

Aquatic Safety Assessment & Recommendations

Commonwealth of Puerto Rico

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EXECUTIVE SUMMARY

Drowning is a serious problem in Puerto Rico, which impacts residents and visitors alike. For the victims, it can result in very serious injury or death. For family and friends, it can result in loss of a loved one. For society, it can result in economic consequences to families, the health system, and the tourism economy, since a reputation for unsafe beaches can encourage tourists to go elsewhere.

Drowning death in Puerto Rico occurs throughout the year. There is no single “season” for drowning. Over 80% of drowning victims are Puerto Rico residents. Most Puerto Rico drowning deaths occur at ocean beaches and in rivers.

There are a wide variety of methods that can be used to improve aquatic safety throughout Puerto Rico. To be successful, the issue must be addressed comprehensively. Public education is the first step. This includes education of residents, including learn-to-swim programs, and education of tourists. To be effective, public education must be pre-planned and implemented long before people visit aquatic areas.

Since people will wish to swim regardless of the dangers, and since even the best swimmers can be victims of drowning, it is essential to staff desirable and convenient beach locations with properly trained and equipped lifeguards, thus offering protected areas for swimming. While lifeguards are presently provided in a few beach areas of Puerto Rico, none are trained to recognized national standards. Some of the most hazardous beach areas in Puerto Rico have no protection whatsoever, while less hazardous areas are staffed with lifeguards. A process must therefore be implemented to identify the areas of greatest need and to take necessary steps to make them safer.

The Puerto Rico Interagency Beach Board should take a lead role in addressing this issue, since drowning occurs predominantly at the beach. However, addressing this issue in a comprehensive manner will involve leadership from a variety of sectors, including the Governor, Attorney General, Secretary of Health, Secretary of Education, Superintendent of Police, Commissioner of Municipal Affairs, Department of Natural Resources, Tourism Company, Hotel Association, National Parks Company, Sea Grant Puerto Rico, and the Mayors of the oceanfront municipalities.

By implementing the specific recommendations which can be found at the end of this report, Puerto Rico can significantly reduce the incidence of drowning, while enhancing quality of life for the residents of the Commonwealth and protecting its vibrant tourist industry.

INTRODUCTION

The Commonwealth of Puerto Rico, surrounded by beautiful beaches, is one of the most attractive areas to live or visit in the world. It is no wonder that it is popular with tourists, both as a destination and as an embarkation point for nearby Caribbean islands. Aquatic areas are an integral aspect of Puerto Rico's rich offerings, but like all aquatic areas, they harbor hazards that can prove deadly. Such hazards can be managed, but at the present time there appears to be no comprehensive aquatic safety plan. Deadly accidents are therefore an ongoing reality.

Why should Puerto Rico be concerned about drowning and aquatic safety? Like any form of accidental death, drowning results in early death of local residents and visitors. It has serious economic and emotional impacts on families and society. A reputation for unsafe beaches has negatively impacted tourism in a number of localities around the world, reducing income from tourism and this may well be a result in Puerto Rico. The fact is that first class beach tourism destinations with known hazards provide protected areas for aquatic recreation.

At the invitation of Ruperto Chaparro, Director, Sea Grant Puerto Rico, the authors of this report visited Puerto Rico during the period of December 9 – 14, 2007 with the intention of reviewing and making recommendations on improving aquatic safety. Sea Grant reimbursed approximately 60% of the expenses of the authors and the United States Lifesaving Association's Southeast Region reimbursed some additional costs. The authors have donated their time and expertise, as well as some personal funds, both for the visit and in the development of this report.

A major aspect of providing quality advice has involved not only the authors' existing expertise, but also a thorough understanding of the local circumstances. During this visit, the authors traveled extensively and conducted on-site inspections of much of Puerto Rico's coastline, meeting with lifeguards, park managers, and local residents. The following is a list of some of the beaches we visited:

- Aviones Beach
- Ballenas
- Balneario de Boquerón
- Balneario de Carolina
- Balneario de Rincon
- Balneario Luquillo
- Balneario Seven Seas
- Balneario Tres Hermanos
- Caña Gorda
- Condado
- Crash Boat
- Domes
- Isla Verde
- Jobos
- Ocean Park
- Pools
- Puerto Nuevo
- Punta Candelero
- Punta Higuera
- Punta Salinas
- Surfer's Beach
- Ultimo Trolley
- Vacía Talega

