



# BIGGER BETTER SAFER 2015-16

WESTERN AUSTRALIAN  
AQUATICS INDUSTRY REPORT

**LIWA**

LEISURE INSTITUTE OF WA AQUATIC (INC.)



**Royal Life Saving**

THE ROYAL LIFE SAVING SOCIETY - WESTERN AUSTRALIA INC.

## AUTHORS

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Report prepared by the Royal Life Saving Society of Western Australia

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## ACKNOWLEDGMENTS

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Thank you to the 57 aquatic centres across the state who completed the industry profile survey.

A special thank you to the 30 aquatic centres who supplied incident and patronage data for the 2015-16 season.

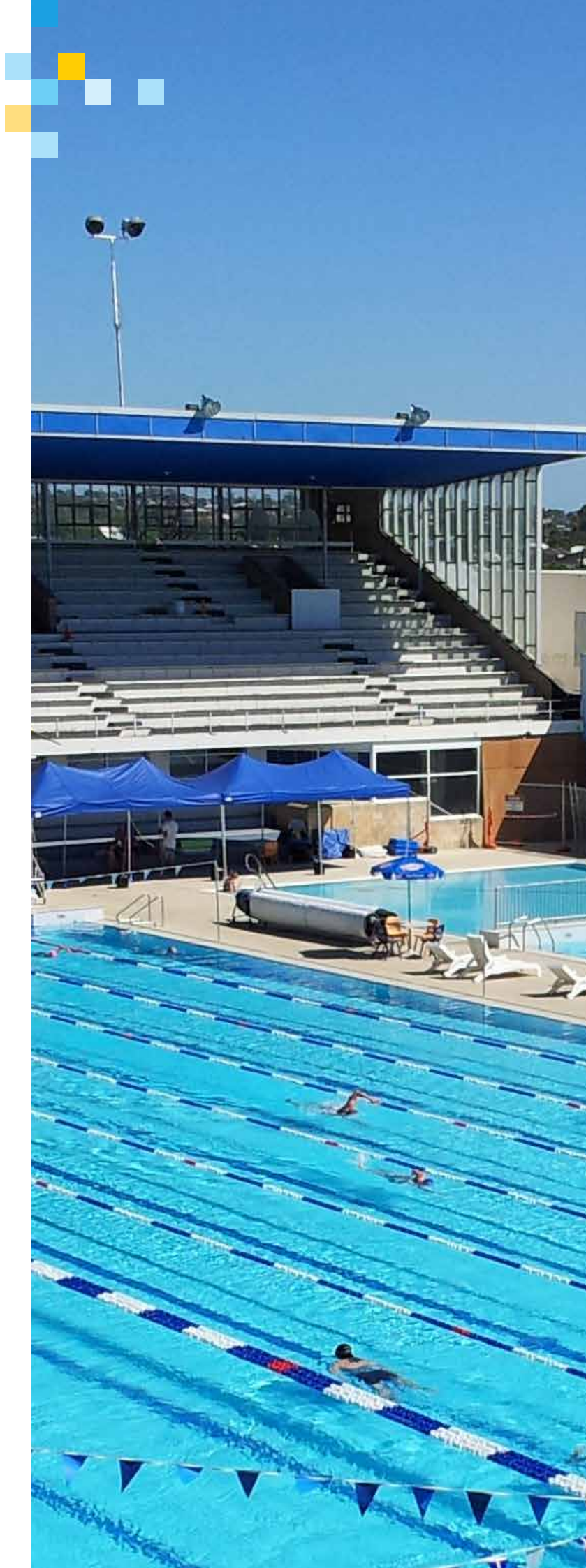
- Altone Park Leisure Centre
- Ballajura Aquatic Centre
- Bay of Isles Leisure Centre
- Bayswater Waves
- Beatty Park Leisure Centre
- Belmont Oasis Leisure Centre
- Bilgoman Aquatic Centre
- Cannington Leisureplex
- Craigie Leisure Centre
- Exmouth Leisure Centre
- Geographe Leisure Centre
- Geraldton Aquarena
- Goldfields Oasis
- HBF Stadium
- HBF Joondalup
- Kambalda Swimming Pool
- Karratha Leisureplex
- Katanning Aquatic Centre
- Kununurra Leisure Centre
- Leisurepark Balga
- Leschenault Leisure Centre
- Mandurah Aquatic and Recreation Centre
- Maylands Waterpark
- Mt Helena Aquatic Centre
- Riverton Leisureplex
- South Hedland Aquatic Centre
- South Lake Leisure Centre
- Terry Tyzack Leisure Centre
- Wanneroo Aquamotion
- Wyndham Swimming Pool

## PROJECT PARTNERS

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Department of  
Sport and Recreation





## A MESSAGE FROM OUR CEO

**AQUATIC CENTRES PROVIDE** significant benefit in terms of community development, sport, recreation, health and fitness. Importantly aquatic centres create a water safe community when you consider:

- Children get the opportunity to safely explore the water under the watchful eye of a lifeguard,
- Parental behaviours in relation to supervision are modelled and influenced by lifeguards and the Watch Around Water program. Skills that are inevitably transferred to everyday life and the home,
- Opportunities are provided for all ages and all communities to learn personal water safety and survival skills,
- Training is provided in Bronze Medallion and CPR, developing skills that could one-day save a person's life.

The Royal Life Saving Society WA and Leisure Institute of WA Aquatics have collaborated for more a decade on this unique research project that seeks to;

1. Better understand the aquatic industry as a collective and to quantify key outputs,
2. Monitor risks to patron safety and identify trends,
3. Evaluate compliance to industry benchmarks and standard operating procedures,
4. Be a catalyst for discussion and an evidence base for ongoing program development.

Highlights of this year's report include:

- Annual patronage at public aquatic centres exceeded 11 million visits (an extra 719,000 visits compared to last year),
- The sector employed more than 5,600 people in full time, part time, casual and voluntary positions,
- Continued improvement in industry standards and compliance,
- Industry first analysis of water safety program provision.

Most importantly the report includes recommendations and opportunities to achieve even better outcomes in the future.

Many people have made a significant contribution to this report. In particular I would like to acknowledge Lauren Nimmo for coordinating the research project, Tony Head for his support and Stephanie Enkel for collating the data and preparing the report.



**PETER LEAVERSUCH**  
CEO  
ROYAL LIFE SAVING SOCIETY WESTERN AUSTRALIA

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Royal Life Saving



# PART 1: STATE OF THE INDUSTRY

The 2015-16 Aquatic Industry Profile was completed in full by 57 pools, representing 46% of the 125 public swimming pools in Western Australia (WA). This was down from last year where 61% of pools provided data (Figure 1). Regional participation was sustained at a similar level (45% compared to 55% last year) while metropolitan participation decreased from 81% to 55%.

Annually, the survey collects data from public swimming pools with a specific focus on patronage, expenditure and staffing in aquatic areas for 1 July to 30 June. Data on water consumption is also obtained from the WA Water Corporation. This year, we focused on determining the proportion of centres that ran programs for at-risk and minority groups and the impact this had on the community. Open ended questions were also included in the survey to gain a greater perspective of issues of importance facing the industry.

The survey has been conducted seven times since 2007 and nearly all public swimming pools have participated at least once during this period. The consistent involvement of aquatic centres in this survey allows for more accurate estimations of data and trends across the years. However for centres that did not complete the survey in 2015-16, the most recent data provided is used to estimate results. There remain 10 pools that are yet to complete the survey for the first time. For these pools, data estimates are made based on similar sized centres. The year of last participation in the Industry survey for WA pools can be seen in Figure 1.

## Patronage

2015-16 recorded the highest number of visits to public swimming pools over recent years with an estimated patronage of 11.1 million; an additional 719,000 visits compared to the previous year. This is a trend that has been consistent across the past four years and totals an increase of 13% since 2009-10. The rate of patronage also increased from 4.0 visits for every person in WA last year to 4.3 this year (Figure 2). This is the first time the increase in patronage has exceeded the increase in WA population between recording years.

Regional areas continue to record higher patronage per head of the population than the Perth and Mandurah region (4.5 compared to 4.2), with the Esperance and Goldfields region recording the highest rate at 5.9 visits per patron. Patronage continued to be the lowest in the Kimberley (4.0). This can be seen in Figure 3.

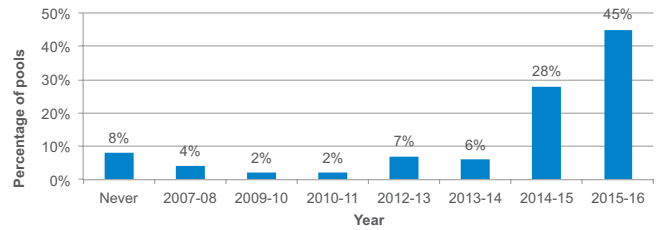


Figure 1: Year of last participation in the Industry survey for all public swimming pools

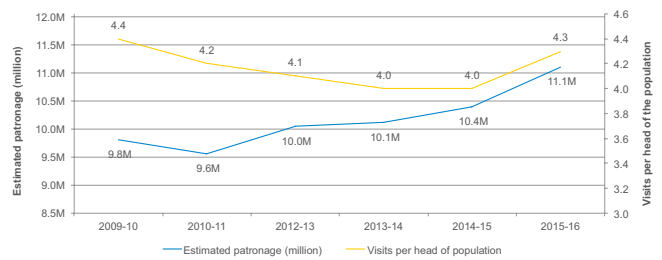


Figure 2: Estimated annual patronage for all public swimming pools in WA

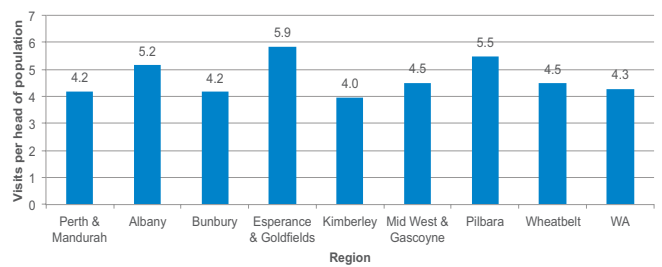
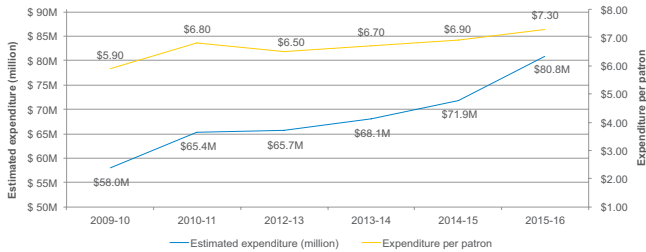


