An Examination of the Ontario Lifeguard Legislation

Allison Gomes, Dr. Ian Young, Dr. Chun-Yip Hon

Ryerson University, Lifesaving Society

Introduction

In section 17 of the Ontario Public Pool legislation (Ont. Reg 565), there is a minimum requirement established for the number of lifeguards on duty to the number of bathers in a pool within a given time. However, there is no mention within the legislation where these lifeguard to bather ratios have been determined, nor is there any scientific rationale for these numbers. This study will:

- Determine how the ratios came to be in legislation
- Determine if the ratios are valid
- Show what happens in other jurisdictions

Methods

- A legislative scan was performed for Canadian provincial and territorial public pool legislation. Legislation used included official legislation pertaining to a lifeguard to bather ratio. Legislation was categorized based on how the minimum lifeguard ratio was required: number of bathers, pool size, and operator dependent. Operator dependant means that the operator must assign a minimum number of lifeguards according to their pool's safety plan.
- A literature review was conducted to determine any theories for the current ratios given in legislation. Grey literature from lifeguard affiliated bodies such as Lifesaving Society and from government bodies were used. By gathering information from various pieces of scholarly papers and grey literature, key themes in papers will be picked up and used as rationales for why there are a legal minimum lifeguard ratio on duty.

Results

60 countries were screened for legislation with 55 pieces of legislation found. Out of 55 legislative articles only 42 mentioned a minimum lifeguard to bather ratio. Within Canada, all 13 provinces and territories had public pool legislation. According to legislation, 7 provinces and territories were reliant on a lifeguard to bather ratio, 1 based on the size of the pool and 5 others were operator dependent, meaning they did not have a required legal lifeguard ratio (Figure 1).

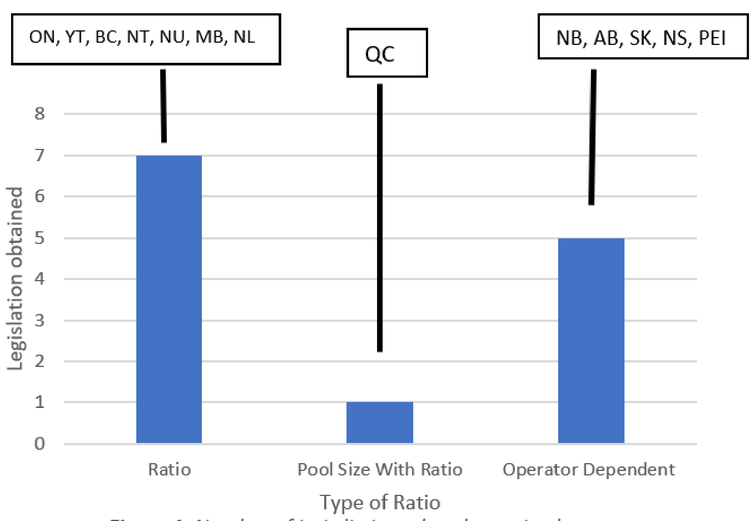


Figure 1. *Number of jurisdictions that determine how minimum lifeguards on duty is represented in Canadian provincial and territorial legislation*

From the literature review, 35 papers and grey literature pieces were found that talked about lifeguards in a public pool setting. 29 of these papers shared key themes: ratio, scanning techniques, scanning cues, vigilance and zoning. These 5 themes can be considered rationales as of why we have a minimum number of lifeguards in legislation. Table 1 shows how many papers support each rationale, along with a description.

Table 1: *Rationales found in literature*

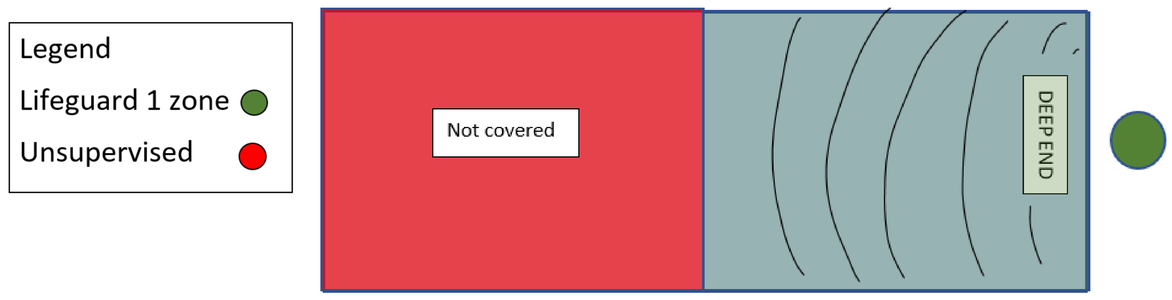
Rationale	Description	Number of papers
Ratio	Minimum lifeguards on duty to the amount of people in a pool at a given time. A proper ratio allows for constant surveillance, and less of a chance of incidents.	5
Scanning techniques	Observing the pool, facility, bathers and monitoring any activity. There are various scanning techniques a lifeguard can employ from time scans to scanning patterns.	7
Scanning cues	what lifeguards look for in order to determine when to start a rescue. This could be the difference between a distressed or drowning swimmer or even being able to see the bottom of the pool.	4
Vigilance	Awareness level of lifeguards, ability to focus on their tasks	7
Zoning	How lifeguards are positioned, where their field of vision is placed, how the pool is sectioned so lifeguards can monitor bathers	6
Total		29

Discussion

According to legislation, majority of Canadian provinces and territories have a set ratio. Places that do not are operator dependant. In terms of literature review, many authors believe in using a combination of rationales, with scanning techniques and vigilance being the most mentioned.