On December 13, 2007, the authors met with the Puerto Rico Interagency Beach Board (Junta Interagencial para el Manejo de Playas) and presented preliminary findings. This provided an opportunity to discuss the issues and to receive input from those in attendance. They included:

- Javier Velez Arocho, Secretary, Department of Natural and Environmental Resources (DNER)
- Ruperto Chaparro, Director, Puerto Rico Sea Grant
- Javier Gonzalez, Department of Sports and Recreation
- Mercedes Rodriguez, Office of the Commissioner of Municipal Affairs
- Inspector Jaime Rodriguez, Police Department
- Diana E. Perez, Puerto Rico Planning Board
- Lourdes Diaz, Puerto Rico Tourism Company
- Carmelo Vazquez, Puerto Rico Environmental Quality Board
- Ramon L. Nieves, Puerto Rico National Parks Company (CPN)
- Mildred Matos, Puerto Rico National Parks Company (CPN)
- Cesar Guerrero, Puerto Rico National Parks Company (CPN)
- Jaime Cabrera, Puerto Rico National Parks Company (CPN)
- Elliut De Jesus, Puerto Rico National Parks Company (CPN)
- Judy Galib, Department of Natural and Environmental Resources (DNER)

This is not an official report of the United States Lifesaving Association. It is an effort by the authors to provide those concerned with beach safety in Puerto Rico with the best available information and advice to achieve the goals of promoting aquatic safety throughout the Commonwealth. No advice or action can ensure 100% safety or protection, but prudent steps can greatly heighten the level of safety. Thus, this report is not a warranty, but rather advice of professionals with a proven record in this discipline.

BACKGROUND

Drowning is the second leading cause of accidental death worldwide, according to the World Health Organization. It affects certain populations, such as youth, disproportionately. However, effective efforts in many countries of the world have demonstrated that the incidence of drowning can be dramatically reduced through a variety of measures, some of which have low or no cost.

The primary goal of the authors of this report is promotion of aquatic safety and drowning prevention. We believe that any responsible community, which promotes its beaches for tourism, has an obligation to ensure a reasonable degree of public safety on those beaches. In that regard, we agree with the Centers for Disease Control and Prevention, which has stated, "... if a community develops water recreational facilities to attract patrons who spend money in the local area, then it can be argued that the community has an obligation to protect these patrons. When weighing the costs and legal implications of interventions to prevent drowning, decision makers should never lose sight of the enormous importance of protecting people from harm and preventing tragedy at beaches and pools, places where people go for pleasure, for health, and for solace."¹

In the ideal, aquatic safety plans are made before accidents can occur, to prevent their occurrence in the first place. Since this is not always possible, studying drowning deaths can facilitate an understanding of the problem. In doing so, there is a need to know, for example, where they happen, so that those areas can be prioritized. There is a need to know what time of year they occur, so that resources can be concentrated appropriately. And it is helpful to know if identifiable populations are disproportionately affected, so that prevention efforts can be targeted.

The best source of drowning data for Puerto Rico appears to come from the Institute of Forensic Sciences, which is part of the Department of Health. Its Executive Director, Dr. José Rodríguez Orengo, PhD supplied us with data,. Drowning death data can be misleading. One reason is that drowning death is chronically under-reported, because drowning victims sometimes survive for a time in the hospital and their cause of death is later listed not as drowning, but as respiratory failure, for example. As well, some cases can be misidentified as an aspect of the investigatory procedures used. Therefore, an actual determination of drowning as the cause of death is not always made in cases where drowning is the primary cause of death.

A related problem is that death is not the only tragic consequence of drowning. As an example, according to the Centers for Disease Control and Prevention, for every child 14 years and younger who died from drowning in 2004, five receive emergency department care for nonfatal submersion injuries. More than half of these children were hospitalized or transferred to another facility for treatment. Nonfatal drownings can cause brain damage that result in long-term

¹ 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.