Figure 3: Patron visits by population and region

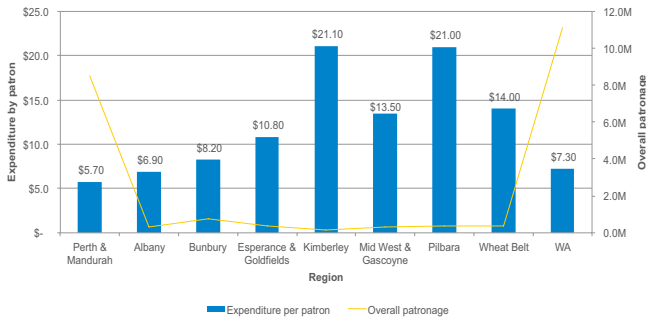
## Expenditure

Annual expenditure maintained a steady trend upwards in 2015-16 with the total exceeding \$80million. In addition, there has been a 40% increase in expenditure since 2009-10. While expenditure per patron remained steady over the past five years, it jumped from \$6.70 to \$7.30 in 2015-16, a 5% increase since last year and a 24% rise since 2009-10 (Figure 4).



**Figure 4:** Estimated annual expenditure and per patron visit for all public swimming pools in WA

As some areas of the state are more densely populated than others, expenditure per patron again varied by region. This can be seen in Figure 5. While some regions appear to have significant outlays, there is an evident downward trend between overall patronage and expenditure. As patronage increases, expenditure reduces; evident in expenditure per patron being the lowest in metropolitan regions and three times the state average in the less densely populated North West.

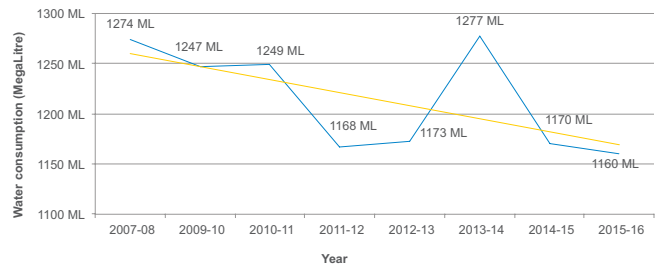


**Figure 5:** Average expenditure per patron visit by region

## Water Consumption

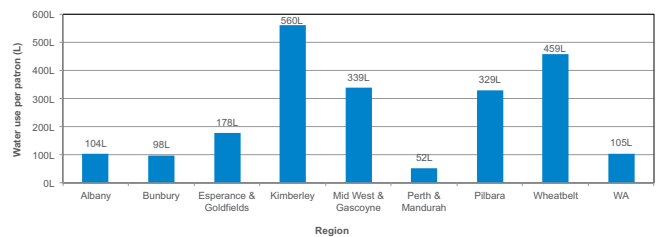
The Water Corporation provides total water consumption figures for a sample of over 100 public swimming pools around the state. Estimates for the remaining centres not included in the sample are made based on water consumption of pools in the same region of similar size. The data provided by the Water Corporation are only best estimates of water use as they may include other centres on the same site and they do not include groundwater (bore) usage. This year, we reanalysed best estimate water use data across the years of reporting to include all WA pools. This allowed a reassessment of previously reported data to provide the best estimate of trends in consumption.

Overall, water consumption continued to trend downwards in 2015-16 with an estimated decrease of 18% since 2007-2008, evident in Figure 6. In all, 1.16 billion litres of water was used across all pools over the last financial year, equating to 1106 megalitres (ML).



**Figure 6:** Annual scheme water consumption 2007-08 to 2015-16 (ML)

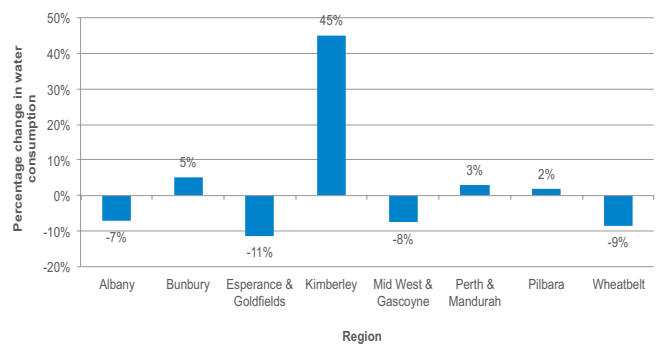
As per previous observations, water consumption varied when analysed by region. To provide a valid estimate, the number of litres used per patron visited was calculated. This can be seen in Figure 7. Bunbury, Albany and Perth/Mandurah were the only regions to have water consumption under the WA average of 105 litres per patron visit. All other regional areas had much higher water usage, with the Kimberley recording a rate more than five times the state average.



**Figure 7:** Estimated scheme water consumption in litres per patron visit by region for 2015-16



When analysed according to differences between 2014-15 and 2015-16, it becomes evident that increasing rates of water consumption occur primarily in regions where capital works are occurring. This can be seen in Figure 8. The Perth and Mandurah region had an increase of 3.4% between years, mainly attributed to the renovation and opening of a highly populated pool. Reasoning was similar for the 5.3% increase in the Bunbury region and 2% in the Pilbara. Furthermore, water consumption in the Kimberley, a region with a comparatively low number of pools, was compounded by the increased usage of one pool and high degree of capital works on another, producing an overall 45% increase in water consumption in the region. All other regions observed reductions.



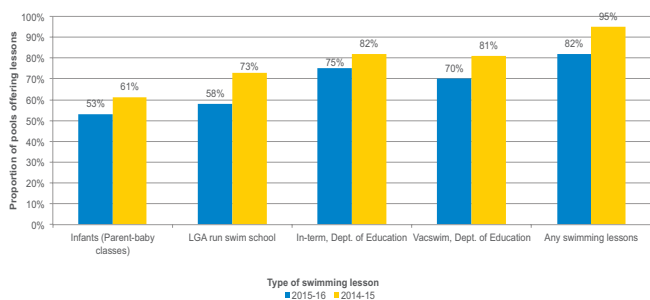
**Figure 8:** Differences in water consumption (%) by region from 2014-15 and 2015-16



## Programs facilitated by public swimming pools

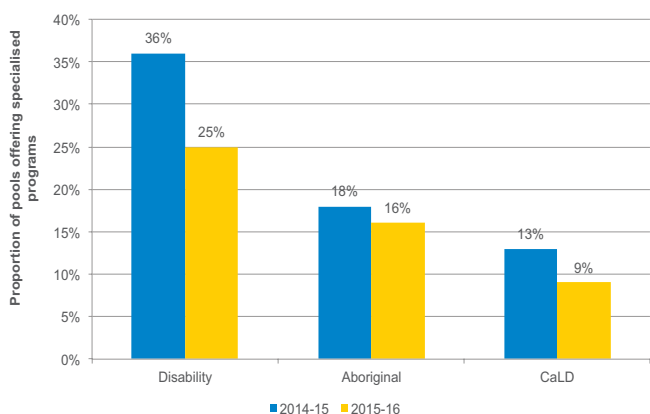
Public swimming pools are integral in creating water safe communities by providing opportunities for all ages to learn swimming and survival skills. The provision of these programs is critical to ensuring safe participation. It was positive to observe that 82% of surveyed pools delivered some form of swimming and water safety lessons, be it private, local government run or state government run (In-term or VacSwim). A breakdown of this can be seen in Figure 9. While these figures are down on last year, the smaller sample and inclusion of less metropolitan pools may mean a complete assessment of lesson delivery is unlikely.

Lessons coordinated by the Department of Education (In-term and VacSwim lessons) continue to be the most common form of swimming and water safety education offered by pools. In WA, 195,615 children participated in the RLSSWA endorsed Swim and Survive program and an additional 20,599 in Infant Aquatics programs. In this sample, more than half of all pools continue to run their own swim school, with a similar number offering parent and infant water familiarisation classes. On average, each centre facilitated lessons for 13,000 individuals over the 2015-16 period; however this figure may be overestimated due to the inclusion of larger metropolitan swim schools in the sample.



**Figure 9:** Percentage of public swimming pools providing swimming lessons by type

Each year the number of public swimming pools providing specialised programs targeting at-risk groups is assessed with a specific aim to address gaps in service provision. Of the pools surveyed, 35% provided programs for those with disabilities, Aboriginal Australians and culturally and linguistically diverse (CaLD) groups. While this is lower than the 46% of pools sampled in 2014-15, the limitations of reporting this year as discussed may have impacted on observed rates. A comparison between 2014-15 and 2015-16 program offering can be seen in Figure 10.



**Figure 10:** Percentage of public swimming pools offering specialised programs for at-risk groups

Programs for disabled groups continue to be the most common form of service provision for at-risk groups, offered by a quarter of surveyed pools at an average of three sessions per week. A number of pools ran modified Swim and Survive programs providing lessons to a large number of children at a time. Fitness, cycling and aerobics classes were also offered by a number of centres for individuals of all ages. Furthermore, pools indicated that they did what they could to assist disabled students in accessing swimming lessons, such as allowing individual carers to participate in lessons if necessary. Private lessons were also facilitated, as were external lessons with qualified therapists. As identified last year, the provided figures may be underestimations as a number of community groups utilise public swimming pools to deliver their programs, but are not included in the official survey statistics.

Aboriginal programs were run and/or offered by 16% of surveyed pools. The majority of these programs were not ongoing throughout the year and often run once or twice during the assessed period. Swim4Fruit however was an exception which was reportedly run consistently throughout the season. Aboriginal programs demonstrated the highest rate of variability in terms of design and type, specifically in regional areas, indicating a desire for such offerings to be inclusive of the whole community. Specific programs included basketball carnivals run in conjunction with aquatic activities, community and family fun days, Aboriginal targeted swimming lesson blocks, water safety development and first aid and CPR lessons.

