

U.S. NATIONAL  
**WATER**  
**SAFETY**  
ACTION PLAN

2023-2032



JUNE 2023



# U.S. NATIONAL WATER SAFETY ACTION PLAN

## VISION

**A United States where everyone is safe in, on, and around water.**

## MISSION

**Prevent drowning in the United States through evidence-informed action. Transform the country into a nation where water safety is a natural part of everyday life and people enjoy the benefits of water, safely.**

# TABLE OF CONTENTS

Foreword from the USNWSAP Steering Committee Chair.....	4
Foreword from Water Safety USA .....	5
<b>What is the U.S. National Water Safety Action Plan?</b> .....	7
Our Call to Action.....	9
From Reflection to Action: Guidance to Support Action Planning.....	9
Additional Guidance and Tools.....	10
Action Recommendations and Implementation Database .....	10
Case Studies.....	10
National Implications to Support a National Agenda .....	11
National Drowning Prevention Research Agenda .....	12
How Will Progress Be Measured?.....	12
<b>Why a U.S. National Water Safety Action Plan?</b> .....	13
Our Strengths.....	13
Our Challenges.....	16
<b>Action Recommendations</b> .....	20
Barriers, Entrapment, and Electrocutation.....	22
Data and Public Health Surveillance .....	24
Lifeguards and Supervision .....	26
Life Jackets, Personal Flotation Devices, and Other Flotation.....	27
Rescue and CPR .....	29
Water Safety, Water Competency, and Swimming Lessons.....	31
<b>Acknowledgements</b> .....	34
<b>Appendix</b> .....	43
Glossary of terms.....	43
Abbreviations.....	44
Citations .....	45

Disclaimer: The views and opinions expressed in this document are those of the Steering Committee and participants in the USNWSAP development process and do not necessarily reflect the views or positions of any entities they represent.

## FOREWORD FROM THE USNWSAP STEERING COMMITTEE CHAIR

Drowning is a preventable public health issue that, in the United States, has not received attention commensurate with its burden. While thousands of stakeholders across the country are working to address water safety and prevent drownings, in most locations targeted collaboration and coordination of efforts have not been a priority, and the evidence-informed strategies that would reduce the burden have not been equitably implemented. Thus, despite best efforts to date, 11 people on average fatally drown each day in our country, and countless other lives are negatively impacted by the trauma of nonfatal drowning incidents. We say, enough! We say let's come together and stop the emotional and economic burden of these preventable incidents. We want a country where everyone is safe in, on, and around the water.

This Plan lays out how we envision starting to get there. It is our response to the World Health Organization's call for member states to develop national action plans, as well as our acknowledgement of the need for more coordinated action at the national, state, county, and community levels across this country of diverse waterscapes. We developed the Plan with a focus on what we know works: increasing the availability and use of data to inform prevention and moving research evidence into action. This focus includes education and skills-building to help ensure water safety and build water competency and swimming ability; the use of life jackets and other flotation devices to prevent drowning in the event of an unanticipated exposure to water; the continuum of attention to those in and around water in various settings by caregivers through to lifeguards; skilled water rescue and cardiopulmonary resuscitation (CPR) by lifeguards, Emergency Management Services (EMS) personnel, and even bystanders in the event of a drowning incident; and efforts to reduce unsupervised access to the water by those, such as toddlers, who cannot appreciate the risks.

As we started the development process, we acknowledged that we must ensure that existing systems protect everyone. Regardless of where an individual lives, their socioeconomic status, their race or ethnicity, abilities, age, or gender, water is all around us. Therefore, the Plan includes specific attention to inequities and includes recommendations to address the needs of groups that have been marginalized and underserved by current preventive actions.

Our call to action is a call for collaboration and coordinated action to address a leading cause of injury death in the United States and the leading cause of death for the youngest and most vulnerable among us. We recognize that drowning prevention efforts must start at the community level, which is where drownings happen and where many evidence-informed preventive efforts need to be implemented. However, we also recognize the need for action at the county, state, and national levels to support those community efforts. Thus, local context is key, and no single sector, agency, or organization can answer this call alone. This Plan and the forthcoming resources to support action are informed by hundreds of dedicated individuals representing governments, nonprofits, academics, and industry as well as families who lost someone to drowning. We thank all of them and the organizations and individuals who funded the development effort, including the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention.

We encourage you to come together to change things—to transform this country into a nation where water safety is a natural part of everyday life and everyone can enjoy the benefits of water, safely.

## FOREWORD FROM WATER SAFETY USA

Water Safety USA is committed to equipping everyone in the United States with the incentive, knowledge, skill, behaviors, and resources to safely enjoy activities in, on, and around the water. The U.S. National Water Safety Action Plan represents a major step forward in achieving this goal.

Water Safety USA was formed in 2014 to promote collaboration among national organizations working to reduce drowning and create consistent language around drowning prevention messaging. It is a roundtable of longstanding national nonprofit and government agencies with a strong record of providing drowning prevention and water safety programs, including public education.

Work on drowning prevention in the United States runs parallel to global efforts as drowning is increasingly recognized as an urgent global health issue. In 2014, in its first global report on drowning, the World Health Organization noted a lack of coordination within countries to address the issue as a leading cause of death.<sup>1</sup> In 2017, in its *Drowning Prevention: Implementation Guide*,<sup>2</sup> the World Health Organization recommended that countries develop national drowning prevention plans. Water Safety USA answered that call by creating a Steering Committee with both internal and external members to develop the first U.S. National Water Safety Action Plan.

Water Safety USA supports the vision of the Plan and encourages advocates, communities, counties, and states to translate the recommendations into meaningful outcomes. The national organizations that comprise Water Safety USA will continue to work in concert and individually to meet the Plan's objectives.



# WHAT IS THE U.S. NATIONAL WATER SAFETY ACTION PLAN?

The U.S. National Water Safety Action Plan (USNWSAP) is a national roadmap for collective action to reduce drowning. It provides a framework and tools to support the development and implementation of data- and evidence-informed, context-specific water safety action plans in communities, counties, and states across the country. It also lays out national actions that support implementation and increase the likelihood of success of those local plans.

We developed the Plan to guide the efforts of aquatics professionals, public health and safety professionals, policymakers, researchers, advocates, families, manufacturers, and other partners and collaborators in the water safety community who together can take action to prevent drowning. Four values guide the Plan:

- **The value of evidence-informed action and the need for evaluation, and addressing the current absence of both**

The USNWSAP strategically calls for evidence-informed action, evaluation, and monitoring of prevention efforts to ensure the limited resources available are put to the best use and ultimately reduce fatal and nonfatal drowning. The Plan was created by experts in drowning prevention and informed by water safety supporters from across the country. The action recommendations, the development of which was the major activity during Plan development, are backed by either research or, in the absence of research, expert opinion, and a research agenda is being developed to address those areas where further evaluation and evidence are needed.

- **The value of ensuring equity is considered during action plan development and implementation**

Water may be present in all our lives, but the data clearly identify groups that are at greater risk of drowning. The World Health Organization defines health inequities as “differences in health status or in the distribution of health resources between different population groups, arising from the social conditions in which people are born, grow, live, work, and age.”<sup>3</sup> The intersection of social factors such as race, ethnicity, socioeconomic status, disability, and geographic location results in some groups being marginalized and underserved. These groups receive fewer and lower quality preventive interventions; often have few opportunities to become familiar with public health and safety delivery systems; face a shortage of readily available educators; and lack access to infrastructure and quality systems of care in the event of a drowning incident. If policies and programs are not planned and implemented with an equity lens, system changes won’t address existing inequities, and drowning rates will not fall for all. Diversity, equity, and inclusion are therefore key considerations to ensure that policies and programs meet the needs of all.

- **The value of collaboration and engagement of the water safety community in plan development**

Collective action requires engagement of those who hold a part of the solution. Recognizing that, the Steering Committee ensured multiple opportunities for input. Hundreds of experts across the country were involved in the development of the USNWSAP and specifically the 99 action recommendations in this document. The water safety community was also regularly engaged through newsletters and social media. The depth and breadth of engagement is further acknowledgement of the level of collaboration required to translate the Plan into action and move the country towards a culture of water safety. As a result, collaboration is a key aspect of the guidance we’ve developed to support action planning.

## USNWSAP BY THE NUMBERS

99  
ACTION  
RECOMMENDATIONS

96  
WORKING GROUP MEMBERS  
AND EXPERT REVIEWERS

80+  
SUBJECT MATTER  
EXPERTS  
CONSULTED

393  
INDIVIDUALS FROM 48  
STATES COMPLETED  
THE RECOMMENDATION  
SURVEY, THE MAJORITY  
OF WHOM WORK AT THE  
COMMUNITY LEVEL

175  
ORGANIZATIONS AT THE  
NATIONAL, STATE, COUNTY,  
AND LOCAL LEVELS FROM  
40 STATES COMPLETED  
THE RECOMMENDATION  
SURVEY

17  
NATIONAL  
ORGANIZATIONS  
WORKING TOGETHER AS  
WATER SAFETY USA

4  
COUNTRIES WHO SHARED  
THEIR EXPERIENCES IN  
DEVELOPING A NATIONAL  
PLAN

9  
STEERING  
COMMITTEE  
MEMBERS

12  
WORKING GROUP  
CO-CHAIRS

1  
PROJECT  
MANAGEMENT  
ASSISTANT

27  
BLUE RIBBON PANEL  
MEMBERS

- **The value of local context in ensuring relevant action**

From the beginning, we recognized that decreasing drowning required comprehensive, coordinated, evidence-informed action at multiple levels, from grassroots to the national level. We initially thought we could develop models of action for each level, laying out action recommendations for all communities, counties, and states to adopt and implement to be “water safer.” However, we realized during the development process that the heterogeneity of the waterscapes within which drowning occurs across the United States meant that actions that made sense in one part of the country might not make sense in another. Local context was even more important than originally anticipated, and the Plan framework needed to be more flexible. We therefore pivoted to calling for the development and implementation of context-specific, data- and evidence-informed action plans and aligned all guidance, tools, and resources to support that work.

The USNWSAP covers a 10-year period from 2023 to 2032, within which we call for coordinated uptake and implementation of drowning prevention activities around six key areas (listed here alphabetically) where evidence exists to support action:

- **Barriers, Entrapment, and Electrical Safety (BEE)** – using pool fencing, alarms, and emerging technologies to reduce unsupervised access to water, and employing measures to reduce entrapment and electrocution.
- **Data and Public Health Surveillance (DS)** – developing comprehensive drowning data surveillance to inform prevention of fatal and nonfatal drownings, better identify risk groups, and develop and monitor data-driven prevention interventions.
- **Life Jackets, Personal Flotation Devices, and Other Flotation (LJ)** – increasing the use of U.S. Coast Guard-approved life jackets by boaters, as well as by those recreating in or near the water.
- **Rescue and CPR (Res CPR)** – promoting and improving rescue and resuscitation of the drowning victim by laypersons, lifeguards, and EMS personnel.
- **Lifeguards and Supervision (LG SUP)** – improving protection and supervision by parents, group leaders, and lifeguards of those in and near all types of open water, pools, and around the home.
- **Water Safety, Water Competency, and Swimming Lessons (WS WC)** – enhancing water safety, water competency, and swimming lessons with a particular focus on reducing existing inequities.

This document describes the Plan and our call to action. We also describe resources and tools being created to support the development and implementation of data- and evidence-informed, context-specific water safety action plans by communities, counties, and states. We explain why a USNWSAP is important and relevant to everyone in the water safety community and list the 99 action recommendations as part of the Plan.



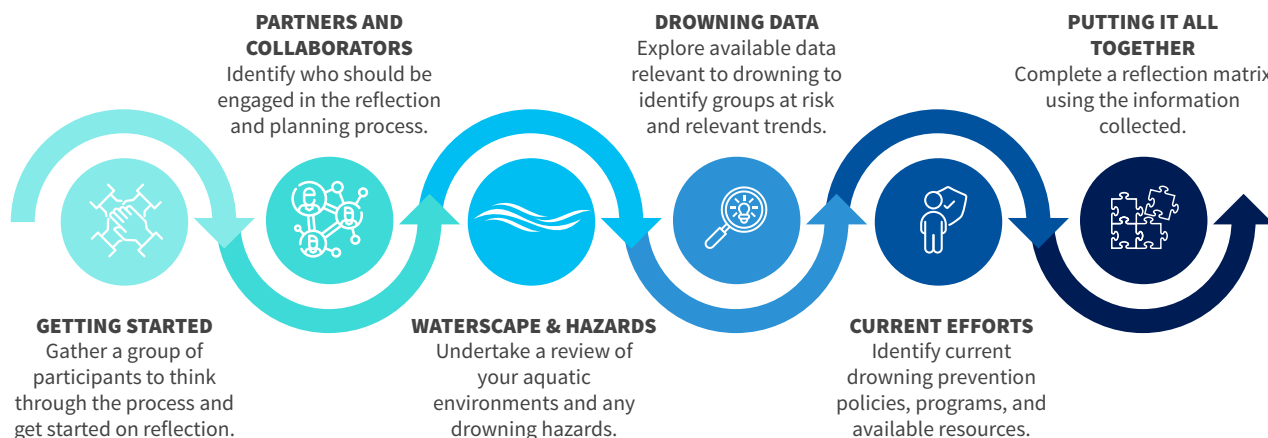
# OUR CALL TO ACTION

The launch of the USNWSAP involves a call to action to all communities, counties, and states. We encourage the water safety communities in those jurisdictions to come together to collaborate on the development and implementation of a context-specific, coordinated, data- and evidence-informed action plan to address inequities and reduce drowning. To support that development and implementation, development of the USNWSAP involved creating the tools and resources described below.

