



Bush Nippers: An evaluation of the effectiveness of the Nippers program in a regional setting

Background

Inland waterways such as rivers, lakes, creeks and streams are popular areas for recreational activities in Australia (Royal Life Saving Society - Australia [RLSSA], 2019). However, there has been a consistent increase in drowning incidents in inland waterways due to geographical isolation, changeable conditions and lack of, or limited supervision of children (Life Saving Victoria [LSV], 2018; Peden, Franklin & Leggat, 2016; RLSSA, 2019). The Bush Nippers program was developed in response to this trend. This lifesaving program introduces children aged 5 to 14 years to water safety skills and knowledge through participation in safe, fun and organised activities in regional Victoria.

Findings from the Nipper Education Program Year 1 Evaluation Report (LSV, 2019) indicated an opportunity and community interest for this traditionally beach-based program, delivered by lifesaving clubs, to be adapted for delivery in regional Victoria (inland and pool environments), and delivered by aquatic facilities and schools.

This research forms part of the Public Water Safety Initiative, which is funded by the Victorian Government. Life Saving Victoria (LSV) is working closely with the Department of Education and Training on the evaluation of this initiative.

Aim and objectives

The aim of this research was to determine the effectiveness of the pilot Bush Nippers program in regional inland areas, in particular:

1. The development of lifesaving, water safety and survival skills and knowledge of participants.
2. The impact of involvement on participants, their families and the community.
3. Any facilitators and barriers to participation for participants and deliverers.
4. The cost-effectiveness of the model and feasibility for state-wide implementation.

Method

The pilot program was conducted and evaluated in three regional locations (a fourth location was cancelled), with 514 participants aged 5 to 14 (U6 to U14 age groups). The program was delivered by qualified instructors (known as Age Managers), using a standardised program across all age groups, and only modified based on delivery environment. Table 1 outlines evaluation methods, with pilot details summarised in Table 2. Participants in two age groups were assessed for skills and knowledge: Under 9 (Age 8-9; Years 2/3 of school) to ensure comprehension among younger groups for knowledge assessment and Under 12 (Age 11-12; Years 5/6) to align with previous studies and Swim and Survive Active 4.

Table 1 Evaluation methods for program impact

Objective	Evaluation methods and sample sizes
1	Water safety knowledge: Pre- and post-program quiz (U9 = 78 Pre and 61 Post; U12 = 60 Pre and 52 Post). Lifesaving & survival skills: Post-program skills checklist (U9 = 78; U12 = 64).
2&3	Surveys of: U9 and U12 participants (113), Age Managers (24), parents (52), and school teachers (7). Focus group sessions with Age Managers (3 Echuca, 4 Shepparton, 7 Ballarat), and LSV staff involved (10).
4	Analysis of program costs, scenario modelling and comparison with parents' willingness to pay.

Table 2 Pilot program details

Location	Dates (2020)	Environment	Mode	Program type	Participants	Status
Echuca	6-10 Jan	River	Intensive (5 days)	Holiday program	93	Completed
Wodonga	13-17 Jan	Pool & river	Intensive (5 days)	Holiday program	57	Cancelled (VIC/NSW bushfires)
Shepparton	20-24 Jan	Pool	Intensive (5 days)	Holiday program	101	Completed
Ballarat	13 Feb-26 Mar	Pool & lake	Weekly (8 weeks)	In-school program (3 local primary schools)	263	5 of 8 sessions (COVID-19)



1. Lifesaving skills and knowledge

Findings


Participants in Under 9 (U9) and Under 12 (U12) were assessed for the development of lifesaving, water safety and survival skills and knowledge.

77% U9 **76% U12**
Average level of achievement of lifesaving and survival skills

Lifesaving and survival skill development

Overall, most skills were successfully achieved by many participants, despite the largest program (Ballarat) being cancelled after five of eight sessions (and missing the open water session).

In the Shepparton program, participants were assessed against the competencies in the Victorian Water Safety Certificate (VWSC), demonstrating that the program can help children achieve the certificate. Pre-program skills were not assessed; however Age Manager feedback indicated substantial increase in skills and confidence around water.