Only 9% of sampled pools reported providing programs for culturally and linguistically diverse (CaLD) groups. Positively, pools offering such programs were located in regions highly populated by a diverse range of ethnic groups, indicating targeted service provision based on the needs of the community. An average of three classes per pool were facilitated weekly. The majority of programs offered were adult swimming lessons with a number only accessible to women; on par with cultural requisites for involved individuals. One pool in a regional area provided swimming lessons specifically to the wives of crayfisherman with the aim of increasing survivability if they were to accompany their husbands out on the water; an excellent example of program acknowledging and meeting specific local requirements.

Each year challenges in providing programs for minority groups are identified. Those completing this year's survey elaborated extensively about those that affected their pool and prevented the initiation or continued delivery of inclusion programs. Staffing, funding, insurance and lane space were commonly identified challenges, themes recurring from the 2014-15 report. A number of pools felt that their staff were not adequately qualified to assist at-risk groups in an appropriate manner, and worried about the implications of an adverse event if one were to occur. One centre that had issues with dealing with CaLD language barriers was able to rely on a staff member who had skills adequate enough to communicate effectively. Obviously however, this is not a solution available to all centres with similar issues. Another pool stated that while they were not in a position to effectively offer inclusion programs, they were supportive of service providers who utilised their pool to provide opportunities to these target groups. In relation to Aboriginal groups, a number of programs were developed and offered but received little community interest, resulting in the folding of the initiative. Such challenges were primarily experienced by regional centres.



### Strengths and weaknesses of current swimming and water safety programs

Surveyed public swimming pools were asked to expand on the quantification of programs, participants and opportunities for at-risk groups that participated in targeted activities and indicate the strengths and weaknesses of current swimming and water safety programs. This allows for a better understanding of how RLSSWA and LIWA Aquatics could better support pools with program delivery.

It was clear that many pools believed that their ability to offer patrons high calibre programs was influenced primarily by employing motivated and experienced swim school staff, which aided retention rates between terms and across years. As one centre stated;

“[We] maintain a high standard of teaching amongst the teachers to produce competent students.”

The benefits of small class sizes, well designed and constructed centres, council support and regular communication with parents were also identified as evident strengths. One centre identified that regular engagement with parents influenced positively on the students, especially for example outside the pool where swimming skills could be facilitated by knowledgeable instructors to improve technique. Lastly, the Watch Around Water program was also noted as a strength for many pools, ensuring adequate supervision to improve overall safety for patrons.

Despite the number of positives observed by pools, weaknesses in relation to current swimming and water safety programs were also noted. Staffing shortages, including qualified swimming instructors and lifeguards, were noted to be the primary weaknesses, specifically in regional areas. One pool described this issue to be due to the ‘transient’ nature of the workforce that frequents many small towns and communities, impinging upon staff retention. A shortage of funding was also discussed as a potential weakness, which limited program delivery and created a gap between what a pool wished to offer to meet community demand, and what they were able to provide.

One pool felt that they had issues implementing the Watch Around Water policy, a weakness that may be applicable across other WA public swimming pools. Parents refrained, either actively or simply by forgetting, to put wristbands on their children, allowing lifeguards to be able to accurately ascertain their age. As the centre stated;

“Some lifeguards find it intimidating approaching parents and informing them of the rule.”

Evidently, further support for new or current members of the lifeguard workforce is required to ensure confidence to discuss the policy with parents to ensure the overall safety of young patrons.

### Swimming and water safety education; community priorities and needs

Overwhelmingly, surveyed pools identified their communities needing opportunities for individuals of all ages to learn how to swim. It was also clear that pools acknowledged the need to target at-risk groups to increase survivability, including Aboriginal, CaLD, the elderly and disabled groups. Basic rescue skills were also noted as something that needed to be provided to all, especially in communities close to natural waterways or the beach. These priorities were summarised well by one country pool.

“Being a coastal community, water education for all environments is extremely important. [This community] is home to many [Aboriginal] Australians who have access to many waterways other than a swimming pool. [Swimming] teachers enforce the importance of water safety in all environments and also create a safe environment for kids to spend their days.”

Solutions to the discussed weaknesses included having more qualified swimming instructors available in regional areas, improved cultural awareness training, reinforcement of the Watch Around Water policy and increased parental supervision. This last point was described by one pool to be a particular issue, with more and more parents being distracted by phones and smart devices and losing focus on the importance of constant vigilance while supervising young children.

### New initiatives planned for future implementation

The WA aquatics industry is an evolving entity and it is positive to see a number of surveyed pools outlining their plans for further program development and delivery across the next 12 months. Most initiatives involved expanded programs for at-risk groups, including ‘Ladies Only’ swimming programs for CaLD communities, Aboriginal Swim and Survive and recreation programs, disability swimming lessons and fitness classes for the elderly. A number of unique programs were also discussed, including ‘Learn How to Snorkel,’ movie nights raising funds for local non-government organisations and new adult swimming and exercise programs. Lastly, a number of pools stated they were undergoing facility upgrades, capital works and internal and external redesign that would encompass the majority of planning over the next 12 months.

One pool had begun an enterprise to encourage parental supervision after swimming lessons, termed the ‘Under 6 Blitz’. As explained by the survey respondent;

“[We get] our Swim School more involved by handing out flyers at the beginning of swimming terms when liaising with parents. We find the highest number of unaccompanied under 6’s is directly before and after their swimming lessons.”

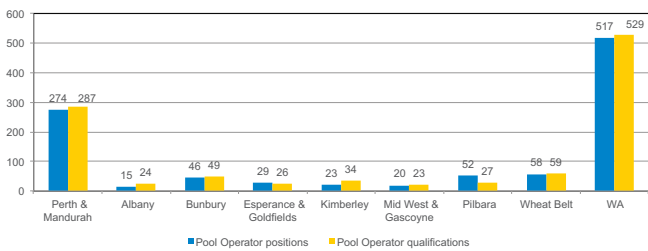
This is a great example of a centre recognising a challenge and developing a positive initiative to overcome it.

## Labour Force

It is clear that the WA Aquatic Industry is supported by a substantive labour force, providing employment opportunities to individuals in each region of the state. Overall, the aquatic workforce totals approximately 5,600 staff, comprising of pool operators, lifeguards, swimming instructors, aquatic support staff and a number of voluntary positions.

### Pool Operators

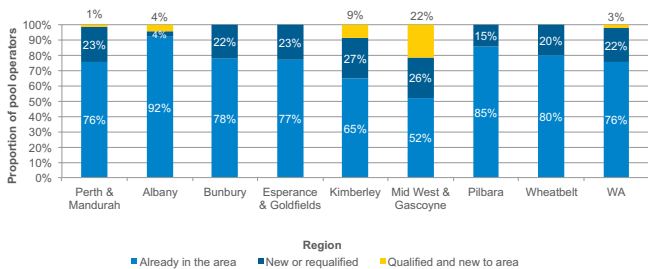
The number of pool operators required by the WA aquatics industry remained stable between 2014-15 and 2015-16, with 517 positions identified as of 30 June 2016, compared to 519 this time last year. There is a very slight surplus in the number of qualified pool operators state-wide with 529 individuals holding current accreditations. However as can be seen by the ratios presented in Figure 11, this marginal surplus is differential across the state.



**Figure 11:** Number of pool operator positions to number of people qualified by region

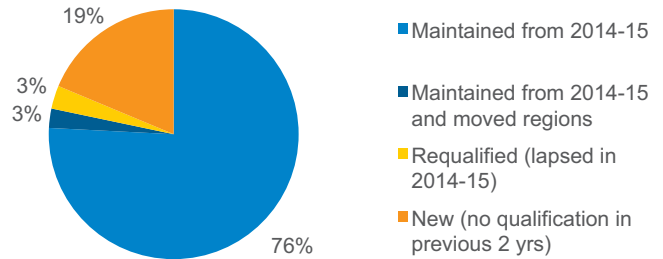
### Workforce turnover and mobility of Pool Operators

The retention of qualified pool operators continues to be an integral part of the success of the WA aquatics industry. Already qualified operators who have remained in their region of work continue to comprise the majority of the workforce; however this varies across each region. As can be seen in Figure 12, the Mid-West and Gascoyne region observed the highest rate of mobility with new/requalified operators and those new to the area almost equal to retained workforce members. The Albany region recorded the highest rate of retention at 92%.



**Figure 12:** Changes in pool operator qualifications by region

Between 2014-15 and 2015-16, 82 pool operators had had their qualifications lapsed. At the time of analysis, these had not been renewed. However during the same period, 99 newly qualified pool operators entered the workforce and an additional 16 requalified, having had their accreditation lapse in 2014-15. This resulted in an overall increase of 36 qualified pool operators, a growth of 7% between years which contributed to the state moving from an overall shortfall of pool operators to a surplus. Of the overall workforce, 2.5% of currently qualified pool operators moved regions and these statistics are further explained in Figure 13.



**Figure 13:** Date of renewal of pool operator qualifications current at June 2015

### Pool Lifeguards

Between 2014-15 and 2015-16, the WA aquatics industry increased the demand for pool lifeguards from 930 to 978, a 5% increase in 12 months. At the time of analysis, 1,442 Pool Lifeguards had valid qualifications obtained through the RLSSWA. The Perth and Mandurah region continued to exhibit the highest demand and supply with 63% and 71% of positions and qualifications respectively in this region, on par with the high rate of patronage. This is demonstrated in Figure 14.



**Figure 14:** Number of pool lifeguard positions to number of people qualified by region

### Workforce turnover and mobility of Lifeguards

When compared to pool operators, lifeguards have a lower rate of retention but a higher number of new annual qualifications. Workforce movement differs across regions and as per results observed for pool operators, the Mid-West and Gascoyne region experienced the highest rate of lifeguard mobility. This can be seen in Figure 15.