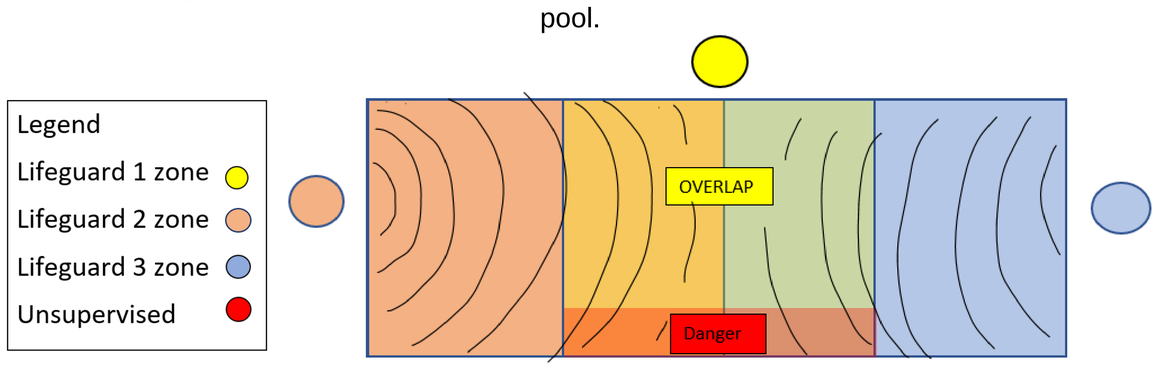
Because of the sheer amount of data from the literature review, it is easiest to show how each rationale would affect lifeguarding ratio to bathers in scenarios according to Ontario's public pool legislation, highlighting best practice for each. Each rationale contains information from both literature and legislation.

You are staffing a 25m long and 15m wide pool (375 m2). There is around 30 people in the pool.



- **Ratio**: Ontario standards- 1 lifeguard per 30 bathers.
- **Scanning techniques**: A full arc scan is the most recommended technique to use in this situation, but will not cover the entirety of the pool . The lifeguard will not be able to accurately scan the pool within 30 seconds.
- **Scanning cues:** Lifeguard will not be able to see from the bottom of the pool from their vantage point
- **Vigilance**: It's not listed in regulations that a operator has to provide a substitute lifeguards for breaks. If it is the lone lifeguard for the entirety of the shift, attention will decrease.
- **Zoning:** It is best practice to put the lifeguard at the deep end of the pool or center of the pool (in a lifeguard chair) if they are the only ones on duty. One zone not covered.

You are staffing a 25m long and 15m wide pool (375 m2). There is around 150 people in the pool.



- **Ratio:** Ontario's ratio (3 lifeguards:150 bathers). Rotation of lifeguards every 10-15 minutes to alleviate fatigue.
- **Scanning techniques:** Lifeguards in this position should be able to scan area within 10-30 seconds. If not, size of the zone should be adjusted. Scanning should be done bottom to top; starting at the bottom of the pool and working up to the surface of the water. There are many scanning techniques that can be used, but the best one is a full arc scan, which comprises of a 180-degree scan with the head at a slight angle to the pool. The scan illustrated on the diagram allows for head movement- Side to side, and sweeping eye movements which can help lessen the glare of water from the pool, accurately see the bottom of the pool as well as the top.
- **Scanning cues:** The lifeguard's ability to see the bottom of the pool in the area marked in red may be reduced due to glare of the water or blind spots. Ideally, a 4th lifeguard positioned in front of this area can help with full coverage of the pool. Lifeguard must be able to accurately distinguish a distressed vs a drowned swimmer.
- **Vigilance**: Rotation every 10-15 minutes gives a person a rest, keeping lifeguards alert. 3 lifeguards per 150 bathers may put a lot of stress on them, due to them disciplining members, or doing tasks that take their attention away from their zones.
- **Zoning:** Overlapping zones- Allows for constant surveillance. Splitting the pool into 3 zones- one zone for each lifeguard. Lifeguard is standing at a "pivot point" meaning that most of the zone can be seen. Each lifeguard should be responsible for incidents in their zone only.

Conclusions

- Studies show lifeguard ratios are based on ratios, scanning techniques, scanning cues, vigilance and zoning.
- According to these rationales, Ontario's ratios for bathers >150 works, however, required lifeguards for less than 150 are not enough to provide efficient surveillance.
- Ontario should have an option to make it mandatory for operators to create their own lifeguard plan, and get it approved by public health. This can help to ensure sufficient coverage of the pool and less demanding work from their lifeguards.