Key skill development (Common across both age groups)

- ✓ Safe water entry and exit
- ✓ Out of water rescues, first aid & CPR
- ✓ Rescue elements (run-swim-run)
- ✓ Safe use of lifejackets and Nipper boards
- ✓ Survival swimming, floating and propulsion
- ✓ Teamwork


Areas to improve

- ✓ Survival swimming
- ✓ In water rescues

“What a fantastic initiative. It makes total sense to run Bush Nippers annually to instil essential, lifelong skills and knowledge for our young people.”
(Parent, U12, Echuca)

“This was an amazing program, you covered so many aspects of hazards, precautions and strategies to help yourself and others to survive potentially dangerous events. Thank you for an amazing opportunity. I don’t think I have ever been involved in a children’s program that has run so smoothly!”
(Parent, U14, Shepparton)

“We identified he needs to return to swimming lessons.”
(Parent, U9, Shepparton)




Key water safety knowledge gained for U9 and U12

- ✓ Never swim alone
- ✓ Dangers of inland waterways
- ✓ Personal safety around waterways (e.g. lifejackets and SunSmart)
- ✓ Knowledge of CPR and lifesaving skills
- ✓ How to identify, avoid and cope in a rip current

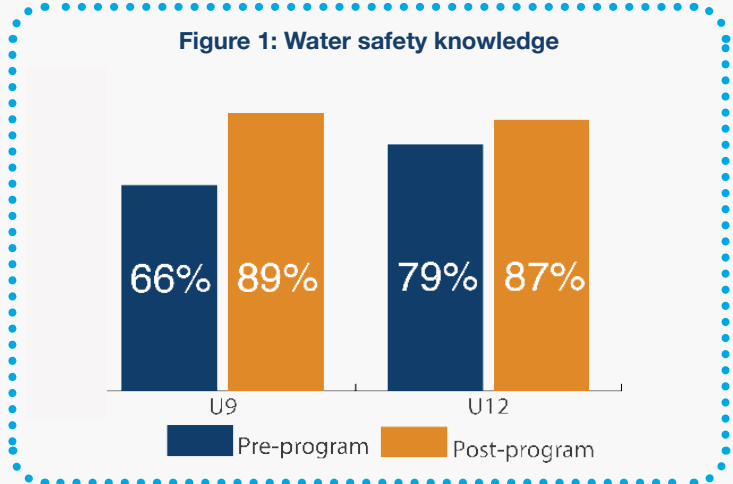
Water safety knowledge gained

Participants’ baseline water safety knowledge was already quite high, indicating previous exposure to swimming and water safety activities. With the incomplete Ballarat program excluded, both U9 and U12 reported significant increases in water safety knowledge as a result of the program.

Both groups reported significant increases in water safety knowledge as a result of the program.



“Absolutely recommend this program. The skills the kids have learnt this week have been invaluable...They now have some knowledge of what and how to act. I feel more confident taking them to the river and building on these skills they have learnt this week.”
(Parent, U10, Echuca)





2. Program impact

Highlights

There was overwhelming demand for the Bush Nippers program in each location, with rapid uptake and registration. Overall, the program was recommended by every parent and six of seven school teachers (one unsure); with 89% of Age Managers feeling the program was a success. The teacher that was unsure felt uncertain 'our school leadership and parents would endorse both a swimming program and Nippers program'. Nine out of ten parents thought their child would participate in Bush Nippers again.

Bush Nippers provided important open water skills, water safety knowledge and social value in a fun, participation-focused environment. By developing a program package that delivered location-specific content in a non-competitive environment, Bush Nippers provided an invaluable opportunity to upskill inland regional communities, which may ultimately help address concerning inland waterway drowning trends.



Findings

Impact on participants

Bush Nippers was highly valued and enjoyed by participants in all programs, with the river-based program (Echuca) the most successful of the three. Programs where Age Managers remained with the same group across all sessions (Echuca and Shepparton) were considered more engaging and effective overall. U9 and U12 participants described what they liked most and what could be improved:

Most enjoyed aspects	Improvements needed
<ul style="list-style-type: none"> ✓ Water-based practical skills, especially Nipper boards ✓ Being active ✓ New experiences (e.g. lifesaving activities) and equipment (e.g. virtual reality goggles and boards) 	<ul style="list-style-type: none"> ✓ Prevent participants from getting cold ✓ Make dry sessions more interactive

"I like that the aim is to try your best not to be the best."
(Participant, U12, Echuca)

"I got to meet new people and have fun."
(Participant, U10, Echuca)



Impact on families and communities

The program positively impacted families and their local communities, with parents, Age Managers, facility management staff, local council and school teachers providing overwhelmingly positive sentiments on the importance of tailored lifesaving initiatives for children in inland regions.