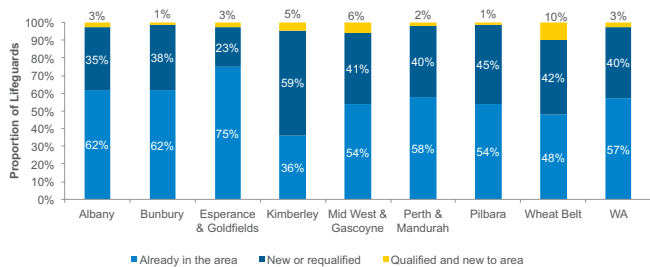


Figure 15: Changes in lifeguard qualifications by region

Compared to last year where a 6% decrease in the number of qualified pool lifeguards was observed, 2015-16 has seen a 5% increase. Overall, 513 individuals, equating 37% of last financial years' workforce allowed their qualifications to lapse and had not renewed at the time of analysis. However 33% of the workforce was new, only gaining their qualifications in the last 12 months. A further 7% had regained their pool lifeguard accreditation after allowing it to lapse during 2014-15. Overall, 57% maintained qualifications across the years and 2.5% had maintained their accreditation and moved regions. A breakdown of these statistics can be seen in Figure 16. Evidently a much smaller proportion of the lifeguard workforce maintains their qualifications when compared to pool operators.

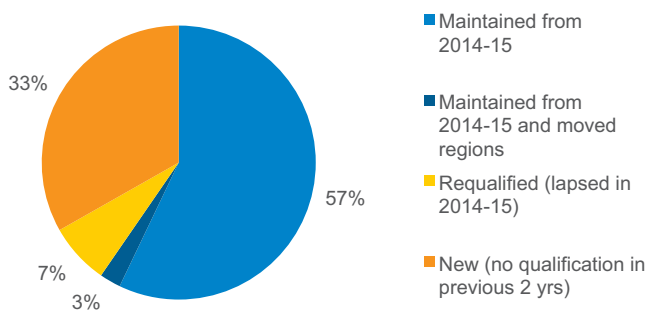


Figure 16: Date of renewal of pool lifeguard qualifications current at June 2016

We also asked pools about the lifeguard to patron ratio policy they employ. Industry regulations require at least 1 lifeguard for every 100 patrons. While this was stated to be the policy at 70% of surveyed pools, many indicated that smaller ratios were implemented during busier times. Such situations and staffing rates were consistently re-evaluated. Smaller ratios were used consistently by the remaining 30% of aquatic centres (Figure 17).

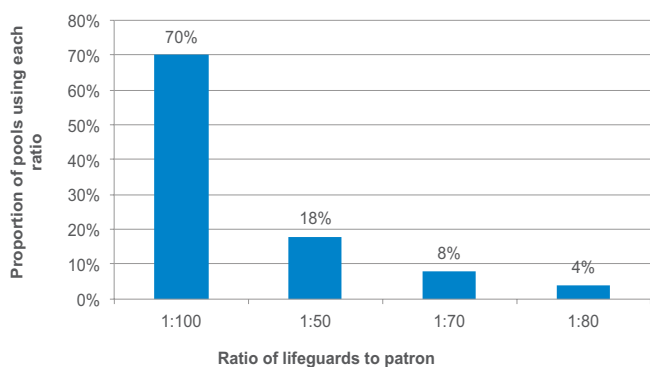


Figure 17: Centre policies regarding Lifeguard ratios to patrons

### Swimming Instructors

Of available swim instructor positions in WA, 95% are casual. In total, there are 2,123 swim instructor positions available state-wide, up 28% on 2014-15 data. Of these, 65% are in the Perth and Mandurah region. WA has a high number of qualified swim instructors amounting to 4,250, resulting in a surplus of almost two times the number of qualified swim instructors required. While last year saw surpluses across all WA regions, this year small shortfalls were observed in the Esperance-Goldfields and Pilbara regions. This can be seen in Figure 18.

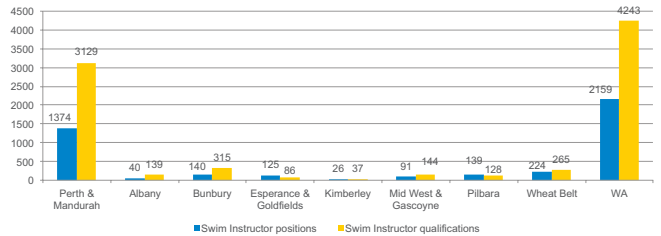


Figure 18: Number of swimming instructor positions to number of people qualified by region

In regards to observed surpluses, while many pools in these affected regions have noted difficulties obtaining staff, it is important to recognise these areas are incredibly large. Hence is not feasible for many seeking work to travel to areas of need, furthering these gaps between workforce surplus and shortfall.

### Other members of the aquatic workforce

While many pools have higher rates of employees specific to non-aquatic sections (for example fitness centres), only non-paid members of the aquatic workforce have been included in this discussion. These include volunteers, trainees and work experience students. In 2015-16, 47% of surveyed pools (N=27) indicated that they hosted one or more of the above members of the workforce, totalling 72 individuals. This figure does not differ significantly to that of 2014-15 (45%).

Volunteer staff comprised the highest proportion of additional employees, with 63% of the 27 centres receiving assistance from an average of three volunteers over the year. Roles undertaken by volunteer staff included administrative duties, manning the kiosk, assisting with carnivals, swimming events, coaching and general maintenance. Work experience students were observed at a much lower rate than last year with 41% of pools hosting such individuals compared to 60% during 2014-15. This equated to an average of 1.5 students at each pool. Work experience roles were similar to those of volunteers but included more hands on activities like lifeguarding, gym experience and pool operations. Many pools stated that these activities occurred under direct supervision. Four pools offered traineeships, averaging one per pool. This provided individuals with opportunities to attain accreditation and experience in the areas of lifeguarding, pool operating, administration, and maintenance and crèche supervision. Lastly, three pools hosted an individual completing community service hours, with general maintenance and cleaning being the primary duties. No 'Work for the Dole' participants were hosted at any pools sampled. A breakdown of these statistics can be seen in Figure 17.

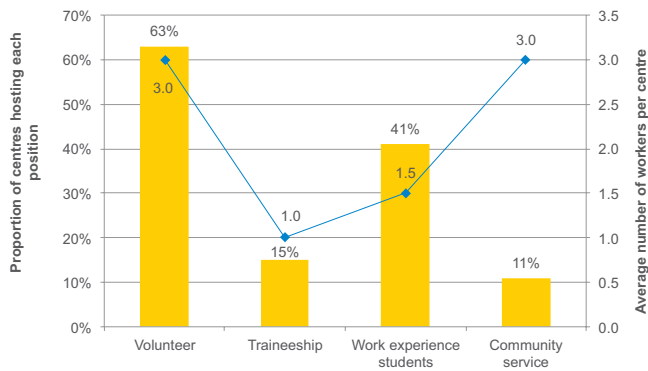


Figure 19: Aquatic centres (n=17) with additional workers by type and average number of workers

In engaging these individuals to participate in day to day activities at the pool, the majority of pools stated that they do not actively seek unpaid employees, but are approached by the individual, their associated school/organisation or applications through the relevant council. A few stated to using local newsletters and emails to entice volunteers during peak periods for extra support. In smaller public swimming pools primarily located in regional areas, family and friends played significant support roles.

## Issues facing the aquatics industry; opportunities for LIWA and RLSSWA assistance

In engaging with pools as part of this survey, it is important to be able to determine the methods by which LIWA and RLSSWA can offer support going forward. Recurring themes, as per previous years were finance and staffing issues and the high costs of operations. Increasing operational costs and expenditure frequently did not match that of patronage in many regional areas. So called 'competition' posed by alternative activities (such as in-home entertainment systems and backyard water games) were stated to be one reason as to why patronage in some pools was declining. Furthermore, some pools also felt that it was unfortunate that parents did not appreciate the importance of swimming and water safety lessons, and indicated there was scope for this awareness to be increased. Providing comprehensive supervision also appeared to be an issue in many pools, and one pool had recently been affected by an influx of 'non-swimmers' which hampered supervision efforts.

Some felt that the industry was becoming overregulated which was impinging upon the success of smaller pools. This was hampered further in rural areas where country towns were noting a declining population and expenditure to keep on par with regulations was becoming more financially difficult. LIWA and RLSSWA were indicated as being entities that may assist with alleviating this burden.

Emphasis was also placed on maintaining the workforce. A lack of financial support for those in regional areas needing to travel to Perth for requalification was stated to be an area in which assistance was urgently required. One suggestion was online professional development opportunities and training videos, while another recommended allowing those in regional areas on working holidays to have subsidised qualifications, reducing workforce shortages. Conversely, one pool questioned as to whether lifeguards should be employed at an age later than 16, believing this age was perhaps too young to take on the responsibility. This is a query to perhaps be discussed within the industry in the near future.

Small and large scale advertising campaigns regionally and state-wide outlining the importance of swimming and water safety lessons and parental supervision at all times was also suggested as ways to overcome poor participation rates and inadequate parental surveillance.

However in all, LIWA and RLSSWA were noted by many to be providing adequate support presently and these respondents were thankful for the efforts of the two organisations over the past twelve months.



## Findings and Recommendations

**WA public swimming pools are highly valued.** As demonstrated through increasing patronage, these facilities serve as community hubs enabling recreation, skill development and social inclusion. They serve as a valuable investment and should be maintained at the current high standard.

**Water consumption at public swimming pools continues to trend downwards.** It was positive to see LIWA win this year's Western Australian Water Corporation CEO Award for Water Efficiency Leadership, a recognition of water wise endeavours. LIWA will need to continue to work with pools to instil efficient methods of saving water, especially in regions with high use.

**Supervision plans to improve safety should be developed.** Public swimming pools should be encouraged to develop specific supervision plans for their centre using a risk management approach to supplement the current minimum regulatory requirements.

**Swimming programs are a community investment.** The importance of swimming and water safety programs for children should not be underestimated. These are excellent investments in community safety reaching a significant proportion of the population and should be sustained at a high calibre.

**Pools need greater support to target high-risk groups.** A number of pools identified limitations in their ability to provide programs targeting CaLD, Aboriginal and other at-risk community groups. Up-skilling staff, providing promotional guidance and sourcing funding are areas by which RLSSWA and LIWA Aquatics can assist pools reach these groups.

**Aquatic support staff are important members of the industry.** Non-paid employees including volunteers, work experience and trainees are integral to running high quality pools, specifically in regional areas. Encouraging pools to engage volunteers and local school work experience/VET students to cover staff shortages not only assists the pool, but facilitates progression towards careers in aquatics industry.