## From Reflection to Action: Guidance to Support Action Planning

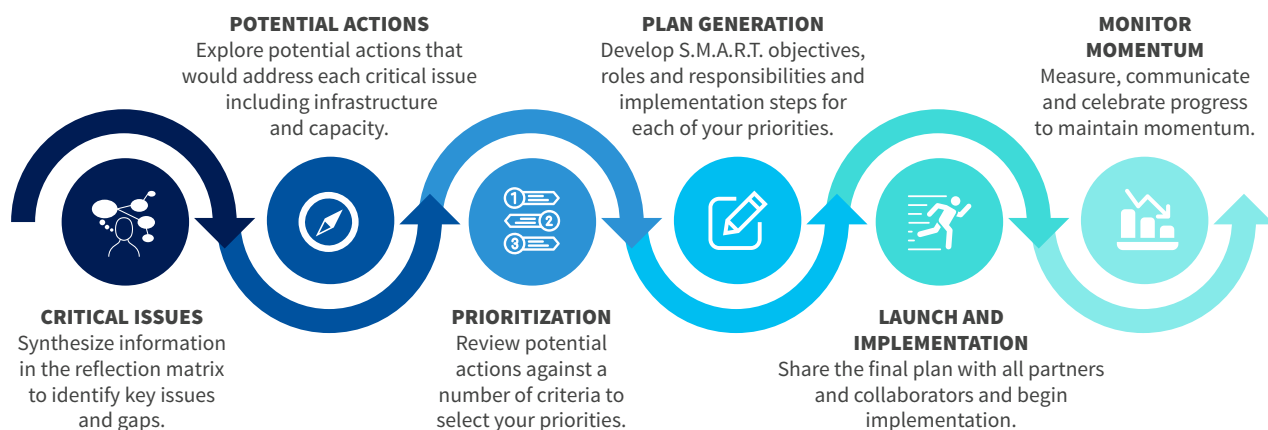
We developed guidance around a 12-step process. The flexible guidance is designed to work at the community, county, or state level in two phases: 1) undertaking a reflection exercise of the current situation and 2) building on the results of the reflection exercise to develop a data- and evidence-informed action plan.

### Reflection Phase



The purpose of the Reflection phase is to start action planning from an informed place, ensuring a full understanding of the current situation and an initial exploration of how that situation can be built upon and enhanced with action planning. Spending time exploring, discovering, and reviewing key factors that influence drowning in the local context, whether that is a community, county, or state, helps those undertaking the process develop strategic, meaningful, data-informed actions more likely achieve the desired impact. The Reflection phase has six steps: Getting Started, Partners and Collaborators, Waterscape and Hazards, Drowning Data, Current Efforts, and Putting It All Together.

### Action Planning Phase



The purpose of the Action Planning phase is to build on what was learned during the Reflection phase to identify data- and evidence-informed actions to improve or expand upon what is already being done, prioritize those actions, and develop, launch, and monitor a comprehensive and coordinated action plan. The Action Planning phase also has six steps: Critical Issues, Potential Actions, Prioritization, Plan Generation, Launch and Implementation, and Monitor Momentum.

# USNWSAP DEVELOPMENT PROCESS



Each phase has a specific guidance resource that describes the steps in greater detail, along with supporting tools. The steps in the Reflection phase are described in “[From Reflection to Action: Phase 1 – Guidance on Doing a Reflection Exercise to Support Action Planning](#),” that will be available on the USNWSAP webpage in July 2023. The steps in the Action Planning phase are described in “[From Reflection to Action: Phase 2 – Guidance on Action Planning](#),” available later in 2023.

## ADDITIONAL GUIDANCE AND TOOLS

### Action Recommendations and Implementation Database

The 99 action recommendations are statements regarding prevention approaches backed by a reasonable level of research evidence or, in the absence of research evidence, expert consensus that they likely do help reduce drowning. The action recommendations support action planning at the state, county, and community levels and made up a big part of the USNWSAP development process.

Covering the six key areas around which the Plan was developed, the action recommendations provide guidance for the Action Planning phase of the Reflection to Action Planning process. They help identify potential solutions to address identified critical issues, prioritization, and plan generation. Using evidence-informed action recommendations reduces the amount of research work to develop action plans and increases the likelihood that action plans are evidence-informed, so the approach to drowning prevention is consistent across the country.

The full list of action recommendations appears later in this document. In addition, we collated further information on each action recommendation, including the rationale, evidence base, implications for implementation, barriers and facilitators of implementation, potential key performance indicators, and other relevant information. By late 2023, that information will be available in a searchable online Implementation Database on the USNWSAP website.

### Case Studies

Substantial progress is already being made in states, counties, and communities across the United States. We captured some examples of that progress as case studies for those considering undertaking action. The [full case studies](#) are available on the USNWSAP website. We include excerpts as sidebars to illustrate points in the Why Should the U.S. National Water Safety Action Plan Matter to You? section.

- **Case Study: Family Foundations - Creating local, national, and international partnerships**
- **Case Study: City of Chicago - Addressing a lack of data**
- **Case Study: Maricopa County, Arizona - Starting locally, expanding to a state-wide coalition**
- **Case Study: Washington State - Creating a broad-based private and public sector coalition**

These are but a few of the examples of work already being done around the country. We gratefully acknowledge the many other individuals and organizations not mentioned who have worked tirelessly in the field for years. We anticipate adding more case studies to the website as examples are identified.

### National Implications to Support a National Agenda

The national implications identify actions at a national level that support uptake and implementation of recommendations at the state, county, and community levels. They include items such as the development of national minimum standards, advocacy tool kits with model laws, and national-level guidance. Undertaking the development of these tools and resources and encouraging their adoption or use will help address existing inequities between and within states, counties, and communities. The table below includes examples of these supports and the recommendations they impact.

#### Examples of National Implications

National Implication	Recommendations Supported*
Develop an advocacy tool kit, including model laws, to support adoption and implementation of legislation mandating solutions to unsupervised access, entrapment, and electrocution around residential pools and spas.	BEE 1, BEE 6, BEE 8, BEE 13, BEE 14
Develop a national drowning surveillance working group to create a national drowning surveillance strategy addressing minimum datasets; develop standardized reporting tools; obtain consensus on drowning risk assessment measures; provide guidance on drowning surveillance, including the collection of sensitive information; develop and validate questions on aquatic knowledge, attitudes, and behaviors; and provide guidance on creating annual drowning reports.	DS 1, DS 4, DS 5, DS 7, DS 8, DS 10, DS 11, DS 13, DS 15, DS 16, WS WC 10
Develop a multi-year comprehensive coordinated national water safety awareness campaign with consistent messaging to help educate the public. Include topics such as supervision, barriers, life jackets, and water competency, like safe self and others rescue.	LG SUP 9, LJ 12, LJ 16, RES CPR 14, WS WC 16
Develop an advocacy tool kit, including model laws, to support adoption and implementation of legislation mandating life jacket use.	LJ 1, LJ 2, LJ 3, LJ 4
Develop national minimum standards for CPR training in schools.	Res CPR 7
Develop national minimum standards for water competency education targeting the public.	LJ 5, RES CPR 14, WS WC 1, WS WC 2, WS WC 7

\*See pages 22–30 for wording of recommendations associated with Recommendation IDs

We encourage national-level organizations and agencies to lead action on the national implications in partnership with representatives from the state, county, and community levels as appropriate. In particular, national-level action in the first years of the USNWSAP will support the development and implementation of action plans in those jurisdictions. A full list of national implications is available on the USNWSAP [website](#).

## **National Drowning Prevention Research Agenda**

The development of a National Drowning Prevention Research agenda is underway. As planned, the research agenda provides direction for addressing the evidence gaps identified by the working groups for each of the six focus areas during USNWSAP development. The research agenda outlines key evidence gaps and research questions to address. This research can then support current action recommendations or lead to new recommendations for actions currently being implemented in some jurisdictions but lacking sufficient evidence or support from experts for inclusion in the current list. We intend to use the Research Agenda to advocate for research funding and encourage researchers from multiple disciplines to undertake applied research to address key questions that support the USNWSAP. The research agenda will be available on the USNWSAP website later in 2023.

## **HOW WILL PROGRESS BE MEASURED?**

Because evidence-informed action and evaluation are a key focus, monitoring and evaluation are cornerstones of both the USNWSAP and the Reflection to Action process. By building in monitoring and stressing the importance of evaluation, the USNWSAP will over time lead to an increased ability to measure changes in exposure to hazards, uptake of preventive actions, and the rate of fatal and nonfatal drownings.

The ability to aggregate data to support monitoring and evaluation at a national level depends on standardizing measures. Several of the action recommendations and associated national implications address the development of national minimum standards in the areas of data collection, education, and training, which should also include standardized measures. In turn, uptake and use of those standardized measures facilitate aggregation of data, particularly at the state and national levels, which will allow more effective monitoring of progress on the impact of other action recommendations included in community, county, and state action plans.

Tracking intermediary indicators of progress is also essential. Because local context is key, the adoption of the call to action is a key indicator of progress for the USNWSAP. As we move forward on implementing the USNWSAP, we will monitor the levels of adoption of the call to action on an enhanced USNWSAP webpage to be launched later in 2023. The webpage will include a mechanism where communities, counties, and states can register their intent to undertake an action planning process and share progress, challenges, and successes along the way.

The Reflection to Action process also encourages action plans at the state, county, or community level to adopt S.M.A.R.T. objectives to assist with measuring the impact of actions within the plans developed. Process and outcome evaluation of policies and programs implemented under the auspices of action plans should result in more effective programs and policies, efficient replication and expansion, and increased opportunities to attract attention, support, and funding for water safety and drowning prevention initiatives.

# WHY A NATIONAL WATER SAFETY ACTION PLAN?

Water is all around us; therefore, so is drowning risk. Drowning is a deadly and costly public health and safety issue that results in more than 4,000 fatal unintentional drownings and an unknown number of nonfatal drownings each year, at an estimated cost of \$53 billion.<sup>4</sup> Drowning is most likely to impact the youngest and most vulnerable of our population who can't advocate for themselves.

The USNWSAP is in response to these statistics. In developing it, the Steering Committee recognized that we were not starting from scratch and would be building on a number of strengths. However, we also acknowledged the realities that make addressing the issue challenging. This section outlines the strengths and challenges we face and illustrates why we proposed the approach of collaborating on the development and implementation of context-specific, coordinated, data- and evidence-informed action plans designed to address inequities and reduce drowning.

## OUR STRENGTHS

**We have a rich history of water safety and drowning prevention in this country to build upon.**

As early as the 1700s, dories were launched from shore by lifesavers to save shipwrecked people in distress. In 1848, these private and humanitarian rescue efforts were formalized as the United States Lifesaving Service. The service merged with the Revenue Cutter Service in 1915 to form the United States Coast Guard. The YMCA developed a national educational program for swimming and lifesaving in 1909,<sup>5</sup> followed by the establishment of the American Red Cross Water Safety Program and the National Volunteer Lifesaving Corps in 1914.<sup>6</sup> Drowning data have been collected by the Centers for Disease Control and Prevention for decades. In 1992, the first national guidelines for the training, equipping, and standards for lifeguards at surf and other open water beaches were disseminated by the United States Lifesaving Association. The National Drowning Prevention Alliance (NDPA) has been bringing together activists, academics, and aquatic professionals since 2005.<sup>7</sup> Families and individuals impacted directly by drowning have been a strong and effective force in communicating the need for water safety education and drowning prevention strategies to the public and in directing policy changes. In 2011, family foundations joined to create one voice, Families United to Prevent Drowning.<sup>8</sup> In 2014, Water Safety USA was formed, formalizing the decades-long collaboration between large national organizations.<sup>9</sup> From Scouting to swim instructors, academics to first responders, medical professionals to entrepreneurs, countless individuals and organizations have contributed to preventing drowning throughout America's history on the national, state, county, and community levels.