"Our kids have absolutely loved Bush Nippers and are already asking to be booked in for next year! They started the week with minimal river knowledge and by the end felt more confident in the river and understood how to be water safe. I feel more confident knowing they have learnt so many valuable lifesaving skills and how to respect our inland waterways, which means we can spend more time enjoying what our beautiful country has to offer. Thanks so much LSV!"
(Parent, U10, Echuca)

"My son loved every minute! The sessions were brilliantly run, it was great to meet new friends. There was no time to get bored! Every child was included and made to feel valued."
(Parent, U9, Shepparton)

"Everyone's saying this is the best thing that the Shire has ever done."
(Age Manager, Echuca)



"Living in this river environment, it's fabulous to give local kids this opportunity to learn safety in the river."
(Campaspe Shire)

"It was absolutely our pleasure having [LSV] here running a brilliantly fun and engaging program. With your support I really hope we can continue to offer Bush Nippers into the future."
(Greater Shepparton City)

"They absolutely loved the boards and CPR on the mannequin was great"
(Age Manager, Echuca)



Media coverage of Bush Nippers



8 Newspaper articles



6 Television broadcasts



2 Radio broadcasts

Nippers learn water skills

BY MICHELLE SMITH

BALLARAT students are among the first in the state to take part in an innovative new 'Bush Nippers' program to stem drownings in inland waterways.

The Life Saving Victoria program is an adaptation of the Nippers program that runs on beaches across the state every summer teaching water safety and rescue.

Recognising that almost half of drownings occur in inland waterways, LSV and Ballarat Aquatic and Lifestyle Centre have partnered in a pilot project to make regional children safer around the waterways they are most likely to swim in.

More than 200 pupils from Macarthur Street, Yuille Park and Pleasant Street primary schools will spend six weeks learning water safety, survival and rescue skills and in the final week will put their new skills to the test at St George's Lake in Creswick.

"It's not about stroke technique and development, this Bush Nippers program is about children learning the conditions, understanding

when it's safe to go in the water, what to do if they get in trouble in the water and how to safely help someone else if they are in trouble," said LSV community education project coordinator Jodie Walker.

The program also focuses on the importance of being fit and healthy in keeping yourself safe, and first aid

skills including CPR, use of defibrillators and basic first aid.

"As part of Bush Nippers,

the students will get to participate in both land-based and water based-activities, as well as learning skills in rescues, board paddling, first aid and developing an understanding of aquatic environments," said LSV strategic

projects education manager Trudy Micallef.

BALC aquatic education team leader Leanne White said many people did not understand the hidden dangers of inland waterways.

"It's great to be involved in this pilot program bringing our local children that opportunity to understand the dangers of inland waterways," she said. "Often we talk about swimming between the flags at the beach, which is a really fantastic campaign with very good results, but our kids potentially don't go to the beach they swim in inland waterways.

"People in rivers often don't understand there are currents in the river. If children find themselves unexpectedly in that water, how do they behave? What does their body need to do? It's feet first and the reason why."

Water temperature is often colder in inland waterways, which can cause problems for swimmers.

"Often the first layer is quite warm but underneath it's freezing cold. When the body is in cold water your

ability to assess risk and think about things is reduced."

At the end of the six-week program, Ballarat students will receive a certificate of completion and there are also opportunities for assessment towards the Victorian Water Safety Certificate.

417,000+ Reached



RESCUE: Pleasant Street Primary pupil Frankie tows classmate Jack during a bush nippers session at Ballarat Aquatic and Lifestyle Centre. **Picture:** Kate Healy

Echuca-Moama to pilot Bush Nippers water safety program

by IVY JENSEN



Madeline Russ during a demonstration of Life Saving Victoria's Bush Nippers program. Photo: Cath Grey



Kylie Pickett Thanks so much Campaspe Shire and Lifesaving Victoria for such a fabulous week... we have all had a blast and the kids have learnt so much,

Like · Reply · 16w



Author
Campaspe Shire Council Great to hear!