**Gaps exist between areas of labour need and available workforce members.** Workforce shortages are particularly severe in some regional areas. It is important to investigate strategies to assist staff retention, while encouraging individuals to remain in areas of need.

**LIWA and RLSSWA should continue to maintain support.** Engaging with aquatic staff face-to-face allows high quality areas of improvement to be collaboratively noted and answered. While LIWA and RLSSWA have strong links with the aquatics industry, it is necessary to evolve feedback practices to guarantee support mechanisms are targeting areas of need.

**Strategies to ensure survey completion need to be investigated to allow for a high rate of data attainment.** To ensure high annual complete rates, strategies to encourage survey completion need to be investigated and implemented in future years to ensure accurate reporting. Sending the survey at the beginning of season, providing incentives for completion and improved online survey options should be investigated.





## PART 2: INJURIES AT PUBLIC SWIMMING POOLS

Each year, a representative from RLSSWA and LIWA Aquatics liaises with a sample of WA public swimming pools to collate and assess injury and incident reports. This allows an adequate determination of the rate of incidents across the state, as well as identifying at-risk age groups and common causes of injury. Recommendations are provided on the basis of these findings. In 2015-16, injury data was collected from 30 WA public swimming pools, with 18 being from the Perth metropolitan area and 12 from regional areas. This represented 63% and 42% of the total annual metropolitan and regional patronage respectively and 57% of overall WA patronage. This high rate of representation is most likely due to the inclusion of larger pools in the sample which allowed for an improved generalisation of state-wide results.

In 2015-16, data collection was completed differently to previous years and pools were contacted twice over the period to submit data. This allowed a staggered mode of data collection that provided preliminary results prior to June 30, while also enabling the inclusion for more seasonal pools. As a result, full and accurate results were able to be presented to industry at the LIWA conference in August. The method of this approach followed previous years in that it was closely aligned with pool record systems and allowed for the inclusion of more detailed information. It was important to ensure that pools were not inconvenienced in this process and that methods by which information was obtained were flexible. Pools were given the option to submit their data in three ways; 1) provided summary spread sheets of the data (10% of the 2015-16 sample), 2) supplied copies of their own incident report forms (63%), or 3) a RLSSWA staff member attended the centre to collect enter the data (27%). No identifying information was collected and data was stored in a secure manner and destroyed upon data entry.

Injuries were classified as major, moderate or minor. An incident was considered 'major' if emergency services were called, or if CPR, defibrillation or a spine board or collar were used. An incident was considered 'moderate' if a water rescue was performed or if the patron was advised to seek immediate medical attention. All other incidents were considered 'minor.' Incidents that occurred in a gymnasium or sports court at the centre were excluded, and only those occurring in the aquatic part of a centre were included in the analysis. This year we also included incidents whereby staff members were victims to determine the rate of injury among this group and recommend methods by which these could be prevented.

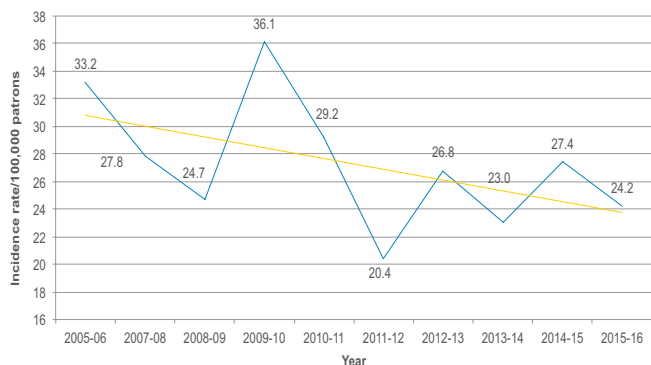
It was positive to see the majority of participating pools consistently using data collection tools that captured enough detailed information required for RLSSWA records. Over 90% of incident reports provided information on the date of incident, gender of the victim, the type of incident, the type of injury sustained and the type of aid that was provided. However key variables that continue to be less consistently recorded are; time of incident (13% missing) and the specific age of the victim (33% missing). Who first recognised the incident was only reported in half of all instances, as was the performer of first aid. The location the incident occurred was less well reported than previous years.

Suggestions on how to reduce the risk of a similar incident occurring again was only reported in 13% of instances; however most forms did not have a section requiring an answer to this question. Furthermore, only a few of recorded suggestions were achievable with many making reference to common, minor incidents that would be difficult to actively prevent.

In reporting the results of the analysis of injury reports, it is important to note that incidents may record a number of variables in the same category. For example, an individual may require three different types of first aid, or have experienced more than one injury. To adequately represent these statistics, data relating to types of incidents, injuries and first aid performed will be provided based on the percentage of cases the variable occurred in, not the overall percentage out of 100.

## Annual Incident Rate

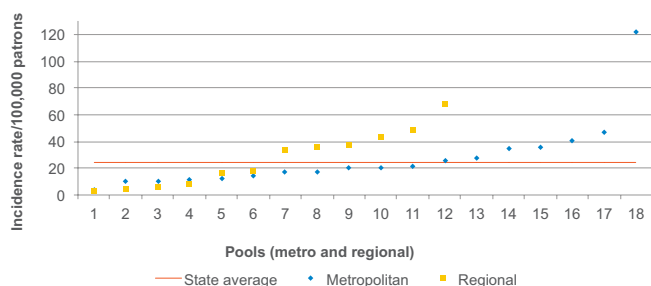
It has been positive to observe a 27% decrease in the annual incident rate at WA public swimming pools over the past 10 years, dropping from 33 to 24 per 100,000 patrons in 2015-16 and a 12% decrease from last year's rate (Figure 20).



**Figure 20:** Annual Incident rates per 100,000 patrons: 2005-06 to 2015-16

Based on current patronage estimates of 11.1 million visits in 2015-16 and data from this sample of pools, this equates to 2,686 injuries across all WA public aquatic centres. Of these, the vast majority (89%) would be classed as minor requiring basic first aid; slightly up on the 87% observed last year. 220 incidents (8%) would have been moderate and 64 (3%) major. As would be expected, the bulk of incidents occurred in summer and spring months, on par with patronage distributions across the year. Over half of all incidents happened between 12pm and 6pm. Patrons aged 5-14 years continue to represent the bulk of all injuries, with 57% of all minor injuries occurring in this age group; the same result that was recorded during 2014-15.

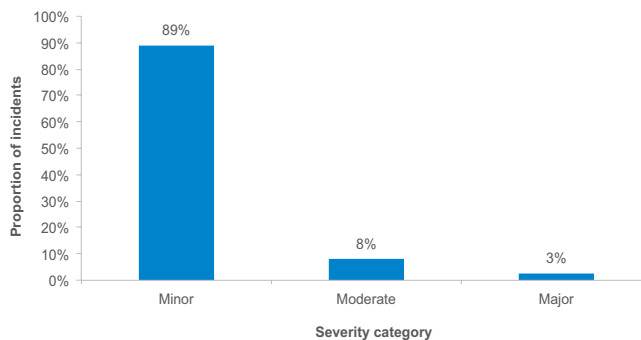
This year, regional pools appeared to have an almost identical rate of incidents compared to metropolitan pools (23.5 compared to 23.3 per 100,000 patrons). This is far removed from the extreme difference that was observed in last year's rates (22.3 versus 44.6 per 100,000 patrons) and may be due to the inclusion of pools with varying methods of reporting that did not capture all incidents. This is demonstrated by 50% of regional pools having incident rates above the state average compared to 39% of metro pools. This is highlighted in Figure 21.



**Figure 21:** Incident rates for all participating aquatic centres: Metropolitan and Regional

## Results by severity category

As previously stated, the overwhelming majority of injuries were classified as minor (89%), with reductions in the rate of moderate and major incidents from 2014-15. No major incidents were observed in the 0-4 age group and the 55+ age group continued to observe the highest rate of severe incidents. As per these observations, the risk of major incidents occurring increased with age. Overall severity results are shown in Figure 22.



**Figure 22:** Injuries by severity category

The 37 major incidents observed in this sample of pools were highly varied. The majority (35%) resulted from the exacerbation a pre-existing injury or condition, while low falls and asphyxia contributed to 27% and 22% of these incidents respectively. Injuries resulting from these incidents were again wide-ranging, with the most common being asthma and/or other threats to breathing (22%), and suspected fit/seizures (16%). Superficial wounds were also involved in 16% of major injuries. While the rate of suspected fits/seizures classified as major remains high, two thirds of occurrences during 2015-16 required moderate or minor first aid attention; thus were classified into these categories. Emergency services were required to be called in 91% of major incidents, while monitoring, observation and oxygen was provided on 73% and 68% of occasions, and a spine board/collar used in 19% of cases. These injuries occurred most frequently in pools (51%) and on the pool deck/concourse (14%). Three or more types of first aid were performed on average during major incidents.

Over two thirds of the 128 moderate incidents happened in the pool while 12% occurred in or around a centre waterslide. The top three moderate incidents were swimmer in trouble (32%), low fall (21%) and an unintentional collision with a person or object (20%). Injuries preceding these events were commonly drowning or immersions (non-fatal, 27%), open wounds (22%) and dislocations/sprains and superficial wounds (12% each). Immediate medical attention was advised to be sought in 64% of instances, with 49% of cases receiving basic first aid and 39% requiring an aquatic rescue. Moderate cases generally received two or more types of first aid.

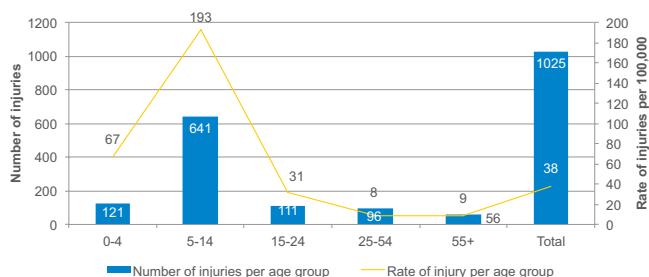
Minor incidents primarily involved unintentional collisions (26%), low falls (21%) and cutting/piercing objects (17% of cases). This resulted in superficial wounds and bruises in 31% of instances and open wounds and blows to the head with no signs of concussion (18% and 14% of cases respectively). Pools, waterslides and the pool deck/concourse accounted for 81% of the locations at which minor incidents occurred. Basic first aid was provided in 89% of these instances, with 22% of cases advised to seek medical attention at their own discretion and 15% requiring further monitoring and observation.