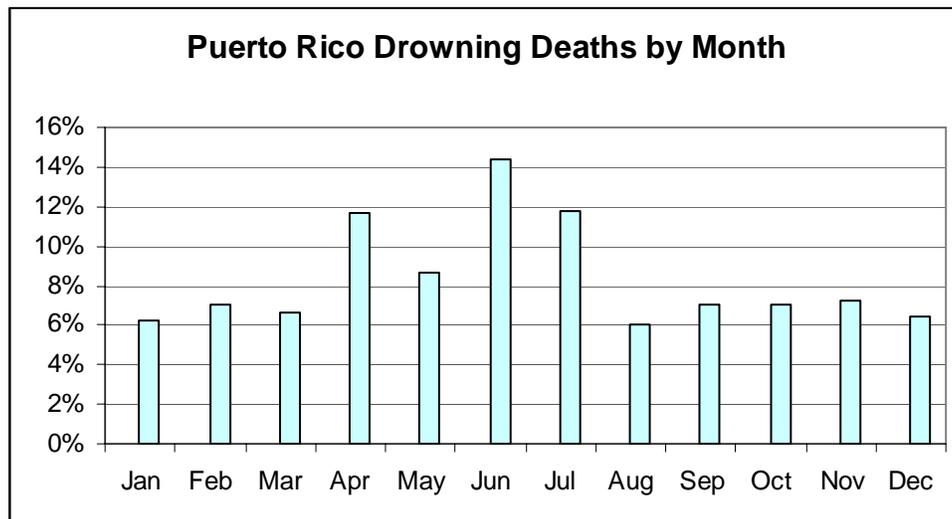
disabilities ranging from memory problems and learning disabilities to the permanent loss of basic functioning (i.e., permanent vegetative state).²

Although the data from the Institute of Forensic Sciences are recent and appear reliable, there are some issues of detail not covered that are important to any attempt at understanding the problem fully. For example, the data provided did not address the specific beaches or locations where drownings took place, or the citizenship of the victims. Fortunately, for this information, we benefited greatly by a study conducted by Dr. Efrank Mendoza, PhD and Ruperto Chaparro MS, entitled, “Incidencia de muertes por asfixia por submersión en Puerto Rico desde 1990 al 1997.” These two reports combined, provide valuable insights.

FACTS AND FIGURES ON DROWNING IN PUERTO RICO

When Do Drowning Deaths Occur In Puerto Rico?

Drowning occurs year-round in Puerto Rico, with no overwhelming concentration in any one month or season. This suggests that drowning prevention measures should also be year-round.³

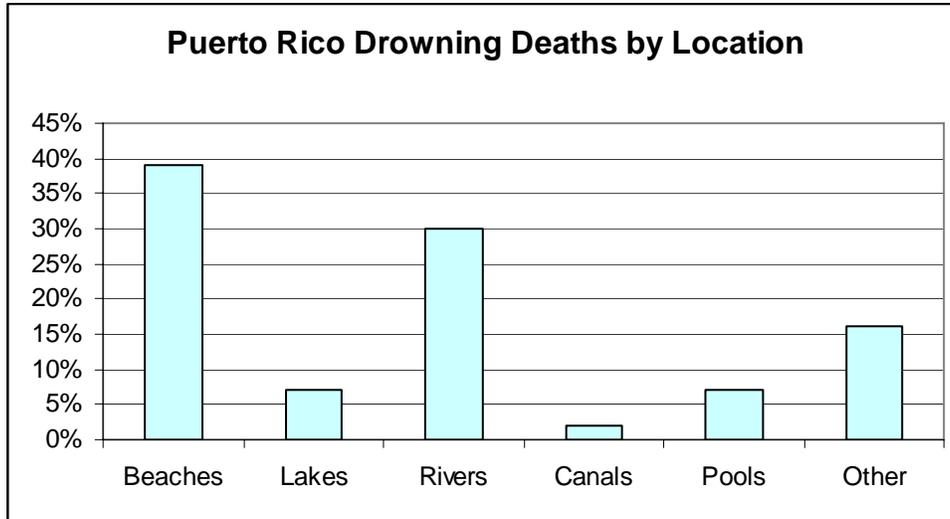


² Centers for Disease Control and Prevention, [Water-Related Injuries: Fact Sheet. 2007.](#)

