MARINE RESCUE SERVICE FACT SHEET

The purpose of this fact sheet is to establish a common understanding of the MARINE RESCUE service. This common understanding provides an agreed-upon basis on which to evaluate the service for effectiveness and efficiency. In addition, the fact sheet helps to educate the parties on the regional service arrangement under review, the limitations to possible changes and the perspectives of the RESC - Technical Chiefs Committee.

Executive Summary

The marine environment within the Central Okanagan plays a key role in tourism and recreation. According to Transport Canada there are 69,000 registered boats in the region and a recent survey found that on a “peak day” there were 1429 boats on Lake Okanagan¹. The Marine Rescue service is efficient and effective and meets the need for a timely, capable and trained response to marine emergencies on major lakes in the region.

Limited fire fighting capacity in the marine environment serves to protect marine assets and marine rescue boats enhance our ability to evacuate the population during times of disaster.

The Regional Marine Rescue Program compliments the roles played by other agencies on the lake and Marine Rescue craft are currently best deployed to address the concentration of calls. However, this should be examined strategically as call volume increases.

A standard specification and costing for boats is required, to guide future purchases and better inform the capital planning process.

Service Description

The RDCO March 31, 1989 Letters Patent outline that:

- Kelowna; Peachland; and electoral areas A, G, H and I will participate in and share costs for rescue services; [now superseded by District of Lake Country and District of West Kelowna]; and
- The program includes Search and Rescue, Hazmat, vehicle accidents and PEP responses.

¹ 2010 RDCO Major Lakes Recreational Marine Facilities Study
The Marine Rescue Service provides rescue services to boaters on major lakes within the Regional District. This includes Okanagan Lake, Wood Lake and Kalamalka Lake, including:

- Search and Rescue of victims
- Response to Motor Vehicle Accidents involving vehicles in the water
- Public Safety issues
- Boaters in distress (emergent situations)
- Above or in water only (no underwater capability)
- Marine Evacuation
- Environmental (Spill) response and assessment
- Safety during public events

This is a unique service arrangement, and one of the most organized Marine Rescue services run by fire departments on behalf of a Regional District in the Province. This is largely owing to the unique marine environment and use of lakes for recreation and tourism within our region.

In 2010, the RDCO Major Lakes Recreational Marine Facilities Study found that rapid population growth within the region was driving increasing recreation and tourism demands. As a part of the study, Ipsos Reid conducted 1,000 telephone interviews which found that four-in-ten households in the RDCO own a boat and that one-in-ten will likely purchase a boat in the next five years.

As a part of the study, boat launch counts were taken at 27 sites during the summer period in 2009, finding the estimated number of boats launched from mid May to mid September was 53,000.

**History**

During the 1980’s, due to the location of Peachland on the lake, and the increasing amount of boat traffic on the lake, the District of Peachland saw a need for a rescue boat in the area. Peachland Fire and Rescue Service purchased a small boat to serve the area. Around the same period, a boat was put in service in Oyama to serve Kalamalka and Wood Lakes.

The formal Marine Rescue program was initiated in 1992. This program was kick started after a drowning occurred during a winter Fishing Derby. Historical documents show that the concern of the Regional Board, Regional Administrator and other public safety groups was the lack of a comprehensive marine rescue program that would ensure a quick response.

With the inception of the Regional Emergency Program, two Zodiac boats were purchased in 1992 and 1993 and placed in service in Kelowna and Peachland in 1993 and 1994.

In 2000, the Boston Whaler craft was purchased and placed in service in Kelowna. The Zodiac from Kelowna was relocated to Lake Country at this time.
## Call Volumes

<table>
<thead>
<tr>
<th>Location</th>
<th>Make &amp; Year</th>
<th>5 year Call Volume</th>
<th>2011 Call Volume</th>
<th>Primary Response Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-2 Kelowna Yacht Club</td>
<td>2000 7.4m Boston Whaler</td>
<td>170</td>
<td>38</td>
<td>Okanagan Lake (RDNO Boundary to Gellatly Bay)</td>
</tr>
<tr>
<td>MR-21 Peachland Marina (indoor Winter Storage)</td>
<td>1993 5.3m Rigid Hull Inflatable Zodiac</td>
<td>69</td>
<td>11</td>
<td>Okanagan Lake (RDOS Boundary to Gellatly Bay)</td>
</tr>
<tr>
<td>MR-91 Fire Stn 91 (Oyama)</td>
<td>1992 5.3m Rigid Hull Inflatable Zodiac</td>
<td>19</td>
<td>5</td>
<td>Wood &amp; Kalamalka Lakes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-2</td>
<td>23</td>
<td>33</td>
<td>29</td>
<td>44</td>
<td>38</td>
</tr>
<tr>
<td>MR-21</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>MR-91</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>49</td>
<td>39</td>
<td>69</td>
<td>54</td>
</tr>
</tbody>
</table>

The Boston Whaler boat in Kelowna was equipped with limited fire fighting capacity. This capacity has played a key role in fire suppression during recent wildfire events, including the 2009 Seclusion Bay wildfire and recent fires in marina’s and on the lakefront. The boats also serve as a key marine evacuation platform.