Factors contributing to incidents and injuries varied across the severity categories. Swimming and playing were factors involved in the majority of minor incidents while lack of parental supervision and poor swimming ability were evident in moderately severe incidents. Major incidents were primarily due to swimming and walking, with trips/slips contributing significantly in all categorical instances.

### Results by age group

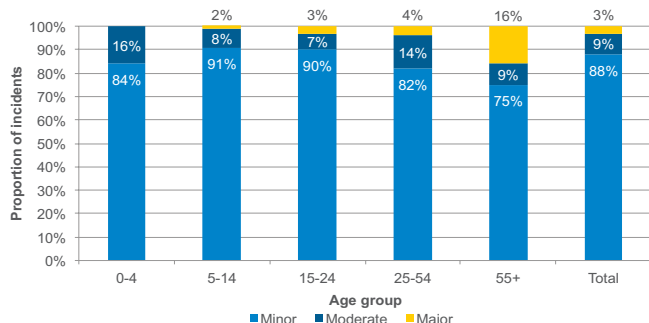
As per previous years, collated injury data was analysed using a life-stages approach with five age group categories: 0-4 years, 5-14 years, 15-24 years, 25-54 years and 55 years and older. These differ slightly from the renewed Australian Water Safety Strategy but are aligned with RLSSWA reporting methods, allowing accurate analyses across different ages. This year, age was not recorded for a third of instances, and these were more likely to be those aged over 18. These inaccuracies in reporting may be as a result of those aged over 15 being more likely to report moderate and major injuries and exhibiting independence in providing first aid to themselves for minor accidents. Hence, it is important to take these limitations into account when reading the below findings. All results are presented in reference to the sample of pools and percentages relate to the number of cases a particular variable was observed in.

The number of incidents observed in the sample of pools was compared to the WA population to provide an estimated rate of injuries per age group (per 100,000 population). This is demonstrated in Figure 23. In this manner, 38 incidents per 100,000 Western Australians are observed each year at public pools, slightly higher than the discussed number of incidents per patron.



**Figure 23:** Number of observed incidents and rate of injury per age group

The overall severity rates by age group can be seen below in Figure 24. These differ across age groups with those aged 55+ experiencing the highest proportion of major incidents.



**Figure 24:** Injury severity by age group



### 0-4 years

In total, 121 injuries were reported for the 0-4 age group and positively, none were major. However, this age group had the highest proportion of moderate incidents, caused primarily by low falls (43%), unintentional collisions (27%) and cutting/piercing objects (17%). Injuries resulting were blows to the head (33%), open wounds (30%) and superficial wounds (30%), with non-fatal drownings and immersions occurring in 5% of instances and requiring an aquatic rescue to be performed. Basic first aid was performed in almost all incidents, medical attention was advised to be sought at parental discretion in 24% of cases, and immediate medical attention suggested for 11%. Trips/slips, playing and swimming contributed to 75% of incidents in those aged 0-4 years.

Because of the serious implications blows to the head may have for children of this age, the majority of these incidents were advised to seek immediate medical attention as a precaution, possibly raising the number of moderate incidents. Regardless, such is an appropriate method of first aid to suggest and imperative to ensure the prevention of major complications.

### 5-14 years

This age group continues to comprise the majority of all reported incidents within WA public swimming pools, with 641 incidents in this sample amounting to 63% of the total; down from 70% in 2014-15. Possible reasoning for such a high rate includes swimming lesson participation, heightened patronage and increased tendency to report incidents. Moderate and major incidents were lower than the sample average, with 49 and 11 instances respectively. The most common major incident was the exacerbation of pre-existing injury and conditions leading to asphyxia and breathing issues. Spinal cord injuries were suspected in 33% of major incidents in this age group and all but one required emergency services to be called.

Frequent incidents were unintentional collisions (31%), low falls (23%) and cutting/piercing objects (19%), causing superficial wounds, open wounds and blows to the head in 31%, 21% and 19% of cases respectively. Overall, 88% of cases received basic first aid while a quarter were advised to seek medical attention at their own discretion. Monitoring and observation occurred on site in 17% of instances. Aquatic rescues were performed for 14 individuals in this age group. Swimming pools and slides were the locations of the majority of incidents, and swimming was the activity most frequently being undertaken at the time of the incident.

#### TOP 3 INCIDENTS

- Low falls
- Unintentional collisions
- Cutting/piercing objects

#### KEEP SAFE BY

- Walking, not running
- Being careful while playing with equipment and others
- Keeping within arm's reach of an adult at all times
- Being aware of surroundings

#### TOP 3 INCIDENTS

- Unintentional collisions
- Low falls
- Cutting/piercing objects

#### KEEP SAFE BY

- Participation in ongoing swimming and water safety lessons
- Being aware of slippery surfaces
- Playing responsibly
- Maintaining appropriate adult supervision

## 15-24 years

Those aged 15-24 years recorded 111 incidents, of which eight were moderate and three severe. More serious incidents were varied in type and outcome, including asphyxia, blows to the head, fractures, dislocations and suspected fits/seizures. These were primarily as a consequence of exacerbation of pre-existing injuries and conditions, asphyxia, straining, colliding and falling. Emergency services were called in all three major instances, while five moderate incidents required monitoring on site and six advised to seek immediate medical attention. Overall incidents were frequently cutting/piercing objects (20%), asphyxia and other threats to breathing (17%) and unintentional collisions (16%). Subsequent injuries were notably superficial wounds and open wounds (24% and 18%) while asphyxia, particularly asthma, and dislocations/strains accounted for 17% of injuries respectively. Basic first aid was provided in three quarters of cases and monitoring and observation in a third. Two fifths of patients were given oxygen and/or advised to seek further medical attention. Pools, the pool deck and waterslides were identified as the location of 80% of incidents among 15-24 year olds, with half attributable to swimming, playing and trips/slips.

### TOP 3 INCIDENTS

- Cutting/piercing objects
- Threats to breathing
- Unintentional collisions

### KEEP SAFE BY

- Watching out for yourself and others
- Being aware of your medical conditions
- Participating within personal physical limits
- Avoiding risky behaviour

## 25-54 years

The 25-54 year age group recorded 96 incidents; however had the second highest rate of both moderate and major incidents, with 13 and four cases respectively. Again, these were highly varied with the most frequent incidents being unintentional collisions and superficial wounds and dislocations/sprains the most common associated injuries. Immediate medical attention was suggested in 70% of instances with 24% requiring emergency services to be called.

Common incidents of all levels of severity were cutting/piercing objects (23%), unintentional collisions (20%) and low falls (17%) with superficial wounds, open wounds and dislocations/sprains the most frequent injuries (28%, 19% and 16%). Basic first aid was provided in 78% of instances, monitoring and observation in 33% and further medical attention suggested in 21%. Pools and the pool deck dominated the majority of incident locations but the spa/sauna was a notable incident site for this age group (7%).

### TOP 3 INCIDENTS

- Cutting/piercing objects
- Unintentional collisions
- Low falls

### KEEP SAFE BY

- Being aware of your surroundings
- Keeping hydrated when in the spa/sauna
- Watching your step
- Be aware of pre-existing medical conditions and impacts of medication on abilities

## 55+ years

As per previous years, those aged 55 years and above recorded the highest rate of major incidents, accounting for 16% of the 56 occurrences in this age group. Causes of moderate and major incidents were generally low falls and the exacerbation of pre-existing injuries or conditions, with serious injuries comprising of blows to the head, open wounds, dislocations, disorientation, suspected fits/seizures and suspected cardiac/cerebrovascular events.

Emergency services were called for most major incidents while oxygen and observation was provided in two thirds of cases. Additional first aid was suggested to be sought for a further third. In assessing all incidents regardless of severity in this age group, the most common were low falls, cutting/piercing objects, exacerbation of pre-existing injuries or illnesses and unintentional collisions. These caused open and superficial wounds in 23% of cases and blows to the head and dislocations/strains respectively in a further 14%. Overall 63% received basic first aid, 40% were monitored or observed, 32% given oxygen and 17% advised to seek further medical attention. Swimming, walking and entering/exiting the water were the most common contributing factors, with pools, spa/saunas and the pool deck the location of the majority of incidents.

### TOP 3 INCIDENTS

- Low falls
- Cutting/piercing objects
- Exacerbation of pre-existing injury or condition

### KEEP SAFE BY

- Being aware of your limitations
- Be aware of pre-existing medical conditions and impacts of medication on abilities
- Making lifeguards aware of any medical conditions
- Not overexerting yourself

## Patterns across age groups

The proportion of major injuries increased with age, differing from 2014-15 results where they spiked among the 15-24 years age group. Dislocations, sprains and strains remained high among the three older age groups, while the two younger groups experienced minor to moderate injuries as a result of tripping and slipping; frequently consequences of running on slippery surfaces. Asthma was a significant pre-existing condition that caused asphyxia and trouble breathing across all age groups, peaking among those aged 15-24 years. A number of cases were as a result of competing in a race as part of a school swimming carnival, reinforcing the need to ensure affected students are recorded and encouraged by staff members prior to entering the facility to ensure they have their necessary medication on them at all times.

Males and females were equally likely to be involved in an incident in the sample overall and among most age groups, with the exception of the 25-54 and 55+ groups, whereby females were twice as likely to experience/report an incident and injury that required first aid. Furthermore, both genders were equally likely to decline first aid if offered across differing ages.

There is an increasing emphasis on ensuring that those under the influence of drugs and alcohol do not partake in activities within public swimming pools, with a particular focus on those aged between 15 and 24 years; an age group at high risk of alcohol and drug misuse. This year, alcohol was a factor that contributed to four incidents across the 15-24 and 55+ age groups. Two of these were minor and one was moderate, with a major incident requiring emergency services. This serves a reminder for patrons of all ages to be monitored for the effects of intoxication to prevent incidents with a high level of risk.