### “ WATER SAFETY OR DROWNING PREVENTION? ”

The terms “water safety” and “drowning prevention” are often used interchangeably in the field. Professionals in the field are more likely to understand that “water safety” is preventive and proactive, while “drowning prevention” is active and immediate prevention of danger. When communicating with the public, recognize that the terminology is not familiar. The term “water safety” may be interpreted as water quality, safe drinking water, or the relative safety of a body of water for various activities. Even the term “drowning prevention” assumes the public understands the magnitude of the problem.

When in doubt, spell it out. Don't assume public understanding. Use the opportunity to inform the public about the preventive and reactive components of preventing drowning. Explain what you mean by the terminology.

## CASE STUDY: FAMILY FOUNDATIONS

Creating local, national, and international partnerships

Family Foundations are clear on their focus. Whether legislation, swim lessons, or water safety education, they are creative and effective in identifying the right partners to provide financial, logistical, and marketing support. Examples include:

**Abbey's Hope**, in memory of Abbey Taylor, has engaged with dozens of corporate partners, state and national nonprofits, and community members.

**Colin's Hope**,<sup>38</sup> in memory of Colin Holst, engages Athlete Ambassadors and partners with over 35 organizations at community, state, country, and global levels.

**Josh the Otter**, representing the Joshua Collingsworth Memorial Foundation,<sup>36</sup> partners with Rotary International and local groups.

**Stewie the Duck**, representing the Stew Leonard III Water Safety Foundation,<sup>37</sup> collaborates with the local Fire Department, the American Red Cross, the YMCA, and schools.

**The ZAC Foundation**,<sup>39</sup> in memory of Zachary Archer Cohn, cultivates community partners on state and regional drowning prevention action plans.

Information on other family foundations undertaking work to address drowning can be found through Families United to Prevent Drowning at [www.familiesunitedtopreventdrowning.org](http://www.familiesunitedtopreventdrowning.org)

### We know how to reduce drowning.

Progress in research and programming has resulted in drowning numbers slowly decreasing over the years, although progress has slowed or plateaued recently. Formal swim lessons reduce the risk of drowning, leading the American Academy of Pediatrics to recommend that “all children and adults should learn to swim,” and that “children can benefit from swimming lessons as young as age 1.”<sup>10</sup> The first program teaching water survival strategies to children aged 6–10 years showed that graduates had a 96% less chance of drowning than peers who did not participate in the program.<sup>11,12</sup> Lack of supervision was identified as a contributing factor in 72% of fatal drownings for children aged 0–14,<sup>13</sup> with almost 70% of childhood drownings occurring during non-swim times.<sup>14</sup> Improved marketing, content, and availability of education programs for parents and caregivers may improve those numbers.<sup>15</sup> Swimming at a beach where a lifeguard is on duty reduces the chance of drowning to 1 in 18 million, with beach lifeguards performing 4,832 rescues for every 1 drowning.<sup>16</sup> U.S. Coast Guard-approved life jacket wear while boating reduces the risk of drowning by 50%.<sup>17</sup> Isolation pool fencing with self-closing and self-latching gates reduce a child's chance of drowning by 83%.<sup>18,19</sup> The 99 action recommendations in the USNWSAP support and expand on solutions available to the water safety community. If implemented consistently across the country, we would see a reduction in drowning.

### Water-based activities have benefits beyond reducing drowning death and injury.

Creating a culture of water safety in the United States yields benefits beyond the reduction of drowning death and injury. Aquatic activity like swimming can significantly reduce the risk of mortality, chronic illnesses, heart disease, and diabetes.<sup>20</sup> Participating in swimming in the early years can aid in the early achievement of cognitive, physical, and linguistic milestones in young children.<sup>21</sup> Increasing regular physical activity through swimming and other aquatic activity can aid youth in their optimal growth, development, and learning.<sup>22</sup> Applying a diversity, equity, and inclusion lens to skills-based programs will not only increase safety and comfort levels around water among at-risk groups but will also increase access to employment in a range of industries that require water competency skills. Investing in water safety broadly benefits society. All of these benefits highlight opportunities for broader partnerships as we work to ensure everyone is safer in, on, and around the water.

**The water safety community is in a state of readiness.**

Our greatest strength is our people. The United States has a culture of water safety activism that started before the founding of the country. Individuals and organizations work tirelessly to reduce drowning in their states, counties, and communities, and they want to see their work have an impact. In the last 30 years, we have seen a dramatic increase in collaboration, a key ingredient to success.

In the last few decades, families and individuals who have been directly impacted by drowning have become important catalysts for change in raising awareness, forming coalitions, and lobbying for water safety legislation. Their willingness to share their personal tragedy continues to put a face on this underrecognized problem, sending a clear message that “it can happen to you.”

States like Washington, Arizona, and California have formed state-wide coalitions of relevant stakeholders. Multiple counties in states like Florida and Texas routinely bring together water safety professionals, public health professionals, first responders, medical professionals, researchers, nonprofits, and committed individuals to collaborate, share resources, and create cohesive water safety strategies. From major cities like Chicago, to smaller communities around the country, committed individuals and organizations have been a driving force for raising awareness and taking action to reduce drowning. Many more are ready to increase their engagement and are just looking for guidance. We hope the USNWSAP will provide further impetus to act, in addition to providing the necessary guidance.

**CASE STUDY:  
MARICOPA COUNTY, ARIZONA**

**Starting locally, expanding to a state-wide coalition**

In 1989, Arizona Department of Health Services partnered with Phoenix Fire, hospitals, and parents to establish a “Children Aren’t Waterproof” group to address the drowning issue. With drowning a too-often emergency response for many fire departments and hospitals, stakeholders collaborated that year to form the Drowning Prevention Coalition of Central Arizona. In 2009, they went statewide, as the Drowning Prevention Coalition of Arizona, a 501 (3)(c) nonprofit.

The goal was to provide a forum for drowning prevention efforts through the promotion of education, legislative action, awareness, and enhanced product safety. Partners included individuals from different cities, industries, and backgrounds to work toward a common cause that significantly benefits the entire community. Goals were set to ensure the Coalition was a collaborative effort to share and support educational efforts across the state. Over the years, through education and persistence, the child drowning rates in Arizona have declined, even as the state population continues to increase.



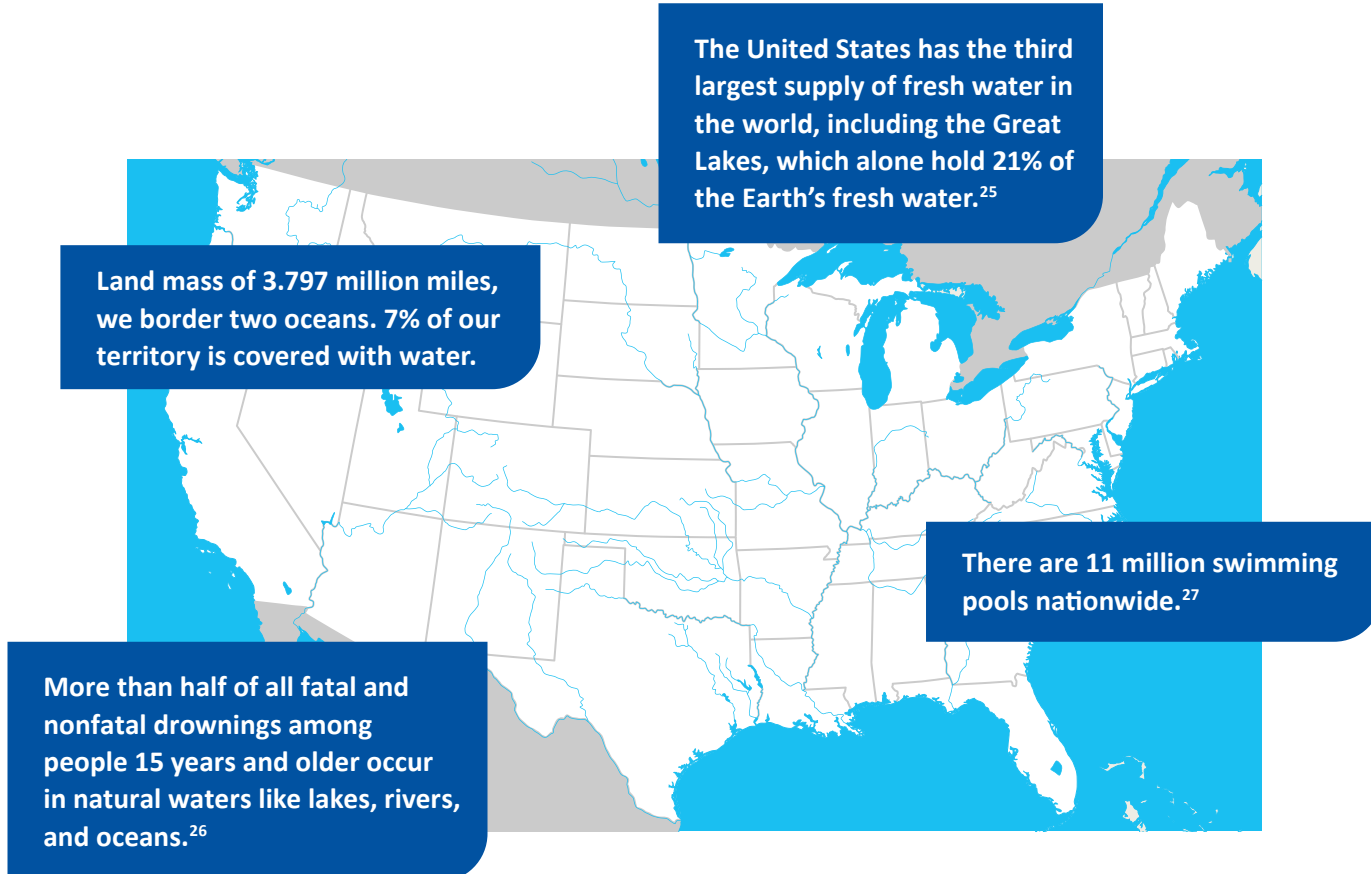
# OUR CHALLENGES

## The Size and Complexity of the Country and the People

While the United States is one country, it is made up of 50 independent state governments, 14 territories plus Washington D.C., over 3,000 counties, and over 30,000 incorporated communities each with its own government and a complex interplay between jurisdictions. It is home to 332 million people speaking over 350 languages, making the United States one of the most linguistically diverse nations on Earth.<sup>23</sup>



The vast geography encompasses every type of water risk: from coastal to inland lakes, rivers and creeks, man-made water reservoirs, irrigation canals and swimming pools, ponds, and other water sources in and around the home, including bathtubs. From sea to shining sea, our magnificent waters have unique personalities and dangers. No state, county, or community is untouched by drowning. While we often associate drowning with sandy beaches and hot weather, Alaska is the state with the highest rate of drowning.<sup>24</sup> Regardless of the waterscape where you live, where there is water, there is risk of drowning. Yet the diversity means each jurisdiction needs to reflect on its own waterscape and people to develop effective action.

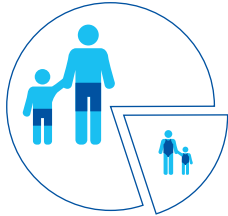




## Drowning Risk Varies

The burden of drowning is not equal across the population or the country. This is in part because hazards and preventive actions also vary greatly across the country.

80% of drowning victims are **male**.



Drowning impacts all ages, but in particular the **young**.<sup>28,29</sup>

**#1**

The leading cause of death among **1-4 year olds**.



**#2**

The second leading cause of unintentional injury death among children **ages 5-14 years**.



Drowning death rates for **Black/African Americans** are **1.5X** higher than the rates for White people.

Disparities are highest among **Black/African American children** ages 5-9 (rates **2.6X** higher) and ages 10-14 (rates **3.6X** higher).

Drowning death rates for **American Indian or Alaska Native** people ages 29 and younger are **2X** higher than the rates for White people.



Drowning in **rural** settings is **1.5X** higher than in urban areas.



Children with **autism** spectrum disorder are **160X** more likely to experience fatal and nonfatal drowning than neurotypical peers.



**Pre-existing medical conditions**, mental illness, and chronic disease can increase the risk of drowning.<sup>30,31</sup>

Some of the disparities in drowning risk reflect inequities that can only be addressed if the needs of all, including groups that have historically been marginalized and underserved, have been addressed. This requires that policies and programs be developed and implemented through a lens of equity, that those impacted are involved in finding solutions, and that solutions include change to the systems that led to the inequities in the first place. Specific action recommendations from the Water Safety, Water Competency, and Swimming Lessons Working Group explicitly address actions to meet the needs of populations that have been marginalized and underserved, but application of an equity lens broadly across all preventive actions included in action plans will be critical to addressing current inequities.