The boat located in Peachland (MR-21) has been slated for replacement since 2010 and some key maintenance has been deferred pending approval to replace the craft. A Marine Survey was performed by a qualified professional in October 2012. The survey found that while the boat is well taken care of, it must be replaced in order to remain effective for emergency service. Specifically, because of the age of the boat (20 years) the integrity of the pontoons is in question. Because of this, the surveyor could “not guarantee the integrity of the hull or safety of its occupants, especially with the rigorous use this boat sees as a rescue craft.”

### Scope/Area

Marine Rescue service is provided to all areas on Okanagan, Kalamalka and Wood Lakes within the RDCO boundaries.

The following chart depicts the steps in a common marine rescue call:

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Cost and Cost Allocation

As outlined in the 1991 Regional Rescue Services Agreement, the Regional Rescue Program maintains ownership of all capital assets including the boats and associated items. The Regional Rescue program is responsible for all ongoing maintenance and operational costs which are funded through the program.

Emergency Response Costs, including fuel and wages are partially recovered from PEP, based on their policy, which sets costs eligible for reimbursement, based on 6 staff and the length of the boat. Actual costs are paid to the responding department and the difference is funded from the RDCO Responses account.

Using the existing RDCO Budget and following a detailed analysis of historical costs and allocations, the following Cost Allocation Model was developed.

**Average Cost per Household: $2.10**
Cost Recovery:

The Technical Chiefs investigated the potential of recovering the cost of rescues from those requiring the service. Discussion and research took place to investigate the possibility of charging those who require the service for the cost of the rescue.

While permitted under current provincial legislation, research determined that presently there are no jurisdictions in BC that charge for their rescue service. As far as the committee was aware there is no jurisdiction in Canada that does although in the US models vary.

Licensing boats or charging for the use of boat launches was also discussed. The Technical Chiefs concluded that while possible, these options would be administratively cumbersome and difficult to enforce, but may be an option to fund the program.
Service Delivery and Governance

The Canadian Coast Guard has responsibility for Search and Rescue in the Maritime Environment, which is defined as tidal waters only. According to the BC Emergency Program Management Regulation, the police force of jurisdiction has the responsibility for rescue on inland waters.

Because of the unique nature of lakes within our region, and the requirement to provide a timely response to emergencies, many agencies are involved in the provision of service to Okanagan Lake. Roles and responsibilities of the following agencies were examined and discussed, in the event that they could (or already) provide a similar level of service.

**RCMP:** The RCMP plays a role in education and enforcement on the lake as well as their core mandate of dealing with investigative and criminal matters. The Regional Emergency Program funds $25,000 to marine patrol for these purposes. The RCMP is responsible for body recovery and removal. From time to time, when available, the RCMP also assists in search and rescue. However, because they are not based on the lake and staff is not always available for deployment on short notice, a timely response required for rescue is not guaranteed. We work closely with the RCMP as/when they are available to ensure a rapid response to emergency incidents.

**Central Okanagan Search and Rescue:** Central Okanagan Search and Rescue is in the process of deploying a donated boat for their use on Okanagan Lake, based on a trailer at their facility in Ellison. COSAR plays a role in search and recovery on Lake Okanagan and possesses expertise and specialized equipment in underwater search. From time to time, this group is called upon to assist, particularly to conduct underwater searches following reports of missing persons. Because of their size and nature of their group, they are unable to provide coverage to the entire lake or guarantee the timely response that is provided by fire departments.

**Coast Guard:** For a short period in the 2000’s the Coast Guard established a summertime presence on Lake Okanagan and conducted patrols, enforcement and public education. This program changed to become a boat that was deployed on interior lakes rotationally as it was available. In recent times, this asset has since disappeared and the Coast Guard has moved to close busier marine rescue bases in the lower mainland. The Coast Guard does play a role in public safety education, licensing and maintenance and installation of navigation aids.

