke, OHV air cooled, single cylinder
Displacement	31 cc	50 cc	135 cc	160 cc	118 cc	163 cc	118 cc	163 cc	118 cc	163 cc	163 cc	242 cc	337 cc
Maximum Horsepower	1.5	2.5	3.5	5	4.0	5.5	4.0	5.5	4.0	5.5	5.5	8.0	11.0
Lubrication System	Controlled oil mist	Splash type	Splash type	Splash type	Splash type	Splash type	Splash type	Splash type	Splash type	Splash type	Splash type	Splash type	Splash type
Governor	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical
Starting System	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil	Recoil
Fuel Tank Capacity	.65 L (.14 Imp. gal.)	1.2 L (0.26 Imp. gal.)	1.7 L (0.37 Imp gal.)	2.1 L (0.46 Imp gal.)	2.5 L (0.55 Imp. gal.)	3.6 L (0.79 Imp. gal.)	2.5 L (0.55 Imp. gal.)	3.6 L (0.79 Imp. gal.)	2.5 L (0.55 Imp. gal.)	3.6 L (0.79 Imp. gal.)	3.6 L (0.79 Imp. gal.)	6 L (1.32 Imp.gal.)	6.5 L (1.43 Imp.gal.)
Oil Alert™	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Drive Unit Type	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal	Direct couple / mechanical seal
Frame Type	Handle type, Steel base	Handle type, Steel base	Full Loop Frame	Full Loop Frame	Full Frame	Full Frame	Handle type, Steel base	Handle type, Steel base	Full Frame	Full Frame	Full Frame	Full Frame	Full Frame

HONDA
Power
Equipment

Honda Canada Inc., Dartmouth, N.S., Montreal, P.Q., Toronto, Ont., Richmond, B.C.

For optimum performance and safety, please read the owner's manual before operating your Honda Water Pump.
Specifications subject to change without notice.

Printed on recycled Paper.
PRINTED IN CANADA
7603B008 E 04/03