## CASE STUDY: WASHINGTON STATE

### Creating a broad-based private and public sector coalition

The Washington State Drowning Prevention Network (WADPN) launched in 1994 to provide a forum for organizations to work together to promote water safety and prevent drowning. The network grew out of the Seattle King County Drowning Prevention Coalition as interest grew among other counties throughout the state to be involved with drowning prevention. Led by seven government agencies and nonprofit organizations, currently 300 people have signed up to be part of the WADPN, and anyone is invited to attend meetings and access resources. Organizations and people involved include aquatics, boating, public health, health care, parks and recreation, pool and spa industry, family members, first responders, community-based organizations, foundations, and many others. Priorities of the WADPN have been shaped by data, programs, and advocacy that are of interest to members as well as by funding available for specific activities. There are three working groups, each of which has an action plan with a timeline and deliverables: Media and Outreach, Life Jackets, and Education. Almost 30 years of continuously functioning operation has yielded success in partnerships and collaboration, advocacy, data and surveillance, access, research, education, and communication.

### **Drowning patterns may start changing as a result of climate change.**

Recent trends suggest the United States may see changes in drowning patterns due to the increasing risks posed by climate change. NASA states that “due to global warming, global climate models predict hurricanes will likely cause more intense rainfall and have an increased coastal flood risk due to higher storm surge caused by rising seas.”<sup>32</sup> We’ve also seen drowning rates increase with higher temperatures as more people seek relief through water recreation. New research also points to the need to implement and evaluate drowning interventions that reflect climate change risks at a local level, accounting for both geographical variation and the consequences of inequality.<sup>33</sup> Efforts to improve data systems, build collaborative preventive initiatives, and monitor progress can help identify changing patterns and pivot action when warranted.

### **Drowning is an issue without a clear lead.**

There is no single government department with a mandated lead for drowning prevention and water safety at the federal level. This organizational and policy-making disadvantage distinguishes the United States from other countries with successful national plans in place. However, the federal level isn’t the only place where the lack of a clear lead for the issue creates challenges for prevention—it is often also the case at the state, county, and community levels. While this is to some degree a reflection of the fact that solutions to drowning are multisectoral, a multisectoral approach still greatly benefits from a clear lead. In the absence of a clear lead for the issue, the different government sectors, nonprofit, and for-profit entities must collaborate and coordinate at all levels to ensure the needed change to systems and the creation of a culture of water safety in the United States.

### **Drowning data are limited and vary greatly between jurisdictions.**

The existing lack of coordination between jurisdictions and sectors impacts the quality of, and access to, drowning data to support prevention efforts. While most drowning prevention initiatives occur locally, local data are often limited and dispersed across multiple organizations. National and state databases are often limited to fatal drowning. Current classification methods undercount fatal

drownings, and limited data are available for nonfatal incidents. Additionally, drowning deaths and injuries sustained during boating and transportation incidents, natural disasters, murders, and suicides are not always included when reporting on drowning, which further understates the magnitude of the problem. Most databases capturing drowning data have limited information around the circumstances of drowning—for example, they lack information on location, presence of hazards, or presence of preventive measures—that would be useful for prevention. Where more detailed data are collected at the local level, lack of standardization limits the ability to aggregate to the state or national levels. The result of these limitations is that the true magnitude and economic cost of fatal and nonfatal drowning are unknown, and information necessary to effectively prevent drowning is not captured.

**Investment in drowning prevention has not been commensurate with the magnitude and economic burden.**

In addition to a devastating emotional toll, drowning creates an ongoing economic burden. This is particularly important given that 45% of drowning deaths in the United States involve the most economically active segment of the population. Yet despite the fact that drowning is the third major cause of unintentional injury death in children and adults under 24 years of age, resources remain sparse.<sup>34</sup>

Government funding for water safety programs is almost nonexistent compared to other public health initiatives. Collaboration has increased rapidly over recent decades but still trails behind better funded and organized injury prevention issues like drunk driving, transportation safety, and helmet use. While the Reflection to Action process facilitates the identification of opportunities where collaboration and coordination of existing efforts can increase impact, increased investment in the issue is both needed and warranted.

In summary, it is clear from the challenges we are facing that much remains to be done. The challenges are complex and real. Yet we have thousands of potential partners and collaborators already engaged in drowning prevention, and we have now identified and shared 99 evidence-informed action recommendations that can be adopted, implemented, and evaluated where warranted. **Creating a lasting culture of water safety in the United States will take cohesive, consistent, and coordinated action. This Plan lays out a roadmap to get there.**

## CASE STUDY: CITY OF CHICAGO

### Addressing a lack of data

Following the death of a 13-year-old girl caught in one of Lake Michigan's dangerous structural currents, a witness to the drowning advocated for the formation of the Water Safety Task Force Metro Chicago. Formed in 2018, the Task Force coordinates multiple government agencies and nonprofit organizations to create effective policy and programming that establishes a culture of water safety and sets a standard for drowning prevention in the Great Lakes region. They submitted their first report to the City Council of Chicago in April 2019. Since then, collaboration has continued and expanded, with the group meeting formally once a month to share progress and identify areas where further work and collaboration is needed.

As soon as the Task Force was formed, members identified the lack of data as a barrier to developing effective programs and policies. No single agency had comprehensive drowning data. There was virtually no sharing of data between organizations and agencies. Given the lack of drowning data, there was no clear understanding of the current situation. An early priority became consolidating and analyzing data for fatal and nonfatal drownings by race/ethnicity, age, gender, and hometown to assess the number and cost of drownings in the region. As data gathering protocols are developed and data are gathered, targeted collaborative initiatives have been put into place.

# ACTION RECOMMENDATIONS

In 2019, recognizing that not all existing activity was evidence-informed, and wanting to increase the likelihood that action taken under the auspices of the USNWSAP would be, the development of evidence-informed action recommendations was included as the major activity of Plan development. The process involved hundreds of water safety professionals who donated thousands of hours of time and decades of accumulated expertise to sift through research evidence and current best practices to put forward draft recommendations for action. The drafts went through multiple layers of review and revision before being finalized.

The following tables list the resulting 99 action recommendations by the 6 areas of focus. In addition, because we considered the levels of the Spectrum of Prevention<sup>35</sup> for each action recommendation, we list the one or two levels of the Spectrum that each recommendation most closely aligns with.

The Spectrum of Prevention is a systematic tool that promotes a range of activities for effective prevention, to help people move beyond the perception that prevention is merely education. The range includes six inter-related levels that identify broad preventive approaches and the specific types of activities that fall under each.

While a given activity may clearly align with one or two levels of the Spectrum, the results of implementing any one activity can be maximized by thinking through related actions for the other levels of the spectrum and linking efforts. For example, adoption of a new law or policy may be the result of activities aimed at influencing legislation and policy; however, effective implementation of that new law or policy likely involves efforts to change organizational practices, educate providers, promote community education, and strengthen individual knowledge and skills.



For the purposes of the USNWSAP classification, we modified the Spectrum of Prevention descriptions slightly to align with drowning prevention:

### ● **Influencing Policy and Legislation**

Developing strategies to change laws and policies to influence outcomes. This encompasses changes to national and state laws or county and municipal ordinances, as well as the adoption of formal policies by boards and commissions.

### ● **Changing Organizational Practices**

Adopting regulations and evidence-informed practices to shaping norms to enhance drowning prevention efforts. For example, this can include a swim school adding water safety education for parents or guardians while their child participates in swim lessons or companies that rent stand-up paddle boards, kayaks, canoes, or boats adding a life jacket wear requirement.

### ● **Fostering Coalitions and Networks**

Convening and maintaining groups (organizations or individuals) to address a common goal and increase the likelihood of success in drowning prevention efforts. This can include creating a state-wide water safety alliance developing and implementing a water safety action plan, a community task force addressing a specific local issue, or a coalition of organizations collaborating on a solution to a common challenge (e.g., a coalition of partners from across the country interested in developing a national minimum training standard).

### ● **Educating Providers**

Ensuring that providers have the necessary understanding and skills to educate or train others effectively. This encompasses efforts to educate providers who provide training and education (e.g., swim instructors, lifeguard trainers, public safety training officers, physicians, teachers, childcare providers) or transmit information to end users (e.g., pool installers, insurance companies, media).

### ● **Promoting Community Education**

Reaching groups of people with information and resources to promote water safety. This involves efforts focused on specific groups or the population at large, such as public awareness campaigns.

### ● **Strengthening Individual Knowledge and Skills**

Enhancing an individual's capability of preventing drowning and incorporating water safety through individual or group educational or training sessions. This includes water safety education, swim lessons, demonstrations on how to properly fit a life jacket, lifeguard certification training, and continuing education on pool safety for health inspectors.



## Barriers, Entrapment and Electrocution

Require the use of four-sided isolation fencing with self-closing and self-latching gates around residential pools and spas as the critical layer of protection to prevent drownings. Those fences and barriers should align with the Consumer Product Safety Commission's Safety Guidelines for Residential Pools. (BEE 1)



Require government mandated inspections upon change of ownership or substantial remodel or renovation of residential pools and spas to ensure they meet all federal, state, and local laws, regulations, and standards. (BEE 2)



Expand the mandate of, and human and financial resources available to, federal government agencies to reduce drownings. (BEE 3)



Require initial and continuing education for licensed or certified professionals involved with pools or spas to support enforcement of current laws or ordinances addressing water safety and barriers, entrapment, and electrical hazards. (BEE 4)



Require that building code officials and home inspectors receive regular continuing education to properly enforce current state and local requirements that are intended to prevent drowning, entrapment, and electrocution. (BEE 5)



Require that new and existing residential pools and spas have mechanisms to prevent suction entrapment, in alignment with the federally mandated requirements for public pools and spas in the Virginia Graeme Baker Pool and Spa Safety Act (VGBA). (BEE 6)



Update the federal consumer protection regulatory process to ensure that pool and spa environments and product features are properly engineered to prevent drowning and entrapments. (BEE 7)



Adopt the International Swimming Pool and Spa Code for new and substantially remodeled residential pools and spas in its entirety, including the PHTA-7 Standard for Suction Entrapment Avoidance. (BEE 8)



Adopt the most recent edition of the National Electric Code (NEC) for construction and maintenance of residential pools, spas, other home aquatic venues, marinas, boat docks, and boat yards, to prevent water-related electrocution. (BEE 9)



Require annual inspection of commercial aquatic facilities that use electricity, including pools, spas, docks, and marinas, to ensure maintenance and proper working order of all electrical systems, including the bonding system and other electrocution prevention measures. (BEE 10)



Develop and implement national labeling standards for barriers and other pool and spa safety products. (BEE 11)



Require that new and existing residential pools and spas have mechanisms to prevent suction entrapment, in alignment with the federally mandated requirements for public pools and spas in the Virginia Graeme Baker Pool and Spa Safety Act (VGBA). (BEE 12)



Require that pool safety covers for in-ground and larger storable aftermarket pools are powered and comply with the ASTM F1346-91 Performance and Labeling Standard for the safety device. (BEE 13)



Recommend an alarm system as an adjunct layer of protection for residential and semi-private pools and spas, secondary to an existing isolation fence with a self-closing, self-latching gate. (BEE 14)



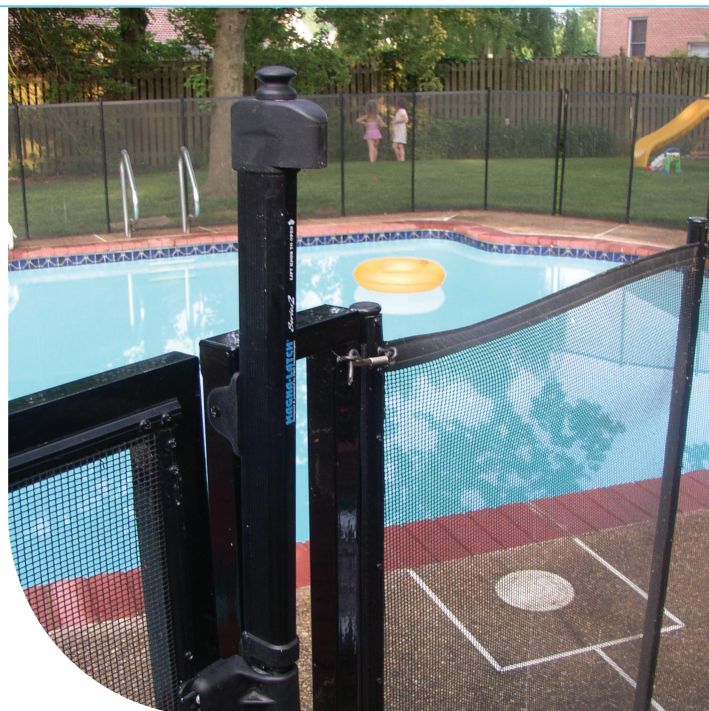
Develop and implement national minimum standards for targeted educational programs addressing pool and spa barriers, entrapment, and electrical safety for consumers, homeowners, and relevant professional groups. Relevant professional groups include contractors (builders and service companies), home inspectors, and real estate professionals. (BEE 15)