## Results by region

Incidents across age groups in regional and metropolitan regions of WA were fairly similar, with the exception of the 5-14 and 25-54 age groups whereby incidence was significantly higher in regional and metropolitan areas respectively. Moderate injuries were more frequently observed in regional areas while major incidents were evenly distributed. For both regions, unintentional collisions, low falls, contact with bees and cutting/piercing objects were the four most common incidents.

Metropolitan injuries were primarily superficial and open wounds, blows to the head and insect bites and, while regional areas observed higher frequencies of the above three injuries as well as dislocations and sprains. Of the major injuries in regional areas, dislocations and sprains accounted for over half. Almost a third of major incidents were treated as suspected spinal injuries and emergency services were called in most cases. Comparatively, metropolitan pools observed a higher rate of injuries resulting from the exacerbation of pre-existing injuries and conditions and low falls. Subsequent injuries were varied with asphyxia being the most common. There was also a high rate of suspected cardiac/cerebrovascular events. Emergency services were called in all but one instance, with oxygen and on-site observation occurring in a third of cases.

## Injuries among aquatic employees

Each individual deserves to be safe in the workplace, and the well-being of employees working in public swimming pools is paramount to ensuring industry success and labour retainment, as well as individual benefit. In this sample, 61 aquatic employees were involved in an incident requiring first aid and most incidents were related to occupational duties. Of these, 7% were major, a much higher proportion than the overall sample. The top three incidents were low falls (23%), asphyxia (18%) and exposure to chemicals/dust/gas (13%). Common injuries preceding these incidents were superficial wounds (21%), dislocations and strains (18%) and threats to breathing including asthma (15%). A number of incidents involved swimming instructors experiencing breathing difficulties or feeling faint after extended periods in hot conditions, some of which had pre-existing medical conditions. First aid provided among cases included basic first aid (59%), monitoring and observation on site (43%), oxygen (27%) and advising the casualty to seek further medical attention (21%). Emergency services were required in 9% of cases.

## Findings and Recommendations

**Incident rates are trending downwards.** It is positive to observe a continual reduction in the number of incidents despite increased patronage. While this is a positive finding, it is essential to maintain a high standard of safety practices to ensure the well-being of aquatic patrons in regional and metropolitan WA.

**Employees are at risk of injury. It is important to highlight the risk of injury among employees and develop strategies to monitor staff medical conditions.** This can include systematic strategies to understand employee limits, pre-existing medical conditions (particularly those requiring medications) that may impact on a staff member's ability to perform daily tasks while maintaining confidentiality.

**Reporting measures are varied and at times insufficient.** There is a need to work with local government authorities and public swimming pools to develop more consistent data collection tools. This will assist with improved accuracy of incident details, particularly in regional areas where reporting is more varied. By achieving this, recommendations for safety improvements can be made with sound evidence.

**Investments in the safety of children must be sustained.** Those aged 0-14 years continue to be most at risk of injury at public swimming pools. It is essential to implement or maintain programs that encourage parental supervision of young children while teaching children swimming and survival skills.

**Incidents resulting from pre-existing conditions remain high.** Pre-existing medical conditions and injuries continue to be the cause of major incidents. It is important for staff to know their patrons and be aware of conditions that may affect their ability to participate safely.



# PART 3: SAFETY ASSESSMENTS AT PUBLIC SWIMMING POOLS

Since 2002, RLSSWA has been conducting independent assessments of safety and risk at Group One public swimming pools around WA. Based on the Department of Health Code of Practice for the Operation of Aquatic Facilities, the RLSSWA Pool Safety Guidelines and other relevant Australian Standards, and are either funded by the pool themselves or through financial support provided by the Local Government Insurance Service (LGIS).

The safety assessment is very comprehensive and was updated in 2010 to cover the requirements listed below. The relevant scores for each item are added together and presented as a percentage to give an overall safety rating. All pools are assessed on the first seven points and the remainder if applicable to their centre.

1. General Administration (11 points)
2. Design & Construction (46 points)
3. Circulation & Water Treatment (26 points)
4. Chemical Safety (20 points)
5. Water Quality & Testing (10 points)
6. Qualification for Operators, Supervisors & Emergency Care Personnel (3 points)
7. General Sanitation & Operation (25 points)
8. Special Feature Pool (43 points)
9. Spa Pool (16 points)
10. Water Slide (14 points)
11. Hydrotherapy Pool (4 points)
12. Water Spray Grounds (19 points)

Over the past 14 years, more than 430 safety assessments have been conducted at 128 Group One public swimming pools, averaging approximately 30 assessments per year. All pools have been assessed at least once in the last seven years (since 2009-10) and 92% have had their most recent assessment within the last three to four years (Figure 25).

Last year's report identified seven pools that had not yet been assessed against the updated 2010 safety assessment components and three of these pools have since been assessed.

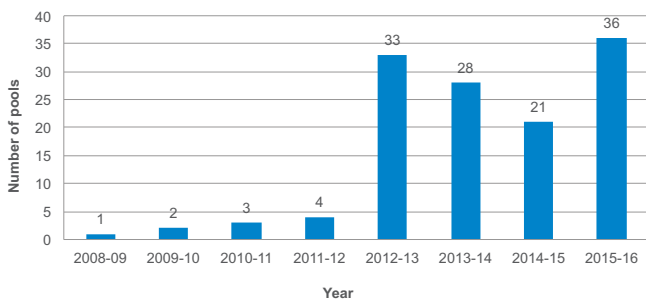


Figure 25: Year of most recent safety assessment

## Overall Safety Ratings

To date, only 12 pools remain with a most recent overall safety rating of under 80%, an improvement of 29% from last year. This can be seen in Figure 26.

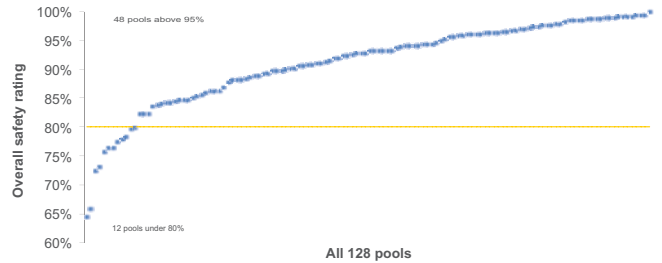


Figure 26: The most recent overall safety ratings of all 128 pools.

A total of 36 pools were assessed in 2015-16 including Lords Recreation Centre which has recently been added to the WA Group One cohort. Pools averaged an overall safety rating of 94.9%. These average ratings, based on a different sample of pools assessed each year, have increased by 18% since 2001-02 (Figure 27).

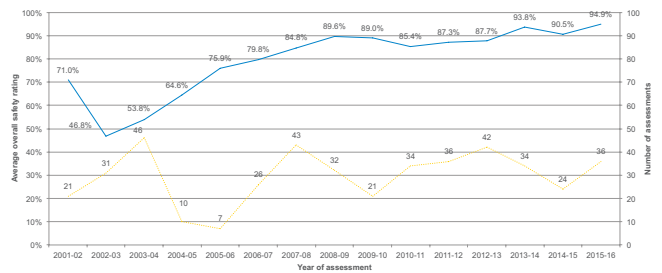
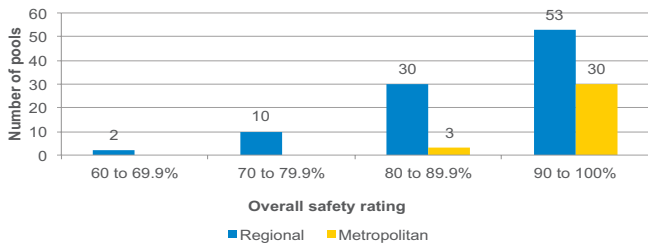


Figure 27: Average overall safety rating for public swimming pools assessed each year

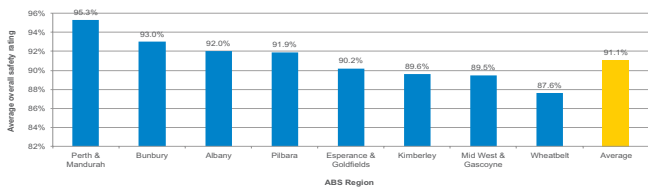
The average overall safety ratings from the most recent assessment at all 128 pools continues to be very high at 91.1% and ranges from 64.5% to 100%. In the past 12 months, five pools increased their rating from below 80%. All pools assessed in this financial year had assessment ratings above 86%. Only one pool had a decrease in rating from a previous assessment, yet continued to remain high at 96.9%. Current ratings for metropolitan pools are considerably higher than those of regional pools, with average ratings being 95.3% and 89.4% respectively (Figure 28). This changed slightly from 2014-15 metropolitan and regional ratings (94.0% and 87.8%). While the 12 pools with a rating below 80% are all regional, regionally located Tom Price Swimming Pool is the only facility to date to have received a perfect overall assessment score of 100%.





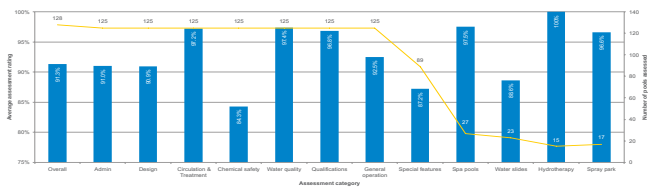
**Figure 28:** Most recent overall safety ratings by location for all pools

Overall safety ratings also differ by region. Behind the Perth and Mandurah area (95.3%), Bunbury, Albany and the Pilbara all demonstrate a high standard of overall safety ratings (93%, 92% and 91.9% respectively). This is the first time an analysis has been undertaken by ABS region and while results are generally high, improvements can be made. This is demonstrated in Figure 29.



**Figure 29:** Overall assessment scores by ABS regions

A total of 125 pools have been assessed against the updated 2010 safety assessment components and the average score has risen to 84% or more for each component. The three areas that continue to score lowest on average are Chemical Safety (84.0%), Special Features (87.2%) and Water Slides (88.1%), however all have had an average improvement of 5.2% in the last 12 months (Figure 30). Furthermore, the low score for Special Features can be partially explained by new safety requirements pertaining to inflatable play equipment that have only been included in the assessment in the last two years; thus impeding improvement.