³ Institute of Forensic Sciences of Puerto Rico; Drowning deaths 1999 - 2007

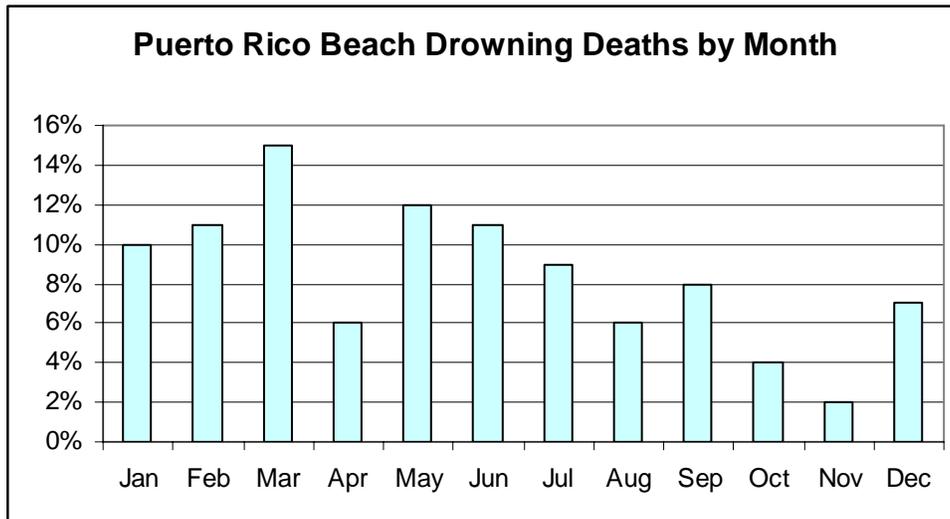
Where Do Drowning Deaths Occur?

The great majority of drowning deaths in Puerto Rico take place in the natural environment of beaches and rivers.⁴



When Do Beach Drowning Deaths Occur in Puerto Rico?

While there are some monthly and seasonal fluctuations, they are not extreme. As well, some months with a lower incidence occur between months with a high incidence.⁵

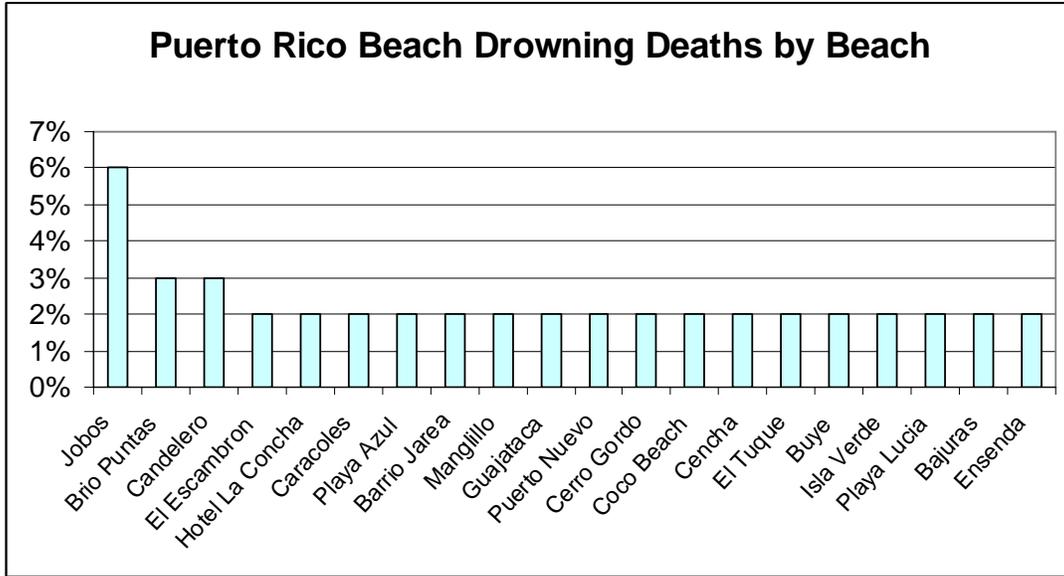


⁴ Mendoza, Efrank PhD, Ruperto Chaparro MS. Incidencia de muertes por asfixia por submersión en Puerto Rico desde 1990 al 1997. Puerto Rico: Recinto Universitario de Mayagüez.

⁵ Mendoza, Efrank PhD, Ruperto Chaparro MS. Incidencia de muertes por asfixia por submersión en Puerto Rico desde 1990 al 1997. Puerto Rico: Recinto Universitario de Mayagüez.