Require the production and dissemination of information to insurance companies, mortgage companies, and homebuyers regarding pool and spa safety devices mandated by law. (BEE 16)



Require manufacturers of pool fences and secondary safety barriers (e.g., pool safety covers, alarms) to provide easily accessible hard copy or digital instructions on product installation, use, and maintenance. Ensure instructions are available to consumers. (BEE 17)



- Influencing Policy and Legislation**
- Changing Organizational Practices**
- Fostering Coalitions and Networks**

- Educating Providers**
- Promoting Community Education**
- Strengthening Individual Knowledge and Skills**



## Data and Public Health Surveillance

Develop and implement a national surveillance system that includes collecting, analyzing, and sharing data from standardized incident reports at aquatic venues and services to inform the design and implementation of drowning prevention efforts. (DS 1) ●

Develop and implement a National Drowning Reporting System that links relevant data systems across the drowning spectrum, similar to the National Violent Death Reporting System (NVDRS) and Child Death Review. (DS 2) ●

Develop a panel of stakeholders to link existing data systems across the drowning spectrum (e.g., lifeguarding, law enforcement, emergency medical service, emergency department, hospitalization, and medical examiner data) to allow more complete analysis of risk and protective factors for drowning prevention. (DS 3) ● ●

Develop and implement a standardized data collection tool for use in drowning investigations by law enforcement, pre-hospital care, hospitals, coroners, and similar investigators. (DS 4) ●

Develop and disseminate a tool to enhance media reporting of fatal and nonfatal drowning to include details on known risk factors, such as water conditions and alcohol or drug use, and evidence-based prevention strategies, such as isolation fencing, swim ability, life jacket use, and lifeguard presence. (DS 5) ● ●

Support the use of syndromic surveillance to identify emerging trends in drowning. (DS 6) ●

Standardize assessment and reporting of alcohol, medication, and drug use among drowning victims, those who were supervising the victim, and boat operators as a factor in drowning incidents. (DS 7) ● ●

Develop and implement guidance on standardized assessment and reporting of sensitive data, like alcohol, medication, and drug use in drowning victims, those who were supervising the victim, and boat operators involved in drowning incidents. (DS 8) ●

Collect and disseminate verified drowning and rescue narratives to provide context to quantitative data for water safety education. (DS 9) ● ●

Create and disseminate a bank of standardized questions on water safety knowledge, attitudes, and behaviors for use in program evaluation and for integration into existing behavioral surveillance systems, such as Youth Risk Behavior Surveillance System (YRBSS) and Behavioral Risk Factor Surveillance System (BRFSS). (DS 10) ●

Develop and implement a minimum standardized data set to track enrollment and skills achieved through swim lessons, water safety training, swim instructor training, CPR certification, lifeguard certification, and boating safety certification. (DS 11) ●



Develop and implement a mechanism to increase the quality, quantity, availability, and accessibility of information on existing programmatic efforts in water safety. (DS 12)



Improve surveillance of attitudes, beliefs, and wear habits for life jackets during boating, swimming, and other water recreation to better understand life jacket effectiveness in different circumstances. (DS 13)



Develop and implement a local partnership strategy between community organizations working to prevent and those who respond to drowning incidents to improve drowning surveillance, enhance data sharing, and encourage data-informed prevention efforts. (DS 14)



Create and disseminate a comprehensive annual national drowning report comprised of fatal and nonfatal data from multiple sources, including, but not limited to: WISQARS, WONDER, USCG Boating report, CPSC. (DS 15)



Create and disseminate a comprehensive annual state drowning report comprised of fatal and nonfatal data from multiple sources, including, but not limited to: WISQARS, WONDER, USCG Boating report, CPSC, state injury databases. (DS 16)



Disseminate information to organizations managing existing data sources regarding how drowning-related data can be shared to support drowning prevention while staying within regulatory guidelines, including, but not limited to, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy Rule. (DS 17)



Convene multidisciplinary partners to identify, review, and discuss fatal drowning incidents among all ages to inform the development and evaluation of actionable data-driven and evidence-informed prevention strategies. (DS 18)



-  **Influencing Policy and Legislation**
-  **Changing Organizational Practices**
-  **Fostering Coalitions and Networks**

-  **Educating Providers**
-  **Promoting Community Education**
-  **Strengthening Individual Knowledge and Skills**



## Lifeguards and Supervision

Extend adoption by authorities having jurisdiction over public pools and spas of the Model Aquatic Health Code (MAHC), specifically the lifeguard and water safety provisions. (LG SUP 1)	●
Convene a panel of lifeguard training agencies, aquatic facility operators representing all environments, and regulators to consider the standards of care for supervision of designated swim areas in natural bodies of water, similar to how the Model Aquatic Health Code (MAHC) has impacted the standard of care for public pools and spas. (LG SUP 2)	●
Advocate for lifeguard services at designated open water swimming sites and public pools, prioritizing locations with high volumes of incidents and/or use. (LG SUP 3)	● ●
Convene a panel to develop and implement national minimum educational standards for lifeguard supervision courses, including pre-service and in-service lifeguard training, applicable for various man-made and open water venues, similar to the format in the Model Aquatic Health Code (MAHC) for public pools and spas. (LG SUP 4)	● ●
Recommend that aquatic facilities conduct regular lifeguard assessments and audits. (LG SUP 5)	●
Recommend that swimming facilities with lifeguards, both public and private, administer validated swim tests, based on models successfully incorporated by similar venues, before allowing patrons to enter water over armpit depth unless they are wearing properly fitted U. S. Coast Guard-approved life jackets. (LG SUP 6)	●
Recommend that lifeguard training organizations integrate multiple scanning strategies into their training. (LG SUP 7)	●
Recommend that facilities with lifeguards conduct in-depth review training at least quarterly to reinforce lifeguard professionalism and effectiveness. (LG SUP 8)	●
Develop and implement consistent national messaging for supervision strategies for parents and caregivers who have responsibility for individuals when in, on, and around the water. (LG SUP 9)	● ●

- **Influencing Policy and Legislation**
- **Changing Organizational Practices**
- **Fostering Coalitions and Networks**

- **Educating Providers**
- **Promoting Community Education**
- **Strengthening Individual Knowledge and Skills**



## Life Jackets, Personal Flotation Devices, and Other Flotation

Require all individuals participating in any activity involving a vessel less than 26 feet in length, including water sports, to wear a properly fitted U.S. Coast Guard-approved life jacket, except when below decks or in enclosed compartments. (LJ 1)



Require that everyone wear a properly fitted U.S. Coast Guard-approved life jacket while on or in any human-propelled vessel. Human-propelled vessels are powered only by its occupants (e.g., canoes, kayaks, rafts, stand-up paddle boards [SUPs]). (LJ 2)



Require that all individuals under the age of 18 wear U.S. Coast Guard-approved life jackets on all vessels under 26 feet in length, except when below decks or in enclosed compartments. (LJ 3)



Require that states adopt or exceed the minimum federal age requirements for U.S. Coast Guard-approved life jacket wear for vessels under 26 feet in length (currently with any child under 13 years old). (LJ 4)



Develop and implement national minimum educational standards for teaching life jacket fit, type, and style; when to wear; and demonstrations, to include practice fitting and use for both boating and non-boating water recreation. (LJ 5)



Develop and implement a national minimum standard for testing flotation devices used for nonboating water recreation, including swimming, to ensure they reduce potential risk of drowning when used properly. (LJ 6)



Develop and implement a standard for a singular connection type for carbon dioxide (CO<sub>2</sub>) cartridges for inflatable flotation devices. (LJ 7)



Develop and implement national recommendations for use of life jackets, personal flotation devices (PFDs), rescue devices, and other flotation devices while boating, swimming, or participating in other water-related activities. (LJ 8)



Develop and implement national recommendations for use of life jackets and flotation aids while participating in open water recreational activities, including, but not limited to swimming, jumping, and floating during non-boating related activities, or while swimming off boats, platforms, aquatic play structures, or other watercraft under the auspices of organizations and agencies. (LJ 9)



Develop and implement a risk assessment process to identify situations and locations where required life jacket wear and enforcement would have the greatest impact on drowning rates. (LJ 10)



Increase access to life jackets for all ages through life jacket loaner stations at boat ramps, open water swimming venues, and designated water access points. (LJ 11)



Increase access to lifesaving equipment and usage instructions at key locations (life jacket loaner stations; public water access points for boating, swimming, and other types of water recreation). (LJ 12)



Increase year-round availability of, and access to, affordable U.S. Coast Guard-approved life jackets through retail outlets and community-based organizations. (LJ 13)



Work with manufacturers to ensure that affordable and comfortable life jackets are available for both individual and bulk purchases. (LJ 14)



Develop and market new life jackets and flotation aids that meet safety standards and requirements and are more comfortable, affordable, and appealing. (LJ 15)



Obtain national consensus on consistent terminology for life jackets, personal flotation devices (PFDs), rescue devices, and other flotation devices while boating, swimming, or participating in other water-related activities, and disseminate widely. (LJ 16)



Integrate education that meets the national minimum life jacket educational standards into learn-to-swim programs, both on dry land and in water safety programs, and instructor or provider training for swim instructors, health care providers, boating instructors, teachers, and other instructors (such as childcare providers, camp staff, parks and recreation staff, boat clubs and rentals staff). (LJ 17)



Integrate education that meets the national minimum life jacket educational standards at watercraft point of sale or rental services. (LJ 18)



Develop and implement awareness campaigns based on national minimum life jacket educational standards to address the importance of life jacket use among high-risk groups who are boating, paddling, swimming, or recreating in the water. (LJ 19)



Create an easily accessible centralized resource about water safety, U.S. Coast Guard-approved life jackets, and adaptive aquatics flotation devices for people with special needs, physical disabilities, neurological conditions, or developmental disabilities who need adaptive life jackets or are at higher risk for drowning (e.g., those with ADHD, autism spectrum disorder, epilepsy, and cardiac conditions). (LJ 20)



Integrate education that meets national minimum life jacket educational standards into K-12 water safety programming. (LJ 21)



-  **Influencing Policy and Legislation**
-  **Changing Organizational Practices**
-  **Fostering Coalitions and Networks**

-  **Educating Providers**
-  **Promoting Community Education**
-  **Strengthening Individual Knowledge and Skills**



## Rescue and CPR

Develop and implement policies that integrate aquatic response of professional aquatic rescuers with lay rescuers within National Incident Management System (NIMS) and local National Response Frameworks. (RES CPR 1)



Develop and implement national standard operating procedures for responding to water rescues for all Public Safety Personnel. Include, for example, use of specialized personnel to evaluate hazards and perform certain functions (i.e., swift water, ocean, ice, mud rescue). (RES CPR 2)



Recommend lifeguards and water rescue emergency medical system professionals have in-person training, certification, and recertification by an agency approved by a national body or government organization. (RES CPR 3)



Develop and implement a template for an evidence-based drowning treatment protocol for Emergency Medical Services (EMS) agencies that includes basic life support (BLS), advanced life support (ALS), and other credentialed certification levels. (RES CPR 4)



Incorporate access to a physician medical director, as defined by National Association of Emergency Medical Service Physicians (NAEMSP), into all EMS agencies that provide lifeguard services. (RES CPR 5)



Develop and implement age-appropriate classroom-based K-12 drowning prevention curriculums and programs that focus on water competency, while considering the local geography and aquatic environments. Where aquatic venues are available, include in-water survival and swimming skills, basic rescue skills, and lifeguarding education. (RES CPR 6)



Expand CPR training in schools with age-appropriate content for grades K-12. (RES CPR 7)



Highlight the importance of both compressions and ventilations for cardiac arrest due to drowning or other hypoxic etiologies in all CPR training beyond the level of compression-only CPR. (RES CPR 8)



Teach public safety personnel the risks, benefits, and alternatives in performing safe water rescues in varied conditions. (RES CPR 9)



Develop and implement a centralized resource to house and provide access to national policies, minimum standards, guidelines, and water rescue training for professionals responding in aquatic environments. (RES CPR 10)



Develop and implement or expand existing watercraft-based emergency response training for lay people, including search and rescue. (RES CPR 11)



Provide community-based opportunities for water rescue skills training for laypersons. (RES CPR 12)



Expand public awareness of boating safety resources for local waters. For example, provide databases with information on environments, coastal topography, river conditions, and unique marine weather conditions. (RES CPR 13)