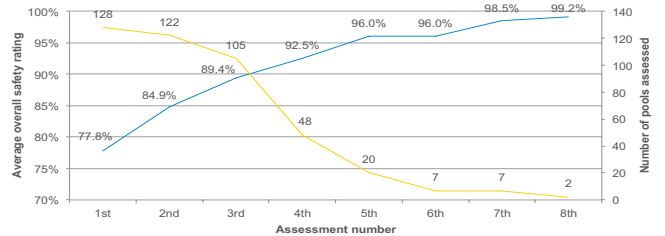


**Figure 30:** Average rating for each component based on most recent assessment

## Overall safety rating and frequency

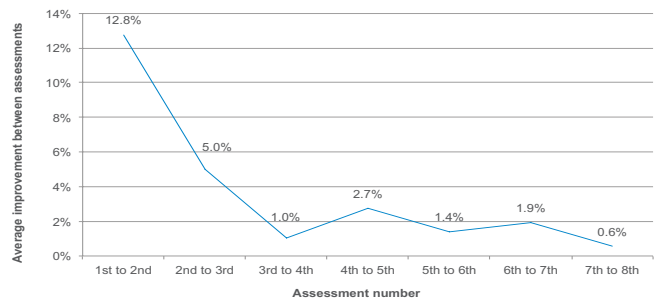
As found in previous years, the frequency of safety assessments continues to affect the overall safety rating.

The most significant improvement to overall score occurs between the 1st and 2nd assessment with scores on average moving from below to above 80%. Mean scores continue to improve with each assessment. From the third assessment onwards, scores are maintained at close to 90% and above (Figure 31).



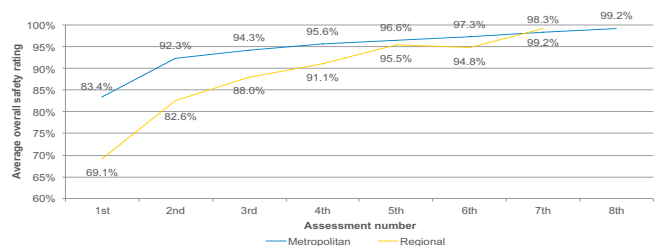
**Figure 31:** Average overall safety rating at each assessment

Between the 1st and 2nd assessments scores change by an average of average of 12.1%. Overall safety rating changes are generally less significant as assessments increase (Figure 32).



**Figure 32:** Change in overall safety rating by number of assessments conducted (%)

Public swimming pools in WA have undergone an average of three assessments since the program commenced and this average is the same for both metropolitan and regional pools. Public swimming pools with current overall safety ratings above 90% have participated in an average of four assessments (WA average), however this figure differs between metropolitan and regional pools (overall safety ratings of 95.6% and 91.1% respectively). To date, while no regional pool has completed eight assessments (Figure 33); regional pools track higher than the Perth metropolitan pools on the seventh assessment. This suggests regional pools may have higher safety ratings than metropolitan pools in the coming years.

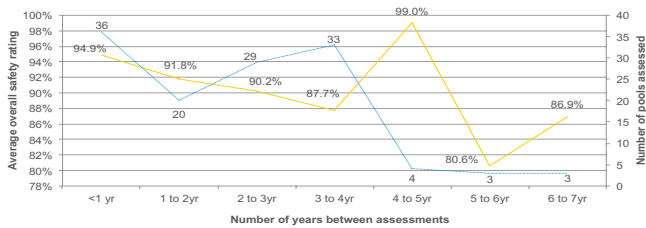


**Figure 33:** Overall safety rating by assessment number and region

## Time between follow-up assessments and overall ratings

Average overall safety ratings tend to be lower at public swimming pools where assessments are conducted less frequently. Where an assessment has been conducted within two years since the previous, average ratings are very high at 93.9% and remain close to 90% even when an assessment is done three to four years after the last. When a follow-up assessment is left for four or more years the average overall ratings achieved drop lower.

Further evidence exhibited by these trends show that pool assessments should occur once every three to four years in order to maintain scores around 90%. Overall, 10 pools (8%) have not had an assessment in the past four years; however two of the four pools not assessed for four to five years were reviewed for seven years running and built up very high scores, resulting in a peak in overall average scores (Figure 34).

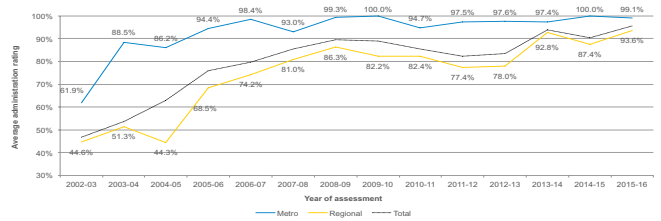


**Figure 34:** Overall safety rating score by years between follow-up

## Administration, Design and Construction scores

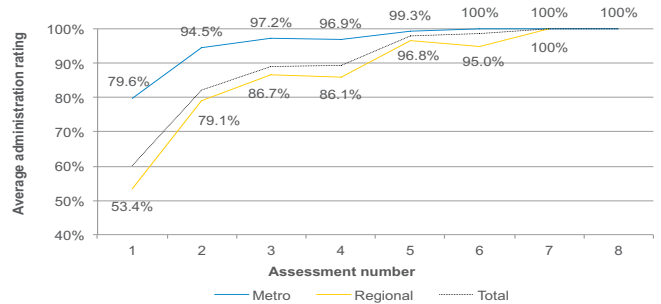
Administration and design scores have remained the most consistent in terms of assessed components over the years. As a result, they will now be discussed in more depth.

Of the pools assessed during 2015-16, 73% achieved a perfect administration score of 100% (average of 95.7%). Administration scores have been tracking up since records first began with metropolitan pools consistently outperforming regional pools (Figure 35). While scores have been on an upwards trend, it is observable that average performances have dipped and peaked significantly across the years.



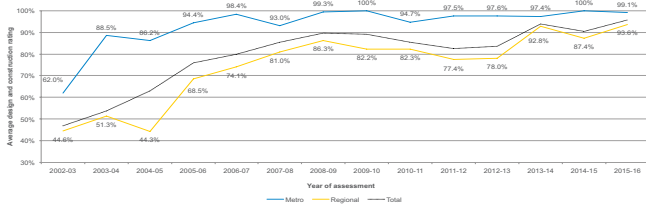
**Figure 35:** Average administration scores by region and year

As per trends with overall scores, increased frequency of assessments results in higher administration results. While metropolitan pools score higher than regional pools in this category (Figure 36), scores are equalled by the seventh assessment (100%).



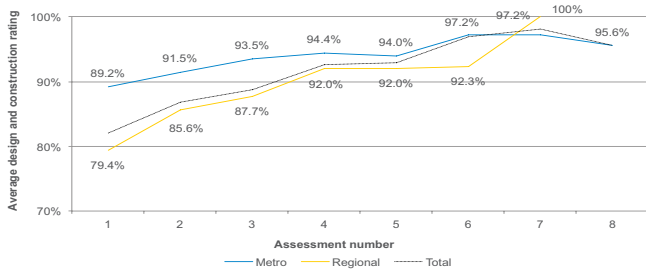
**Figure 36:** Average admin results by assessment number and region

While only nine pools received a perfect design and construction score in this round of assessments, the average remained very high at 95.3%. As with administration scores across the years, design and construction scores have been on an upwards trend however with significant instabilities and frequent declines. Metropolitan pools have outperformed regional pools on a yearly average however scores are becoming more on par (Figure 37).



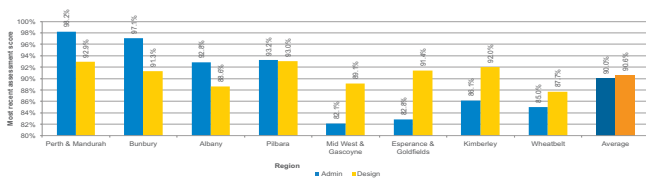
**Figure 37:** Average design and construction scores by region and year of assessment (%)

When analysed by assessment number, regional pools outperform metropolitan centres in the category of design and construction despite having on average one less assessment (Figure 38).



**Figure 38:** Average Design results by assessment number and region

Considerable difference can be seen in the most recent administration and design and construction scores when analysed by region (Figure 39), with the Perth and Mandurah region averaging the highest results. The Pilbara and Kimberley regions have design and construction scores on par with Perth and Mandurah (92.9%) while low scores are evident in the Wheatbelt and Albany (87.7% and 88.6%). Administration scores are the lowest in the Mid-West and Gascoyne and Esperance and Goldfields regions (82.1% and 82.7%), but high in Bunbury (97.1%).



**Figure 39:** Most recent administration and design and construction score by region.



## Findings and Recommendations

**The standard of WA public swimming pools is high.** Public swimming pools are safe recreation centres for the community with consistently high safety assessment scores. Strategies to maintain high standards and that build on current audit tools should be investigated and implemented.

**There are opportunities for improvement in Chemical safety.** Average chemical safety scores are below other audit components. Poor chemical safety scores could have a flow on effect for other elements in a facility and have the potential to cause serious injury amongst staff and patrons (as seen in the injury section of the report). To ensure the safety of staff while maintaining a high standard in this area, it is important for regular facility self-assessments to identify areas for improvement between audits as well as prior to a formal assessment.

**Overall scores for regional pools are trending upwards.** Despite the difficulties experienced by regional pools in terms of staffing, isolation and equipment management, it is positive to see regional aquatic centres increasing average overall scores while surpassing metropolitan pools in certain categories. It will be necessary for all pools to continue to maintain a high standard as scores trend towards 100%.

**Pools that are assessed more frequently have better scores.** This continues to be a relevant finding and places the emphasis on the importance of regular assessments to ensure improvements can be made in a timely manner, guaranteeing overall patron and employee safety.

**Special features must be maintained.** Pools with special features are required to pass more categories than other centres. While it is essential that these features are managed appropriately, high assessment scores in this area should not come at the expense of others. It is necessary that such pools are able to direct their resources accordingly across their facility as a whole, allowing for high overall safety ratings.

**All pools need to be assessed against new safety standards.** There are still seven pools that are yet to be assessed against the new safety standards. This will need to be a focus for the next twelve months, ensuring all pools are aligned with current safety standards.



## FOR MORE INFORMATION

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