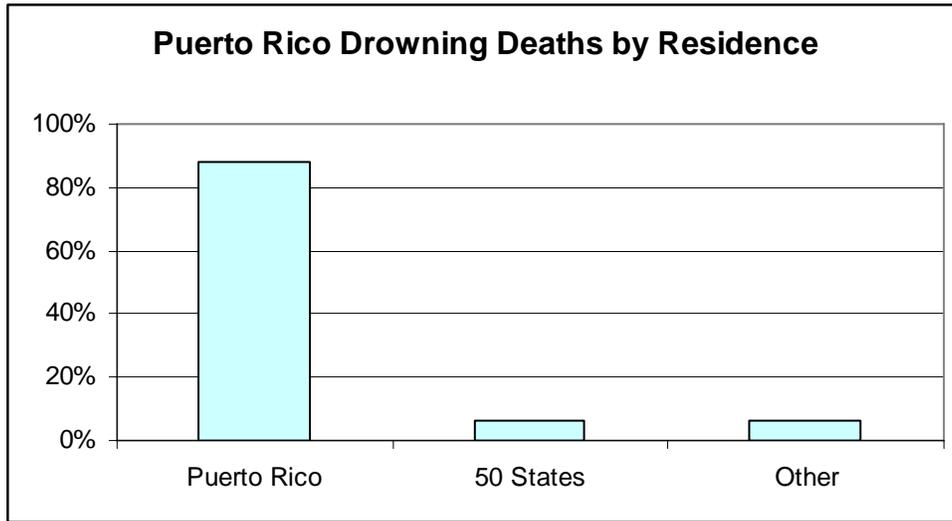
Drowning Deaths by Beach Location

Some beaches have a higher hazard level than others, as evidenced by the relative frequency of drowning death.⁶



What is the Residence of Drowning Victims?⁷

Most drowning victims in Puerto Rico are residents of Puerto Rico.



⁶ Mendoza, Efrank PhD, Ruperto Chaparro MS. Incidencia de muertes por asfixia por submersión en Puerto Rico desde 1990 al 1997. Puerto Rico: Recinto Universitario de Mayagüez.

⁷ Mendoza, Efrank PhD, Ruperto Chaparro MS. Incidencia de muertes por asfixia por submersión en Puerto Rico desde 1990 al 1997. Puerto Rico: Recinto Universitario de Mayagüez.

BENEFITS OF A COMPREHENSIVE DROWNING PREVENTION STRATEGY

While our primary goal may be to prevent aquatic accidents and drowning death for purely humanitarian reasons, the achievement of that goal, if embraced by the community, could be expected to have very positive effects on local quality of life and tourism. During our on-site visits and our meeting with the Beach Board, many with whom we spoke voiced sincere desires to make meaningful improvements. Providing lifeguards is by no means the only way to promote water safety. Lifeguards are a part of an effective, comprehensive strategy to prevent drowning. Generally, it is recognized by aquatic safety experts that effective drowning prevention involves a continuum of prevention, rescue, and treatment. Prevention must be seen in the broadest sense, efforts such as public swimming programs, tourist education programs, signs, etc. These and other strategies will be discussed later in this report.

BENEFITS OF LIFEGUARDS

According to the Centers for Disease Control and Prevention, “Most drownings are preventable through a variety of strategies, one of which is to provide lifeguards in public areas where people are known to swim and to encourage people to swim in those protected areas.”⁸ In fact, the United States Lifesaving Association has calculated the chance that a person will die by drowning while attending a beach protected by USLA affiliated lifeguards at 1 in 18 million (.0000055%).

Only a small portion of Puerto Rico’s coastline is protected by lifeguards and in a number of areas those lifeguards are on duty only certain days of the week. This leads to an uneven and unreliable system of protection. As well, some of the beaches with the lowest apparent hazard levels have relatively extensive lifeguard protection, while some of the beaches with the greatest hazards have none. This is a result of jurisdictional issues and the different government bodies responsible for oversight.

No lifeguard agency in Puerto Rico is certified as meeting the national minimum standards recommended by the United States Lifesaving Association, which are freely available. (Qualified lifeguard agencies may become “certified” under this program by applying and paying a small fee \$250 for a three year period, and over 100 US lifeguard agencies are currently certified.)

⁸ 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.

DROWNING PREVENTION STRATEGIES

To achieve the greatest possible degree of success, particularly in the relatively uncontrolled natural environment of beaches, the promotion of aquatic safety should be approached in the broadest possible manner. This includes taking steps to educate people before they visit an aquatic venue about the potential hazards they may face and suggesting methods to mitigate them. This approach also includes taking steps on-site to provide educational information; taking steps to promote safe behavior at the location; maintaining a system to recognize and respond effectively to emergencies in a timely manner; and preparing to treat and evacuate injured people professionally and expeditiously. Such steps are ideally taken as a collaborative effort with all concerned individuals and organizations likely to offer meaningful support, as we recommend later in this report. The three key elements of a comprehensive drowning prevention strategy involve prevention, timely rescue of those in distress, and effective medical treatment of those in need.