Like · Reply · 15w



Lindy Leyonhjelm Looks awesome! Wish I had known about this earlier. Hope it does come back next year, will definitely get my daughter involved.





Like · Reply · 16w



3. Facilitators and barriers

The following facilitators and barriers were identified via input from Age Managers, parents, school teachers and LSV staff (Table 3). These will inform how impact and engagement with Bush Nippers can be maximised going forward.

Table 3 Feedback summary of facilitators and barriers to successful delivery of Bush Nippers

Category	Facilitators	Barriers
Staff and training 	<ul style="list-style-type: none"> Detailed Age Managers resources were provided by LSV. Age Managers shared knowledge and guided each other in delivering sessions. Recruitment of experienced swim teachers trained to be Age Managers facilitated efficient delivery. 	<ul style="list-style-type: none"> Age Manager to participant ratios occasionally made managing larger groups in the pool environment difficult. Feedback was that training and the training manual could have a greater focus on how to deliver the program activities. Age Managers would like more time to familiarise themselves with the content.
Program logistics 	<ul style="list-style-type: none"> Support from regional councils facilitated promotion and engagement. Equipment provided by LSV was crucial to the pilot's success. For school-based programs, school teachers provided advice on medical/ behavioural/ physical conditions among students and assisted where required. Personal whiteboards instead of paper were very helpful for delivering sessions. 	<ul style="list-style-type: none"> Participants were not tested for swimming ability in all programs prior to the program, resulting in groups of mixed ability, and Age Managers having to adapt for weak or non-swimmers. Grouping participants by age rather than swimming ability meant the content had to be tailored to differing skill levels within groups.
Program content and engagement 	<ul style="list-style-type: none"> Novel activities (e.g. Nipper boards and virtual reality) were the most engaging. The participants were most enthusiastic about in-water activities. With no pressure to win, participants of all skill and experience levels enjoyed the program. Parents were engaged and helpful in school holiday programs. 	<ul style="list-style-type: none"> Participants generally found the dry activities less engaging in their current iteration. Participants were at times cold, especially out of the water. For school-based programs, school teachers could have been more engaged and assisted where possible, particularly with dry sessions.
Program location and timing 	<ul style="list-style-type: none"> The river setting for Echuca maximised learning, fun and engagement. Running programs in school holidays was beneficial. 	<ul style="list-style-type: none"> Age Managers and parents felt the program would have more impact if it included one open waterway session. Some families found the intensive programs over five consecutive days tiring, particularly the afternoon program in Shepparton.



4. Cost analysis and feasibility

Cost per participant

Program costs per participant per hour were determined by calculating both the total program setup costs and running costs including equipment, staff training, permits and other costs for three program sizes (50, 75 and 100) (Table 4).

Estimated setup costs (equipment and training) ranged from \$6,728 to \$11,590 (Figure 2). Excluding these setup costs, the estimated cost per participant to run a program ranged from \$113.48 to \$146.40, or \$11.35-\$14.64 per hour.

The factors that will influence future program costs include participant numbers, staff wages, staff training, equipment selection, which non-essential items are included, transport, and funding or subsidies.

Willingness to pay

Parents on average, were willing to pay \$6.70 (range: \$0.00-\$20.00) per hour for their child to participate in a 10-hour program, which is a shortfall of between \$4.65 and \$7.94 (Figure 2). Similarly, Age Managers on average, recommended charging \$6.40 per child per hour.

Program running fees compared - cost per participant per hour (excluding setup costs)

Program	Range
Bush Nippers	\$11.35-\$14.64
Holiday swimming program	\$12.00-\$40.00
School-run learn-to-swim lessons	\$10.40-\$15.90 (excludes transport & funding support)
Nippers holiday programs	\$11.80-\$21.00

Table 4 Estimated total program cost per participant per hour by number of participants and equipment requirements

		Number of participants	100	75	50
Staffing	Staff required		15	12	8
Program cost	Total setup cost (with equipment & full training)		\$11,590	\$9,639	\$6,728
	Program running costs (with staffing, resources, permits and 25% training load for new Age Managers)		\$11,348	\$10,982	\$7,154

Estimated program setup and running costs are outlined in Figure 2. Whilst the running costs are above the parent recommendation, the costs do align with similar programs such as school-run learn-to-swim lessons and Nippers holiday programs.