The Technical Chiefs Committee concluded that the Regional Marine Rescue Program compliments the roles played by the above noted agencies and fills gaps in coverage where they exist, ensuring rapid, trained response to Marine Emergency incidents.

As outlined in the 1991 Regional Rescue Service Agreement and as part of delivery the service, Peachland and Lake Country commit to and are funded for at least 96 hours of training on Marine Rescue. In Kelowna, training consists of 2 days per year of off duty instruction for 5 staff on each of 4 shifts, totally 320 hours.
Management of the Marine Rescue Service is overseen by the KFD Deputy Chief of Regional Services.

**Problem Statements**

Following a detailed evaluation of the service, the Regional Emergency Services Technical Committee determined the following problem statements with regards to the Marine Rescue Service:

- Is the service distribution matching service demands?
- Is the service provided based upon the risks?
- Is firefighting a function of marine rescue?
- Is there a standard inventory of marine rescue boats?
- How/do we add additional resources?
- High capital costs
- PEP policy needs to be reviewed/updated

**Service Delivery Factors**

*Efficiency:*

The Regional Emergency Services Technical Committee found Marine Rescue to be an efficient service; however they also feel that operational roles, including the deployment of marine rescue craft need to be better defined. Limited firefighting as a secondary function of at least 1 boat in the program is recommended to be continued.

*Effectiveness:*

The Regional Emergency Services Technical Committee Service recommends that effectiveness be examined based upon risk and demands to ensure that resources are most efficiently and effectively deployed.

The criteria used to examine these factors are as follows:

i. Average Response Time
ii. Training Cost
iii. Response Cost
iv. Moorage/Storage Cost
v. Historical Incidents
vi. Lake Area Protected

The technical committee chose to focus on the deployment of rescue boats in the southern end of the RDCO, agreeing that the boats in Kelowna and Lake Country were optimally allocated based on current demand.

**Key Issues**
The key issues are examined using the framework and questions from the ‘Guide to Regional Service Arrangements and Service Reviews’.

<table>
<thead>
<tr>
<th>Questions:</th>
<th>Technical Chief’s Input:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Is there a role for Local Government in providing the service?</td>
<td>The official role is vague and implied under &quot;Search &amp; Rescue&quot; in Letters Patent. There is an unclear political mandate/authority.</td>
</tr>
<tr>
<td>b. Is cooperative service provision best?</td>
<td>Yes.</td>
</tr>
<tr>
<td>c. Is there a shared vision for the service?</td>
<td>No. Marine Rescue needs to be formalized including confirmation of the vision for service.</td>
</tr>
<tr>
<td>d. Does one party already have infrastructure and systems in place?</td>
<td>All Marine Rescue equipment owned by RDCO. Service delivery is by Member Municipalities/Regional FD's.</td>
</tr>
<tr>
<td>e. Would a collaborative approach result in better service?</td>
<td>Yes – by working together under the Regional District, excellent Marine Rescue coverage and response is achieved</td>
</tr>
</tbody>
</table>

**Additional Discussion**

To examine effectiveness based upon risk and demands and to ensure that resources are most efficiently and effectively deployed the location of Marine Rescue craft within the RDCO was further evaluated.

The following criteria were examined:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Peachland</th>
<th>West Kelowna</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Response Time to Boat</td>
<td>6:51</td>
<td>4:15</td>
</tr>
<tr>
<td>Training Cost</td>
<td>$5,000</td>
<td>$16,330</td>
</tr>
<tr>
<td>2 hour Response Cost</td>
<td>$233</td>
<td>$905</td>
</tr>
<tr>
<td>Moorage Cost</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Historical Incidents (7km radius)</td>
<td>65</td>
<td>45</td>
</tr>
<tr>
<td>Lake Area protected (7km radius)</td>
<td>3982ha</td>
<td>5493ha</td>
</tr>
</tbody>
</table>

The following map hypothetically places a boat at West Kelowna and outlines the concentration and distribution of Historical Marine Rescue incidents in that area from 2007-2012.
This map confirms the concentration to be higher in the Peachland area. The map further confirms that the distribution and placement of Marine Rescue Craft in Peachland allows the highest number of calls to be reached in the shortest amount of time.
The issue of the Mobile Marine Water Supply boat located at North Westside Fire Rescue was discussed by the Chiefs Committee. While the merits of this platform as a fire fighting resource were not evaluated, its function and requirement for service as a marine rescue platform was discussed.