PUBLIC EDUCATION

One of the most cost-efficient ways of promoting aquatic safety is through public education before the visitor ever arrives at an aquatic venue. Once the visitor arrives, additional public education efforts can further enhance public safety. In both cases, a variety of strategies can be employed. In addition to the direct benefit of enhancing public safety, these strategies can produce excellent public relations benefits for the community.

Learn-to-Swim Programs

The International Life Saving Federation has found that learn-to-swim programs meaningfully improve the safety of a population.⁹ Locally, the promotion of learn-to-swim programs for youth and adults will result in a higher number of people in the community with swimming skills. If the curriculum is appropriately tailored, such training will include steps students can take to avoid injury from aquatic hazards to themselves and others.

In a community with an oceanfront, learn-to-swim programs should include basic information about rip currents, which have been demonstrated by the USLA to be the cause of over 80% of rescues from drowning by lifeguards at surf beaches. Even accomplished swimmers can be overpowered by rip currents, so merely teaching people to swim is an inadequate approach. They must also be instructed about activities and circumstances that can threaten their safety and how to avoid them (or extricate themselves from them). Training courses should be adjusted to address the hazards that have caused drowning deaths.

The learn-to-swim approach not only helps to improve the aggregate swimming ability of the local populace, but it also increases the number of local people knowledgeable about water safety. Those same individuals, be they police officers, desk clerks, or cab drivers, can then help educate visitors about safe practices in and around local waters. An excellent example of a

⁹ Position Statement: Swimming and Water Safety Education; International Life Saving Federation; 2007

successful community-wide learn-to-swim initiative is Swim Central in Broward County, Florida, administrated by Kim Burgess. (see *A Lesson in Cooperation* in the Appendix)

Learning to swim enhances quality of life for those who learn and their families. People with swimming skills are safer, have access to a variety of jobs that require swimming, have expanded recreational opportunities, and likely live more active and healthier lives.

Junior Lifeguard Programs

Junior lifeguard programs have become an important component of the services of open water lifeguard agencies. They help train young people about safe ways to enjoy the aquatic environment, serve as a recruiting tool, and offer a valuable summer youth activity. Junior lifeguard programs combine the fun of a summer camp with the physical and mental challenges of a lifeguard training program. In the course of a typical two to ten week program, participants can be introduced to the beach environment, educated about how to identify and avoid possible dangers, and grow in their confidence and ability to enjoy the beach. Most programs charge a fee that partially or fully offsets program costs. Some programs waive fees based on financial need.

More than half the membership of the USLA is composed of junior lifeguards, which is a testament to the popularity of these programs. In fact, according to USLA statistics, there are well over 20,000 participants in junior lifeguard programs in the USA each year. Some programs have over 1,000 participants. The content of junior lifeguard programs varies somewhat, depending on local needs and interests. Over the course of a summer session, a junior lifeguard is introduced to the beach environment. Depending on location, this may include information on subjects such as surf, piers, jetties, and aquatic life. An emphasis on beach orientation is developing an understanding of the hazards present in the aquatic environment and how to enjoy the area safely.

Off-Site Public Education

A variety of strategies can be employed to educate both local residents and visitors regarding aquatic safety. Some victims of aquatic accidents at Puerto Rico beaches can be expected to be tourists, so targeting this group would be of particular value.

In the schools, dissemination of aquatic safety materials and lectures by aquatic safety professionals are two approaches that can help educate the youth of the community to be safe users of the beach. The USLA can share a variety of examples.

Public service advertising is another approach. Radio, television, billboard, newspaper, and phone book advertising are some examples. For tourists, brochures placed in hotel rooms and welcome videos can be effective approaches. Prior to publication, recognized experts in open water safety should review them for accuracy in content.

Web based information can be effectively employed, especially when combined with other resources. For example, local government websites can include water safety tips and links to the

websites of aquatic safety organizations, such as the USLA. Tourist oriented websites are also excellent places to include such information. They can reach visitors pre-arrival and act as a reference for tourist industry employees.

Providing local employees who are likely to come in contact with tourists with basic aquatic safety information is also of great value. These personnel, though rarely experts in aquatic safety, may often be asked for water safety information, such as, “where’s the safest place to swim,” and need to be prepared to provide good advice or refer those inquiring to more authoritative sources of information. Front desk personnel at hotels are a good example, but so are police, cab drivers, and bellhops.

Recorded beach safety oriented telephone information lines are another way to disseminate information. If updated at least daily, preferably in early morning, as well as according to condition changes, such lines can provide valuable safety information, basic weather, tides, and referrals. Telephone information lines can be useful reference tools for tourism industry employees, as well as for all beach users. Services of this nature can be very popular in a community and provide an opportunity to weave safety advice into the daily updates. Examples can be heard at 619-221-8824 and at 954-828-4597.