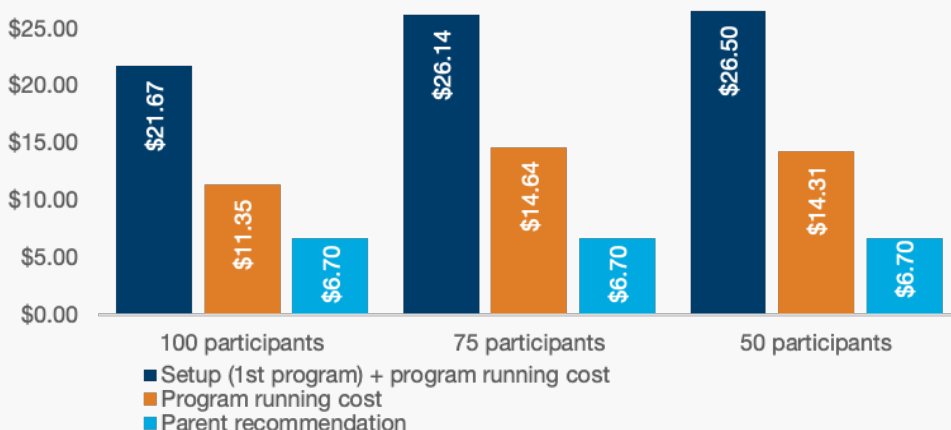
The initial set up costs cover equipment and training for subsequent programs.

Feasibility

The present model aligns with similar programs on offer. While the initial financial outlay may be considerable for some programs, the equipment purchased, and qualified staff are available for subsequent programs. Eligible school-run programs could utilise the Victorian Government's Swimming in Schools funding, with additional options through Sporting Schools and the Camps, Sports and Excursions Fund. Aquatic facilities could be encouraged to apply for lifesaving equipment grants to assist with setup costs. Removing non-essential items (e.g. rash vests for pool programs and barbecue items) will bring costs closer to the range recommended by parents.

The families, organisations and councils involved in the Bush Nippers pilot program in Year 2 overwhelmingly supported the initiative and recommended a state-wide rollout of the product. Cost efficiency will be crucial to success, as it will determine the uptake by families (particularly those in high-risk inland populations), aquatic facilities and schools. Suggestions for making the program feasible are listed in the recommendations.

Figure 2: Estimated program costs per participant per hour by number of participants, compared with parent willingness to pay





5. Lessons learnt and recommendations

Lessons learnt

Table 5 outlines the key lessons learnt within the review, followed by recommendations for application of a Bush Nippers product.

Table 5 Lessons learnt from the Bush Nippers pilot program

Staff training and program planning	Program content	Cost
<ul style="list-style-type: none"> Formalise Age Manager training based on pilot feedback, including session delivery information, practical activity training and how to develop localised water safety scenarios. Risk management was sufficient, with additional controls identified as the program progressed. Participants' swimming ability must be measured differently prior to creating groups and prior to any child entering the water. It is recommended to group participants by skill level rather than age. 	<ul style="list-style-type: none"> Overall, the practical in-water activities were more enjoyable than the dry activities, some of which were allocated more time than was needed in their pilot format. Participants in all environments got cold during some dry activities and at times when out of the water. Some content was too difficult for younger age groups or was unsuitable for the location (e.g. Ironman/Ironwoman required more space than was available in Ballarat). 	<ul style="list-style-type: none"> Current program costs exceed what parents are willing to pay; however, this cost is on par with similar school-based and holiday swimming and water safety programs on offer in Victoria. Victorian Government and Catholic schools would be eligible to run the program using Swimming in Schools funding, with additional options through the Sporting Schools Fund and Camps, Sports and Excursions Fund. Aquatic facilities can apply for funding to purchase equipment for this lifesaving program. The program would, however, offer a lower cost model compared to weekly swimming lessons, following a similar model to other holiday swimming programs.
Program location and timing	Equipment	Program evaluation
<ul style="list-style-type: none"> Whilst participants gained important skills and knowledge across all programs, the open water program (Echuca) was considered the most engaging, effective, relevant and fun. Timing proved difficult for some in the holiday programs. In particular, the length (2 hours) for younger age groups, intensive format (daily) and for Shepparton, being over dinner time. 	<ul style="list-style-type: none"> The Nipper boards were a highlight of the program for many participants and the most popular of all in-water activities. 	<ul style="list-style-type: none"> Evaluation is a necessary component for ongoing monitoring of program impact, with evaluation tools tested prior to rolling out.