Develop and implement public awareness campaigns and educational programs on how to respond to atypical and increasing environmental aquatic hazards. This includes, but is not limited to, natural and manmade floodways, flooded roads, drainpipes, and fire hydrant clearing. (RES CPR 14)



Develop and disseminate a decision-making tool for laypersons regarding the selection and effective use of life-saving water rescue equipment. (RES CPR 15)



-  **Influencing Policy and Legislation**
-  **Changing Organizational Practices**
-  **Fostering Coalitions and Networks**

-  **Educating Providers**
-  **Promoting Community Education**
-  **Strengthening Individual Knowledge and Skills**



## Water Safety, Water Competency, and Swimming Lessons

Develop and implement standardized operational definitions and national minimum standards for the objective assessment of the skills and behavioral components of water competency (water smarts, swimming skills, and helping others). (WS WC 1)



Develop and implement national minimum standards, benchmarks, and evaluation criteria for evidence-informed, land- and water-based water safety education curriculums. (WS WC 2)



Build or revitalize publicly accessible pools and designated swimming areas to meet the needs of populations at higher risk of drowning. (WS WC 3)



Provide affordable water safety and swim lesson programming to meet the needs of populations at higher risk of drowning. (WS WC 4)



Enforce adherence to Americans with Disabilities Act (ADA) guidelines by all public aquatic facilities, particularly with respect to equipment and facility design. (WS WC 5)



Develop and implement national minimum standards for adaptive aquatics learn-to-swim instructor training and certification. (WS WC 6)



Develop and implement minimum national educational standards that include considerations to ensure water safety programs are delivered in a culturally competent, trauma-informed, anxiety sensitive, and historically and socially relevant manner. (WS WC 7)



Implement and embed diversity, equity, inclusion (DEI) and cultural training in all aquatics, water safety, and marine safety organizations, beginning with leadership and expanding to all employees, volunteers, and instructor training programs. (WS WC 8)



Adapt and implement existing water safety programs so they are delivered in a culturally competent, trauma-informed, anxiety sensitive, and historically and socially relevant manner to the communities they serve. (WS WC 9)



Develop and implement standardized measures to assess the drowning risk of all persons with disabilities (i.e., epilepsy, autism spectrum disorder, and other disabilities). (WS WC 10)



Include imagery of people of color demonstrating competency in all aquatic activities, including athletes, teams, families, organizations, and communities. (WS WC 11)



Promote diversity in any imagery depicting swimming, aquatic activities, and water sports, including advertising, film, print, television, and social media. (WS WC 12)



Create an easily accessible, centralized, culturally and linguistically diverse online portal for water safety, drowning prevention, and learn-to-swim information and curriculums. (WS WC 13)



Hire and train diverse aquatic staff to support community needs. (WS WC 14)



Promote the involvement of aquatics, education, and health and safety organizations, and specifically aquatic sport governing bodies, to invest in, and collaborate with, Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), and Tribal Colleges and Universities (TCUs) to advance water safety, develop aquatic leaders, expand community education, and conduct land- and water-based training within the college and university system and the surrounding communities. (WS WC 15)



Develop and implement an annual comprehensive coordinated national water safety awareness campaign. (WS WC 16)



Make existing water safety information and resources easily available and accessible to people of all ages, cultures, and abilities through a wide variety of access points, sources, local languages, and affordability, including scholarships and low-cost options where possible. (WS WC 17)



Deliver water competency training that meets the needs and resources of specific communities. This includes, but is not limited to, training that considers language, culture, local bodies of water, socioeconomic factors, and disabilities. (WS WC 18)



© YMCA of the USA

- Influencing Policy and Legislation**
- Changing Organizational Practices**
- Fostering Coalitions and Networks**

- Educating Providers**
- Promoting Community Education**
- Strengthening Individual Knowledge and Skills**





# ACKNOWLEDGEMENTS

**“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.” – Margaret Mead**

The strength of the USNWSAP is the accumulated knowledge and expertise of those who participated in the development. Thank you. The future success of the Plan depends on the commitment of individuals and organizations like you to advocate for change and undertake action planning in your community, county, or state, implement the resulting plan and measure and celebrate the results.

## PARTNERS, ADVOCATES, AND SUPPORTERS

Water safety in the United States is driven by the passion and commitment of people like you. If you are working in the water safety field, thank you. If you shared your expertise during the development of the USNWSAP, thank you. If you share water safety information in your community, with the media, and on social media, thank you. If you attend conferences and do research, thank you. If you teach swimming and water safety, work as a lifeguard, are a first responder, or are a medical professional, thank you. If you have shared your personal story, thank you. You are key to creating a culture of water safety in the United States. You are key to ending drowning.

## GLOBAL COLLEAGUES

Water does not respect boundaries. Neither does the willingness to share expertise within the drowning prevention field. We gratefully acknowledge the tireless contributions and professional generosity of our colleagues around the world. In particular, we thank the following organizations for sharing their experiences in developing national plans: Lifesaving Society (Canada); National Water Safety Forum (UK); National Water Safety Plan (Australia); and Water Safety New Zealand.

We value conferences around the world to facilitate discussion and collaboration, and to bolster cross-border friendships, including the biannual International Life Saving Federation World Conference on Drowning Prevention.<sup>40</sup> We extend our ongoing appreciation to the World Health Organization for their continued leadership in research and advocacy. Big problems always require data and funding, which has been generously provided by Bloomberg Philanthropies on a global level, funding the two World Health Organization reports and supporting ongoing research on drowning reduction strategies. For their dedication to the world’s children and their role in first drawing attention to drowning in underserved populations, we thank UNICEF.<sup>41</sup>

## USNWSAP STEERING COMMITTEE

David Bell, PhD - Aquatics Subcommittee, Boy Scouts of America

Tina Dessart - Director, Pre-Competitive Programs, USA Swimming and the USA Swimming Foundation

Megan Ferraro - Executive Director, The ZAC Foundation for Children’s Safety

Connie Harvey - Director of the Aquatics Centennial Initiative, American Red Cross

Adam Katchmarchi, PhD - Executive Director, National Drowning Prevention Alliance and Assistant Professor, Indiana University of Pennsylvania

Morag MacKay, MSc - Chief Research and Network Officer, Safe Kids Worldwide; USNWSAP Steering Committee Chair

Lindsay Mondick - Director, Innovative Priorities - Movement Services, YMCA of the USA

Linda Quan MD - Pediatric Emergency Medicine Physician; American Academy of Pediatrics; Professor Emeritus, University of Washington School of Medicine

Rebecca Wear Robinson, MBA, MSc - Founder and Former President, Make the Minute Matter

### **USNWSAP Document Writers**

Rebecca Wear Robinson, MBA, MSc - Founder and Former President, Make the Minute Matter

Morag MacKay, MSc - Chief Research and Network Officer, Safe Kids Worldwide

### **USNWSAP Staff and Document Design**

Greg Field, PhD - Project Management Assistant

Jane Enright - Art Director, Safe Kids Worldwide

Thanks to the American Red Cross for authorizing the use of copyrighted materials, including water safety icons from the Circle of Drowning Prevention and Chain of Drowning Survival, and other photographic materials.

## **WORKING GROUP CO-CHAIRS, MEMBERS AND EXPERT REVIEWERS**

*Particular thanks to Elizabeth (Tizzy) Bennett, co-chair of the Life Jackets working group who went above and beyond in her role, piloting processes and forms, reviewing drafts, providing sage advice, and assisting with the Spectrum of Prevention assignments.*

*Disclaimer: Note that work group deliberations and final recommendations should not be interpreted as representing the views of members' affiliated organizations.*

### **Data and Public Health Surveillance Working Group**

#### **Co-chairs**

Captain Julie Gilchrist, MD, FAAP - Medical epidemiologist, US Public Health Service (retired) (Georgia)

William D. Ramos, MS, PhD - Associate Professor, Indiana University School of Public Health - Bloomington; American Red Cross Scientific Advisory Council, Chair of Aquatics Sub-Council (Indiana)

#### **Working Group Members**

Tessa Clemens, PhD - Health Scientist, Centers for Disease Control and Prevention (CDC) (Georgia)

Heather Dykstra, MPA - Senior Data Analyst, National Center for Fatality Review and Prevention (NCFRP) (Michigan)

Tim Flood, MD - Bureau Medical Director, Arizona Department of Health Services (Arizona)

Tony Gomez, RS - Manager, Violence and Injury Prevention, Public Health - Seattle and Dr. Martin Luther King County; Clinical Faculty, School of Public Health, University of Washington (Washington); Co-founder, Washington State Drowning Prevention Network (Washington)

Amy Hill, MS, MPH - Executive Director of Injury Prevention and Research, Lurie Children's Hospital of Chicago (Illinois)

Bryan McNally, MD, MPH - Professor of Emergency Medicine, Emory University, Rollins School of Public Health (Georgia)

Jonathan Midgett, PhD - Consumer Ombudsman, U.S. Consumer Product Safety Commission (CPSC) (Maryland)

Jennifer Proctor - Branch Chief, Public Risk Management Program, National Park Service (District of Columbia)

David C. Schwebel, MA, PhD - Professor of Psychology and Associate Vice President, University of Alabama at Birmingham (Alabama)

Rohit Sheno, MD - Professor of Pediatrics, Baylor College of Medicine; Attending Physician, Emergency Center, Texas Children's Hospital (Texas)

### **Expert Reviewers**

Elizabeth (Tizzy) Bennett, MPH, MCHES - Former Community Health Director and drowning prevention lead at Seattle Children's; Clinical Instructor University of Washington School of Public Health; Co-Founder, WA State Drowning Prevention Network (Washington)

Mick Nelson - Chief Operating Officer and Co-Founder, Total Aquatic Programming (Colorado)

## **Barriers, Entrapment, and Electrical Safety Working Group**

### **Co-chairs**

Jennifer Hatfield, JD - Vice President, Government Affairs and Codes, Pool & Hot Tub Alliance (PHTA) (Florida)

Julie Lopiccolo, Esq, JD - Co-Founder and President, The Jasper Ray Foundation for Drowning Prevention and Child Safety; Family Member, Families United to Prevent Drowning (California)

### **Working Group Members**

Steve Barrow - Program Director, California Coalition for Children's Safety and Health (California)

Ken Gregory - Manager Compliance and Safety, Pentair Aquatic Eco-Systems, Inc. (Florida)

Marcia Kerr - Drowning Prevention Foundation (California)

Scott Kinney - Product Manager, D&D Technologies (pool and child safety gates) (California)

Alan Korn, JD - Executive Director, Abbey's Hope Charitable Foundation; General Counsel, National Drowning Prevention Alliance; Steering Committee Member, Families United to Prevent Drowning (District of Columbia)

Eric Lupton - President and Founder Life Saver Pool Fence (Florida)

Tracy McCallin MD - Pediatrician, The Children's Hospital of San Antonio CHRISTUS Health; Assistant Professor of Pediatrics (Ohio)

Michael Oostman - President, Oostman Aquatic Safety Consulting, Inc. (Massachusetts)

Sai Reddy, PhD - Founder and Chief Executive, Anagram Inc and creator of Anagram CamerEye™ (California)

Russel Riggs - Government Affairs Liaison, National Association of Realtors (NAR) (Virginia)

Michael Shebek - CEO, Automatic Pool Covers, Inc.; CEO, Cover Care, LLC (Indiana)

Matt "Chip" Whalen - Director, Risk Management, Intex; Chair, ANSI/APSP/ICC-4 Aboveground/On-ground Residential Swimming Pool (California)

### **Expert Reviewers**

Justin Wiley - Vice President, Government Relations, Standards and Codes, Pool & Hot Tub Alliance (PHTA) (Florida)

Steve Barnes - Director of Science and Compliance, Aquastar Pool Products (California)

## Life Jackets, Personal Flotation Devices, and Other Flotation Working Group

### Co-chairs

Elizabeth (Tizzy) Bennett, MPH, MCHES - Former Community Health Director and drowning prevention lead at Seattle Children's; Clinical Instructor University of Washington School of Public Health; Co-Founder, WA State Drowning Prevention Network (Washington)

Chris Stec - Past Chair of the National Safe Boating Council; Former Chief Operating Officer of the American Canoe Association (ACA) ACA Instructor/Trainer/Educator for SUP and Canoe (Virginia)

### Working Group Members

Angela Beale -Tawfeeq, PhD, MPH - Associate Professor and Program Coordinator, Health and Physical Education Teacher Education (HPETE), College of Education, Rowan University; Board Member and Director of Education and Research, Diversity in Aquatics; Board Member, Habitheque Blue and Green Fund; American Red Cross Scientific Advisory Council, Aquatics Sub-Council (New Jersey)