On-Site Passive Public Education

On-site, passive public education includes signs, flags, and similar approaches intended to inform the visitor. While these measures may appease liability exposure concerns, their effectiveness at preventing injury and death is unproven. Some prudent people undoubtedly observe them and adhere to the admonitions, thus lessening the likelihood of encountering problems. Others may not see them at all. Some may observe them, but ignore the message. Still others may observe them, but fail to understand them, or simply forget the message. Nevertheless, providing useful and understandable information will inevitably have some safety and liability protection benefits.

Flags

The International Life Saving Federation, based on extensive collaborative work with the International Standards Organization, has developed *International Standards for Beach Safety and Information Flags*.¹⁰ These flags provide general information on ocean conditions at the time they are flown. These are freely available and highly recommended for use at beaches where lifeguards are present. Effective use includes explanatory signs. Flags have the benefit of avoiding language barriers, for people who understand their meaning.

Flags alone are of limited value, as has been demonstrated by drowning deaths that have occurred in areas which use flags. While flags can help notify beach users of general conditions, they do not identify specific problems in specific areas. As well, of course, flags cannot rescue people in distress. Thus, like traffic lights, they may help prevent some accidents, but cannot

¹⁰ International Life Saving Federation. *International Standards for Beach Safety and Information Flags*. 2004. www.ilsf.org

favorably impact the outcome of accidents. Moreover, despite prodigious efforts to educate, a significant percentage of people will simply be unaware of their meaning.

To be fully effective, the placement of warning flags and all public service announcements should be based on some measurable criteria that can be logged, tracked, and changed with the conditions. Flying flags that indicate a heightened level of hazard when conditions are relatively calm is analogous to crying wolf and likely to cause people to ignore the flags on days when they carry a pertinent message reflective of ambient conditions. It is important that this be handled consistently and in accordance with conditions.

Signs

Beach signs typically explain beach and water ordinances. They can also be used to explain known hazards and to recommend safe behavior. For example, it appears that the greatest hazard at Puerto Rico's ocean beaches, similar to that of other ocean beaches in the U.S., is rip currents. Explaining this hazard and how to extricate oneself if caught in a rip current may save lives. Artwork for signs developed jointly by the United States Lifesaving Association, the National Oceanic and Atmospheric Administration, and Sea Grant is freely available, both in Spanish and English. The International Life Saving Federation is working on the development of consistent, international aquatic safety warning signs and is a source for these signs.

Brochures and Kiosks

At some parks and beaches, brochures are offered to provide further information to interested visitors. This may be of value in Puerto Rico, but brochures can quickly become litter in a beach environment. They must therefore be used with care.

On-Site Active Public Education

The concept of on-site active public education refers to on-site staff who inform visitors about rules and safe practices. They can also intervene when behavior threatens public safety. This may include park rangers, lifeguards, and police officers. In the aquatic environment, lifeguards would generally be favored. This is because the lifeguard can, in addition to other services, provide aquatic rescue services in case of drowning. Depending on training, some park rangers may be better prepared to deal with law enforcement issues than lifeguards (although in some areas of the U.S. lifeguards are trained and armed peace officers), but the greatest threat to public safety in most aquatic environments is death due to drowning. Therefore, if an agency has the budget to provide only one or the other, the lifeguard is preferable if the primary goal is public safety. Most lifeguards are given some degree of enforcement power, even if only the power to warn, and can be instructed and/or equipped to summon police when necessary.

Assigning police to a beach area is of value in addressing law enforcement issues and freeing lifeguards to concentrate on aquatic safety issues. As noted however, in most aquatic areas death from drowning is the most serious threat to public safety. If an agency can only assign one or the other, the lifeguard is generally preferable. Ideally, lifeguards will be positioned on the beach

continually, with police officers patrolling – according to crowds and conditions – and available to respond based on the observations and requests of lifeguards.

With respect to drowning prevention, we estimate that the typical lifeguard takes at least 100 preventive actions for every rescue effected. A typical preventive action involves warning swimmers to move away from an area where a rip current is forming. Preventive actions may also be beach oriented, such as moving people throwing a ball away from crowded areas where they may run into others. This critical role of lifeguards enhances the experience of beachgoers, while reducing the number of injuries, deaths, and rescues that must be performed.