Recommendations

Program modification

- Create a suite of Age Manager/ staff/ parent training resources to complement a training plan that addresses aspects including risk management and assessment, program layout and briefing, delivery methods and equipment for each activity. Depending on program location, staff will also have prerequisite accredited training which may include but is not limited to: Bronze Medallion, Pool Lifeguard, Swimming Teacher and Inland Waterway Lifesaving Certificate.
- Age Manager/ staff training could be delivered in a blended format, with an online component that includes video demonstrations, and an on-site face-to-face component. Recognising prior learning would maximise training efficiency.
- Review the content of the Bush Nippers program to ensure it is engaging, appropriate to participants' ages/ skill levels, and meets water safety requirements (e.g. ratios, water safety personnel, rescue equipment).
- Begin sessions with the dry activities, followed by the in-water activities (where ratios allow) and allocate more time to in-water activities.
- Incorporate more local Aboriginal culture and knowledge of waterways in sessions.
- Tailor content and scenarios to suit the local open waterway environments and encourage as many open water sessions as possible. Provide more adaptations for activities being conducted in pool environments.
- For evaluation, include full attendance and skills checklists in every program and if participant knowledge is measured in future, ensure quiz content is appropriate for the relevant age groups.

Recommendations for program deliverers

- Test swimming skills either pre-program or in the first session for all programs, to ensure appropriate groups and identify those with limited experience.
- Utilise additional staff or parent volunteers to assist Age Managers for in-water activities.
- Plan and offer programs in a format that is most suitable to participating families, venues, schools and locations. For example, intensive or weekly; 1.5- or 2-hour sessions; morning or afternoon; and in open water, pool or a combination of environments.
- Source additional funding via sponsorship and grants, particularly for 'high-risk' groups (e.g. Aboriginal and Torres Strait Islander and multicultural children, low socio-economic populations) and seek free entry into aquatic facilities and reduced permit fees from councils for open water programs.

- Engage regional councils as they are a potential supporter for future programs.

Recommendations for schools

- Develop an options matrix to assist schools and providers to select the most appropriate program or combination of program elements from the suite of water safety programs that are offered (e.g. Swim and Survive, Bush Nippers, Nippers, Sink or Swim, Open Water Learning Experience) and the modules within each. Demonstrate how each option links to the Victorian Curriculum and Victorian Water Safety Certificate and the equipment options available. Include a checklist of teacher duties and responsibilities and information for parents that distinguishes Bush Nippers from swimming lessons.

Summary

The Bush Nippers pilot program demonstrated its significant potential to provide every Victorian child the opportunity to be safe in and around open waterways. Bush Nippers is an important junior lifesaving educational program that exposes participants to appropriate lifesaving, swimming and water safety education in open waterways, where the highest proportion of drowning incidents occur.

The feasibility of rolling out the program across Victoria will be determined by thoroughly reviewing the recommendations of this pilot program review. Particular focus will be on ensuring the product is cost effective, engaging, safe, flexible and addresses curriculum requirements. The review will also help refine staff training and program delivery efficiencies. LSV will model the resultant program options and identify the ideal locations for the next round of updated pilot programs, which will be conducted in the same locations and/or additional inland regional areas in Victoria.

Following these pilots, it is intended that Bush Nippers will be a viable, practical and sustainable lifesaving and water safety program that delivers key skills and knowledge to Victorian children.

Acknowledgements

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- Greater Shepparton City Council staff and community; Aquamoves Lakeside Shepparton staff and participants.
- Campaspe Shire Council staff and community; Echuca War Memorial Aquatic Centre staff and participants.
- City of Wodonga staff and community; Aligned Leisure staff and participants.
- Department of Education and Training, State of Victoria.
- City of Ballarat staff and community; Ballarat Aquatic and Lifestyle Centre staff.
- Staff and students at Yuille Park P-8 Community College, Pleasant Street PS and Macarthur St PS, Ballarat.

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