Hunter Bland - National Spokesman for Boating Safety; National Boating Safety Ambassador for Yamaha Outboards, Skeeter Boats, and Mustang Survival; Ambassador for the National Safe Boating Council; Appointed to Florida's Boating Advisory Council; Bassmaster Opens Professional Angler (Florida)

Captain Christopher Day - Owner TowBoatUS Lake Altoona; Georgia Boat Safety and Training; National Safe Boating Council Instructor Trainer; BoatUS Foundation Instructor Trainer; Standards and Training Committee CPORT; Water Safety Coordinator Bartow (Georgia)

Pam Doty - U.S. Army Corps of Engineers (USACE) National Water Safety Program Manager (Headquarters)

Dana Gage - Connor's Mom and Founder, The LV Project; Board Member, Ex Officio Board Member, National Safe Boating Council (NSBC); Advisory Council, National Drowning Prevention Alliance (NDPA); Family Member, Families United to Prevent Drowning; Waves of Hope (Texas)

Deborah Girasek, PhD, MPH - Professor and Director of the Social and Behavioral Sciences Division, Department of Preventive Medicine and Biostatistics, Uniformed Services University of the Health Sciences (Maryland)

Carma Hanson, MSc, RN - Coordinator, Safe Kids Grand Forks (North Dakota)

Asst. Commander Cody Jones - Texas Parks and Wildlife Department Boating Law Administrator; Past President, National Association of State Boating Law Administrators; U.S. Coast Guard National Boating Safety Advisory Committee Member (Texas)

Jess Melander - Superior YMCA Aquatics Director (Wisconsin)

Thomas (Tom) Mangione, PhD - Senior Research Scientist, JSI Research & Training Institute; Lecturer, Harvard School of Public Health; Project Director, US Coast Guard's National Life Jacket Observation Study (Massachusetts)

Captain Liz Schmidt - Maritime and Aquatics Safety Consultant; Founder and Lead, WaterSmart Florida; Founder, WaterSmart Palm Beach County; Former YMCA Aquatics Professional (Florida)

Kelli Toth - Underway USA boating safety education and outreach consultant; Former State of Alaska Boating Safety Education & Outreach Coordinator and Spokesman; Education and Outreach Committee and Occupant Safety Committee, National Association of State Boating Law Administrators (NASBLA); NASBLA Education Standards Panel K-12 Education Standard Committee chairperson (Alaska)

Shabana Yusuf, MD, MEd - Pediatrician, Associate Professor, Baylor College of Medicine; Co-author, American Academy of Pediatrics Policy Statement on Drowning (Texas)

## Expert Reviewers

Rachel Garren - Special Programs Director, The Corps Foundation (Illinois)

Peg Phillips - Executive Director, National Safe Boating Council (Florida)

## Rescue and CPR Working Group

### Co-chairs

Justin Sempsrott, MD - Executive Director, Lifeguards Without Borders; Director, International Drowning Researchers' Alliance (Idaho)

Rob Williams - Chief Lifeguard, City of Newport Beach Fire Department (retired); Chair, California Water Safety Coalition; Board of Directors, Ben Carlson Foundation (California)

### Working Group Members

Craig Dunham, PhD, MS, NRP, - Founding Member, National Association of Emergency Medical Technicians; State Advocacy Coordinator, Michigan; Mark Lavin Memorial Safety Foundation International, Founder and Past Vice President for Training and Education, Affiliate of The Great Lakes Surf Rescue Project - (Michigan)

Jessica Gray - Client Partner, StarGuard ELITE (Illinois)

Adrienne Groh, RN - Pediatric Registered Nurse in Cardiology ICU, Children's Hospital New Orleans (Louisiana)

Kari Hemmed, MA - Aquatics Program Manager, United States Marine Corps (Virginia)

Clayton Kazan, MD - Medical Director, Los Angeles County Fire Department (California)

Laura Metro - Founder, CPR Party; Director of Marketing, National Drowning Prevention Alliance; Family Member, Families United to Prevent Drowning (District of Columbia)

Rob Rovetto - USCG-licensed Merchant Mariner (Master of motor vessels 100 ton); Small powerboat handling Instructor, US Powerboating; Freelance Rescue Boat Crew Member; Website and Journal Developer of *The Journal of Search and Rescue*; *Independent Researcher* (New York)

Kevin Ryan, MD - Assistant Professor of Emergency Medicine, Boston Medical Center; Associate Medical Director, Boston EMS; American Red Cross Scientific Advisory Council, Aquatics Sub-Council (Massachusetts)

Andrew Schmidt, DO - Assistant Professor, Emergency Medicine, University of Florida College of Medicine -Jacksonville; Medical Director, Jacksonville Beach Ocean Rescue; Deputy Medical Director, TraumaOne (Florida)

Leslie Schwene, MPS, EDM - Marine Safety Captain, Huntington Beach Fire Department; President, Huntington Beach Surf Lifesaving Association (California)

## Expert Reviewers

Bob Pratt - Executive Director of Education, Great Lakes Surf Rescue Project (Michigan)

Josh Tobin, MD, MSc - Director of Trauma Anesthesiology, University of Texas Health Science Center at San Antonio (Texas)

## **Supervision and Lifeguards Working Group**

### **Co-chairs**

Pat Noack - National Program Development Committee Chair, Boy Scouts of America (Florida)

Bill O'Melia - Co-Founder and Program Director, Drennen's Dreams Foundation; Family Member, Families United to Prevent Drowning; Board Member, Association of Aquatic Professionals (Colorado)

### **Working Group Members**

Ron Bregman - Aquatics Director Marine Corps Base Hawaii (Hawaii)

Dewey Case - Technical Director, Conference for the Model Aquatic Health Code (CMAHC) (Mississippi)

Peter Davis - President, United States Lifesaving Association; Chief, Galveston Island Beach Patrol/Park Board Police Department; Secretary General, Americas Region International Lifesaving Federation (Texas)

Claudia L. Duncan, PhD - CEO, Professional Pool Management, LLC; Dean and Professor Emeritus, School of Allied Health/Sports Studies, Barton College (North Carolina)

Gerry Dworkin - Lifesaving Resources (Maine)

Terri Lees, MS Ed - Master Trainer for WaterART Fitness International (Kansas)

Wess Long - President, StarGuard Elite; Board Member, Water Park Association (Florida)

Michael McArthur - Red Cross Lifeguard Instructor Trainer; Camp Waterfront Consultant; YMCA Safety Around Water Instructor (Minnesota)

Emily Randell - Supervisor of Recreation Facilities, City of Sarasota; Co-Chair of the National Recreation and Parks Aquatics Network (Florida)

Stephanie Shook - Senior Manager Product Development, American Red Cross (Virginia)

Joe Stefanyak - Senior Director, Ellis and Associates (Pennsylvania)

Mark Thompson - Chief Operating Officer, YMCA of the East Valley (California)

Amanda Thronsen - Former Safe Kids Florida State Coordinator; Florida Department of Health; Chair, WaterSmart FL (Florida)

Kim W. Tyson, MSc - Aquatic Safety Educator and Aquatic Safety Consultant; Aquatic Coordinator and Program Director of Specializations; Retired Academic University of Texas at Austin (Texas)

Susan Tyson, MSc - Board of Directors, Colin's Hope; Board of Directors, Safe Kids Austin; Volunteer Water Safety Educator; Certified State of Texas K-8 Educator (Texas)

### **Expert Reviewers**

Pete Dequincy - Lifeguard Services Manager, Fire Department/Lifeguard Services, East Bay Regional Park District (California)

Joshua Rowland - CPS/FAST Product Manager, American Red Cross (Georgia)

## Water Safety, Water Competence, Swimming Lessons Working Group

### Co-chairs

Shaun Anderson, EdD, MBA - Assistant Professor, Department of Health, Physical Education and Exercise Science, Norfolk State University; Senior Advisor, Community Outreach and Engagement, USA Swimming (Virginia)

Sarah Szymanski, MBA - Executive Director, Sales, American Red Cross (Indiana)

### Working Group Members

Thaddeus Gamory - President, Swims Foundation, Member, Water Smart Broward County; Community Engagement Director, Diversity in Aquatics; Founder, Mind-Body-Aquatics LLC (Florida)

Stephen J. Langendorfer PhD - Professor Emeritus, developmental kinesiology, Bowling Green State University; Founding Editor, *International Journal of Aquatic Research and Education*; Member, American Red Cross Scientific Advisory Committee, Aquatics Sub-Council (Ohio)

Monica Lepore, EdD - Professor Emeritus, Department of Kinesiology, West Chester University; Diversity in Aquatics - Adapted Aquatics Committee (Pennsylvania)

Miriam Lynch, EdD - School-Based Technology Specialist, Fairfax County Public Schools (Virginia); Executive Director, Diversity in Aquatics (Virginia); Assistant Coach for Howard University (Washington D.C.)

Alissa Magrum - Water Safety Professional; Advisor and former Executive Director, Colin's Hope; National Drowning Prevention Alliance Advisory Council; Steering Committee Member, Families United to Prevent Drowning (Texas)

Maritza McClendon - Olympic Medalist; 3-time World Champion; 3-time Team Captain for Team USA; First African American female swimming Olympian; First African American to break a World record in swimming (Georgia)

Knolan Rawlins, PhD - Assistant Professor and Program Coordinator, Department of Public and Allied Health Sciences, Delaware State University; HBCU Council Chair, Diversity in Aquatics (Delaware)

Ken Roland - CEO, CPR-ETC, Inc; Board Member and Past Chair, Diversity in Aquatics; Vice President, Every Child a Swimmer, Inc. (Florida)

### Expert Reviewers

Angela Beale -Tawfeeq, PhD, MPH - Associate Professor and Program Coordinator, Health and Physical Education Teacher Education (HPETE), College of Education, Rowan University; Board Member and Director of Education and Research, Diversity in Aquatics; Board Member, Habithèque Blue and Green Fund; American Red Cross Scientific Advisory Council, Aquatics Sub-Council (New Jersey)

Scott Fahrney - Chief of Staff, Florida State Alliance of YMCAs & Foundation (Florida)

### Situational Analysis, Case Studies, and Subject Matter Expert Resources

Texas Drowning Prevention Alliance

Water Smart Florida

California Drowning Prevention Coalition

Water Safety Task Force Metro Chicago

Drowning Prevention Coalition of Arizona

and over 80 subject matter experts and resources consulted by the working groups.

The ZAC Foundation

Washington State Drowning Prevention Network



# BLUE RIBBON PANEL MEMBERS

*Our deep appreciation to the National Network for Public Health Institutes (NNPHI) and their staff, and Nadine Doyle of Doyle Strategies, for the technical support of the Blue Ribbon Panel meetings. Convening the panel of experts would have been impossible without them.*

Phyllis Agran MD, MPH, MA - Professor of Pediatrics, University of California, Irvine; American Academy of Pediatrics, California and Orange County

Susan Bathalon MSc - Office of Hazard Identification and Reduction, CPSC

Kristen Beckworth, MPH - Texas Children's Hospital, Safe Kids Greater Houston; Member, National Drowning Prevention Alliance

Steve Bowman, PhD, MHA - Associate Professor and MHA Program Director Fay W. Boozman College of Public Health; Department of Health Policy and Management, University of Arkansas for Medical Sciences (UAMS)

Christine Branche, PhD, MPH - Director, Office of Construction Safety and Health, National Institute for Occupational Health and Safety (retired)

Karen Cohn - Co-Founder, The ZAC Foundation for Children's Safety; Board Member, California Water Safety Coalition

Brigid Dwyer, PhD - Inaugural Vice Dean for Diversity, Equity, and Inclusion in the School of Arts and Sciences, University of Pennsylvania

Jay Fox, PhD - Boy Scouts of America; Professor and Associate Dean of Research, Microbiology, Immunology, and Cancer Biology University of Virginia School of Medicine

Sharon Gilmartin, MPH - Deputy Director, Safe States Alliance

David Gorman - Director, Stop Drowning Now and SwimJim

Eileen Hare - Director of Physical Education, Chicago Public Schools (retired); Water Safety Task Force Metro Chicago

Gareth Hedges, JD - General Manager, U.S. Operations, Lynxight

Stacey Hoaglund - President, Autism Society of Florida

Tiffany Isaacson - Senior Injury Prevention Specialist, Phoenix Children's Hospital

Jeffery S. Johnson - Alaska Office of Boating Safety (BLA retired); Former President of the National Association of State Boating Law Administrators; Western States Boating Administrators Association

Lois Lee, MD, MPH - Associate Professor of Pediatrics and Emergency Medicine, Harvard Medical School

Robin Lee, PhD, MPH - Branch Chief, Applied Sciences Branch, Division of Injury Prevention, Center for Injury Prevention and Control, Center for Disease Control