The following map outlines the concentration and distribution of Historical Marine Rescue incidents across the region from 2007-2012.
This map confirms the concentration of incidents to be limited in the North Westside area. The map further confirms that while response times may be longer, the boat stationed in Kelowna is
capable of responding to the limited number of rescues on Okanagan Lake at the north end of the region. However, consideration should be given to adjusting the response of the boat stationed in Lake Country to capture some of these calls in a timelier manner.

**Service Delivery Options**

With respect to the deployment of craft and delivery of Marine Rescue Services, the committee examined the following options:

1. **Status Quo**: Deployment and staffing of Marine Rescue craft within the RDCO is maintained as it is presently.

2. **Modified Location for MR-21**: MR-21 would be redeployed to the Westbank Yacht Club and operated by members of the District of West Kelowna Fire Department. An increase in operating costs would be required and response times to the south end of the RDCO (where many of the incidents take place and lake conditions are worst) would increase. Due to the quicker response time, some incidents may be reached quicker.

3. **Addition of 4th Boat to Program**: A condition survey would be completed on MR-21 and a capital investment made to refurbish the boat to extend its useful life. A new boat would be purchased and deployed at the Westbank Yacht Club and operated by members of the District of West Kelowna Fire Department. An increase in operating costs would be required. The committee concluded that any enhancement to the current capability of the program would be addressed via the regular planning and review process for the Regional Rescue Program.

4. **Decrease Service Level**: Currently service is provided on major lakes within the Region, including Okanagan, Wood and Kalamalka. In order to realize savings, the service level could be decreased by eliminating the provision of Marine Rescue service from Wood and Kalamalka Lakes. MR-91 could be eliminated from the program, resulting in some operating and capital savings. Response times (or any response at all) would not be certain on these lakes. This is contrary to the original mandate as established when the program was conceived.

5. **Alternate Service Provider**: Marine Rescue service could be turned over to a 3rd party such as Search and Rescue Volunteers or the Royal Canadian Marine Search and Rescue. Presently, neither group has assets or capacity to provide this service. Both groups rely on volunteers to provide response and as such response is neither timely, nor guaranteed. A small savings in response costs (wages) and training costs may be realized. This option was investigated in the Shuswap region where RCMSR has recently deployed a donated rescue boat that is staffed by volunteers. The technical chiefs do not believe this option would meet the requirements for rapid response or coverage across the length of the region.

**Recommendation of the RESC Technical Committee**

Recreation and Tourism on our lakes is a fundamental part of living in the Okanagan. Activity levels on Okanagan Lake are very high, on a peak day there are 1429 boats using the lake.
Along with increased access to the lake (more marinas and boat launches) comes conflicting uses and increased risk.

Marine Rescue is a key service and has been demonstrated to make the difference between life and death to residents and visitors of the region.

The Technical Chief’s Committee recommends the following:

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>RANK</th>
<th>RECOMMENDATIONS OF THE RESC TECHNICAL COMMITTEE</th>
<th>YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine Rescue</td>
<td>1</td>
<td><strong>Recommendation:</strong> That service delivery in the short term remains as Status Quo.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Based on the results of a Condition Survey conducted in October 2012, MR-21, the 1993 Rigid Hull Zodiac should be replaced as soon as possible in 2013. Currently, $200,000 is allocated within the Capital Reserve for this purchase</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Develop a standard policy that outlines the criteria and procedure for inclusion of additional Marine Rescue craft into the Regional Rescue Program.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Establish a standard configuration, specification and inventory for Marine Rescue and Firefighting craft within the Marine Rescue Service.</td>
<td>2</td>
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<td></td>
<td>5</td>
<td>Revise the 2012-2017 Regional Rescue Capital Plan to reflect costing of the established standard for Marine craft, this cost is anticipated to be lower than the $200,000 currently budgeted.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Confirmation of Mandate and Vision from the Oversight Committee for Marine Rescue Service and that limited firefighting is established as a secondary function of Marine Rescue Service for a single boat, based in Kelowna.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>MR-91, the 1992 Rigid Hull Zodiac should be replaced in 2015; the existing asset should be either retained (service increase) or liquidated at that time.</td>
<td>3</td>
</tr>
</tbody>
</table>

**Next Best Option:**

While not supported or recommended, the Technical Chiefs determined the next best option for service delivery while reducing costs to be:

1. **Reduction in Service Delivery:**
   a. Reduce service delivery to only 1 boat on Okanagan Lake, stationed in Kelowna. Gaps in coverage would have to be addressed by alternate service providers such as SAR and the RCMP. The risk of service not being available in a timely manner would increase dramatically.

**Potential Cost Savings:** Approximately $50,000 - $75,000