Justin McHenry - Aquatic Specialist, California State Parks

Kristie Riester - Executive Director, Council for the Model Aquatic Health Code

Jennifer Rubin - Coalition Coordinator, Safe Kids Greater Sacramento

Doug Sackett - Executive Director and Technical Director, Model of Aquatic Health Code (retired); Environmental Health Program Manager, New York State Department of Health (retired)

Kay Smiley - Executive Director, United States Lifesaving Association

Melissa Sutton - Board Member and Vice-President, Drowning Coalition of Arizona; Board Member and Past President, National Drowning Prevention Alliance

Monica Valvilala, MD - Director, Harborview's Injury Prevention and Research Center

Bridget Velasco, PT, MPH, PhD candidate - Public Health Planner, Office of Public Health Preparedness, State of Hawaii Department of Health (Hawaii)

Alecia Wartowski, JD, EdM - Principal and Founder, Flip Turn Consulting; Executive Director, Foundation 65

Jill White - Founder, Starfish Aquatics Institute

Peter Wernicki, MD - Vice-Chair, American Red Cross Scientific Advisory Council, Aquatics Sub-Council; USLA Medical Advisor; Florida State College of Medicine Assistant Clinical Professor of Orthopedic Surgery

## WATER SAFETY USA MEMBERS

American Academy of Pediatrics

American Red Cross

Boy Scouts of America

Centers for Disease Control and Prevention

Diversity in Aquatics

National Drowning Prevention Alliance

National Park Service

National Safe Boating Council

Pool & Hot Tub Alliance

Safe Kids Worldwide

U.S. Coast Guard

U.S. Consumer Product Safety Commission

U.S. Army Corps of Engineers

United States Lifesaving Association

United States Swim School Association

USA Swimming Foundation

YMCA of the USA

*Disclaimer: Water Safety USA members collaborate to enhance individual organizational efforts and to foster consistent messaging. However, individual approaches and areas of expertise may differ. Water Safety USA's endorsement of the Plan's vision does not necessarily constitute agreement by each member with all views, opinions, and recommendations within the Plan.*

## FUNDERS

Water Safety USA thanks the following organizations and individuals for their financial support towards development of the U.S. National Water Safety Action Plan.

American Red Cross

National Center for Injury Prevention and Control,  
Centers for Disease Control and Prevention

The Corps of Engineers Natural Resources Education  
Foundation

David Bell

Linda Quan

Nagi Smartpool

National Drowning Prevention Alliance

National Network of Public Health Institutes

Pool & Hot Tub Alliance

Safe Kids Worldwide

The ZAC Foundation

United States Lifesaving Association

YMCA of the USA

# APPENDIX

## GLOSSARY OF TERMS

<b>Adaptive aquatics</b>	Architectural, equipment, instructional, and programmatic modifications to aquatic programs to serve individuals with disabilities.
<b>Aquatic facility</b>	A fixed site with infrastructure designed and maintained for single or multiple aquatic activities. May be private, semi-private, public, commercial, or non-commercial.
<b>Barrier</b>	A fence, wall, structure, or combination thereof, completely surrounding a pool, with a self-closing, self-latching gate or door to prevent unsupervised pool access.
<b>Best practice</b>	Health practices, methods, interventions, procedures, or techniques based on high-quality evidence (as opposed to standard practice).
<b>Buoyancy aid</b>	A Level 70 U.S. Coast Guard-approved flotation device that is designed to not turn and to hold the user with the face out of the water.
<b>Community of practice</b>	A group of people who share an interest in a topic and come together to fulfill both individual and group goals. Communities of practice often focus on sharing best practices and creating new knowledge to advance professional practice. Interaction on an ongoing basis is an important component.
<b>Cultural competence</b>	Behaviors, attitudes, and policies that work together to enable effective work in cross-cultural situations.
<b>Designated swim area</b>	Areas in natural waters designed and operated for swimming and playing.
<b>First responders</b>	Persons with specialized training who are among the first to provide assistance at the scene of an emergency.
<b>Human-powered vessel</b>	A vessel that relies on human power of its occupants to move.
<b>Isolation fencing</b>	Safety fencing with self-closing, self-latching gate that surrounds a pool completely. Contrasted with a barrier wherein a house wall with an opening that allows entry, such as a door, forms part of the barrier.
<b>Natural water</b>	Body of untreated water sourced through the hydrologic cycle (rainfall, snowmelt, runoff, springs, etc.) and bounded primarily by geologic features rather than manufactured structures. Includes natural springs, cenotes, streams, rivers, lakes, oceans, and flooded areas as well as engineered enclosures such as canals, ponds, reservoirs, and quarries. Does not include waters in manufactured containers such as buckets, barrels, water troughs, swimming pools, spas, or bathtubs.
<b>Open water</b>	An unobstructed expanse in a large body of natural water, such as lakes, rivers, or ocean.
<b>Personal flotation device</b>	A U.S. Coast Guard-approved buoyant device designed for boater protection and categorized as commercial, recreational, or throwable. Includes wearable life jackets and throwables such as cushions and life ring buoys. Buoyancy levels of 50, 70, 100, or 150 Newtons have replaced previous designations of Types I through V.
<b>Public safety personnel</b>	Persons with specialized training who are among the first to provide aid at the scene of an emergency. Includes police officers, firefighters, EMS personnel, and park rangers.

<b>Residential pool</b>	A swimming pool located on private property under control of the owner or renter and intended to be used solely by members of the household and invited guests. May apply to shared condo or apartment pools. The legal definition varies among jurisdictions.
<b>S.M.A.R.T. objective</b>	A form of objective which facilitates creation, monitoring and achievement of short-and-long-term goals (S-specific, M-measurable, A-achievable, R-relevant, T-time-bound).
<b>Standard practice</b>	Practices, methods, procedures, or techniques that are commonly done based on customs, traditions, or existing norms.
<b>Surveillance</b>	The ongoing, systematic collection, analysis, and interpretation of drowning-related data essential to planning, implementation, and evaluation of prevention.
<b>Syndromic surveillance</b>	Near-real-time monitoring of illness or injuries for early detection of and response to outbreaks.
<b>U.S. Coast Guard-approved life jacket</b>	A device approved by the U.S. Coast Guard or its authorized agencies to assist its wearer to stay afloat and face up in water. May be inherently buoyant, inflatable, or a hybrid of the two.
<b>Water competency</b>	Being able to anticipate, avoid, and survive common drowning situations, as well as being able to recognize and provide assistance to those in need. Includes water safety awareness, basic swimming skills, and helping others.
<b>Water rescue skills</b>	Out of water (Reach, Throw, Row) and in-water rescue skills.

## ABBREVIATIONS

<b>ADA</b>	American with Disabilities Act
<b>AED</b>	Automatic external defibrillator
<b>ALS</b>	Advanced life support
<b>AMA</b>	American Medical Association
<b>ANSI</b>	American National Standards Institute
<b>ASTM</b>	American Society for Testing and Materials
<b>BIPOC</b>	Black, Indigenous, and People of Color
<b>BLS</b>	Basic life support
<b>BRFSS</b>	Behavioral Risk Factor Surveillance System; CDC-based annual telephone surveys of U.S. residents regarding health-related risk factors, chronic health conditions, and use of preventative services
<b>FDA</b>	Food and Drug Administration
<b>HOA</b>	Homeowners association
<b>PFD</b>	Personal flotation device
<b>USNWSAP</b>	United States National Water Safety Action Plan

# CITATIONS

- 1 <https://www.who.int/publications/i/item/global-report-on-drowning-preventing-a-leading-killer>
- 2 <https://www.who.int/publications/i/item/preventing-drowning-an-implementation-guide>
- 3 <https://www.who.int/news-room/facts-in-pictures/detail/health-inequities-and-their-causes>
- 4 <https://www.cdc.gov/drowning/facts/index.html>
- 5 <https://www.ymca.org/>
- 6 <https://www.redcross.org/>
- 7 <https://ndpa.org/>
- 8 <https://www.familiesunitedtopreventdrowning.org/>
- 9 <https://www.watersafetyusa.org/>
- 10 <https://www.aap.org/en/news-room/news-releases/health--safety-tips/following-pandemic-shutdowns-aap-recommends-swim-lessons-for-children-to-prevent-drowning/>
- 11 <https://www.ciprb.org/swimsafe/>
- 12 Gupta et al. Complexity in Implementing Community Drowning Reduction Programs in Southern Bangladesh: A Process Evaluation Protocol. *International Journal of Environmental Research and Public Health*. 2019; 16(6): 968. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6466245/>
- 13 Petrass LA, Blitvich JD, Finch CF. Lack of caregiver supervision: a contributing factor in Australian unintentional child drowning deaths, 2000-2009. *The Medical Journal of Australia*. 2011; 194(5)<https://onlinelibrary.wiley.com/doi/abs/10.5694/j.1326-5377.2011.tb02950.x>
- 14 <https://ndpa.org/>
- 15 Expanding the Concept of Caregiver Supervision to Prevent Child Drowning. Schwebel DC, Ramos W, Gilchrist J, Dixon CA. *Pediatrics*. 2023;51(3):e2022060240
- 16 Branche CM, Stewart S. (Editors). *Lifeguard Effectiveness: A Report of the Working Group*. Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2001. [cdc\\_11284\\_DS1.pdf](https://www.cdc.gov/nceiz/drowning/lifeguard-effectiveness-report-2001.pdf)
- 17 Cummings P, Mueller BA, Quan L. Association between wearing a personal floatation device and death by drowning among recreational boaters: a matched cohort analysis of United States Coast Guard data. *Injury Prevention*. 2010;17:156-159.
- 18 Thompson DC, Rivara F. Pool fencing for preventing drowning in children. *Cochrane Database of Systematic Reviews*. 1998, Issue 1. Art. No.: CD001047. DOI: 10.1002/14651858.CD001047.
- 19 <https://www.cdc.gov/drowning/facts/index.html>
- 20 United States Department of Health and Human Services, 2008; Chase et al., 2008
- 21 Jorgensen, 2013
- 22 Janssen I, LeBlanc AG. Systematic review of health benefits of physical activity and fitness in school-aged children and youth. *International Journal of Behavioral Nutrition and Physical Activity*, 2010;7:40. <https://ijbnpa.biomedcentral.com/counter/pdf/10.1186/1479-5868-7-40.pdf>; U.S. Department of Health and Human Services, 2008; Strong et al. Evidence Based Physical Activity for School-Age Youth. *The Journal of Pediatrics*. 2005;146:732-737.
- 23 <https://translatorswithoutborders.org/language-data-for-the-united-states-of-america>
- 24 <https://www.cdc.gov/drowning/data/index.html>
- 25 <https://www.worldatlas.com/articles/countries-with-the-most-freshwater-resources.html>
- 26 <https://www.cdc.gov/drowning/facts/index.html>
- 27 <https://www.watersafetyusa.org/why.html>
- 28 <https://www.cdc.gov/drowning/data/index.html>
- 29 Characteristics of drowning by different age groups. Quan L, Cumings P. *Injury Prevention*. 2003. 9(2):163–168. doi: 10.1136/ip.9.2.163

- 30 Pre-Existing Medical Conditions: A Systematic Literature Review of a Silent Contributor to Adult Drowning. Peden AE, Taylor DH, Franklin RC. International Journal of Environmental Research and Public Health. 2022;19:863. <https://doi.org/10.3390/ijerph19148863>
- 31 The Link between medical conditions and fatal drownings in Canada: a 10-year cross-sectional analysis. Duane CL, Sweet J, Clemens T. Canadian Medical Association Journal. 2022; 194(18):E637-E644. doi: 10.1503/cmaj.211730  
32 <https://climate.nasa.gov/news/3184/a-force-of-nature-hurricanes-in-a-changing-climate/>
- 33 Sindall R, Mecrow T, Querioga AC, et al. Drowning risk and climate change: a state-of-the-art review. Injury Prevention. 2022;28:185-191 <https://injuryprevention.bmj.com/content/28/2/185>
- 34 <https://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm>
- 35 Adapted from The Prevention Institute <https://www.preventioninstitute.org/tools/spectrum-prevention-0> and Cohen L, Swift S. The Spectrum of Prevention: Developing a Comprehensive Approach to Injury Prevention. Injury Prevention. 1999;5:203-207.
- 36 <https://joshtheotter.org/resources/for-rotary-international-members/>
- 37 <https://stewietheduck.org/new-index>
- 38 <https://www.colinshope.org/>
- 39 <https://thezacfoundation.org/>
- 40 <https://www.ilsf.org/drowning-prevention/>
- 41 <https://www.unicef-irc.org/publications/663-child-drowning-evidence-for-a-newly-recognized-cause-of-child-mortality-in-low-and.html>





# U.S. NATIONAL WATER SAFETY ACTION PLAN