SEPARATING INCOMPATIBLE ACTIVITIES

There are a wide variety of activities practiced at aquatic areas. These activities are sometimes incompatible. Conflicts can arise which cause disputes and which can threaten public safety. An effective practice in promoting beach and water safety is taking steps to separate incompatible activities.

An obvious example of incompatible activities is motorboating and swimming. A swimmer can easily be injured or killed by a motorboat, so it is important to separate these activities to the greatest extent possible. Other potentially incompatible activities include surfing and swimming or fishing and swimming. On the beach, it is desirable to keep ballgames clear of sunbathers, for example. Evaluating these issues in advance and taking proactive steps to separate the users can reduce the potential for injury and liability. This can also greatly enhance the enjoyment of all visitors.

PROVIDING LIFEGUARD SERVICES

Statistics compiled by the United States Lifesaving Association demonstrate that the chance of drowning in an area under the protection of lifeguards affiliated with USLA is 1 in 18 million.

Public education and separating incompatible activities can be expected to reduce the incidence of injury and death, perhaps markedly. They certainly demonstrate a sincere community effort to protect residents and tourists alike. These actions alone however, will not prevent drowning. In this regard, they can be compared to public education regarding safe driving practices or fire prevention. No matter how much funding is devoted to these efforts, traffic and fire deaths still occur daily in the U.S. (In fact, drowning deaths are more prevalent than fire deaths.)¹¹ Hence, communities, in addition to public education, provide police, firefighters, and emergency medical services.

Despite best efforts, some will not be exposed to aquatic safety related public education. Others will ignore it. Still others, despite being knowledgeable, will overestimate their capabilities or simply be overwhelmed by unexpected water conditions. They may fall into the water or be

¹¹ Centers for Disease Control and Prevention. [Fire Deaths and Injuries: Fact Sheet. October 2007.](#) Water Related Injuries: Fact Sheet. April 2007.

aboard a vessel that sinks. Medical problems, like heart attacks and seizures, can strike swimmers unexpectedly and cause immediate, life threatening problems, regardless of water conditions. Children are particularly susceptible.

In 2006, 81 US lifeguard agencies reported 64,233 rescues from drowning.¹² By and large, these rescues took place in municipalities with strong public education programs and waterfront management systems in place. Absent the availability of lifeguards, many of these incidents of distress in the water would have undoubtedly resulted in death. As well, these same agencies reported that they had performed 202,216 medical aids, of which 21,631 required medical assistance beyond first aid (i.e. typically ambulance transport and hospital treatment).¹³ Without lifeguards on duty, many of those injured would have suffered needlessly and some would certainly have died. Moreover, the presence of onsite lifeguards reduced the number of ambulance emergency runs in response to minor, non-life-threatening beach related incidents.

Statistics compiled by the United States Lifesaving Association demonstrate that the chance of drowning in an area under the protection of lifeguards affiliated with USLA is 1 in 18 million. Clearly, lifeguards can significantly enhance public safety. Even in areas with very high, year-round beach attendance, like Los Angeles or Daytona Beach, when lifeguards trained to USLA standards are on duty, drowning deaths are extremely rare.

The Centers for Disease Control and Prevention's *Lifeguard Effectiveness* report states, "Most drownings are preventable through a variety of strategies, one of which is to provide lifeguards in public areas where people are known to swim and to encourage people to swim in those protected areas."¹⁴ (see Appendix)

When beaches are staffed with lifeguards, a number of considerations are important. They must be qualified, trained, equipped, and staffed to a level that is adequate to ensure a suitable level of safety, both for the general public and for the lifeguards themselves.

A clear chain of command for responses to aquatic emergencies should be in place. This Incident Command System establishes who is in charge at emergency scenes, what backup resources are available, and the roles of all parties involved.¹⁵

Lifeguarding is most effective when lifeguards take preventive actions. The very short period lifeguards have to intervene before people die by drowning requires that they take steps, from warning to simple water observation, to limit the number of emergencies which occur and to react quickly to them. The time it takes for a 9-1-1 call to be received, processed, and dispatched, and for a lifeguard to respond and take effective action, is often too great for a successful

¹² United States Lifesaving Association – 2006 Lifesaving Statistics. <http://www.usla.org/Statistics/public.asp> (accessed January 27, 2008)

¹³ United States Lifesaving Association – 2006 Lifesaving Statistics. <http://www.usla.org/Statistics/public.asp> (accessed January 27, 2008)

¹⁴ 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.

¹⁵ <http://training.fema.gov/EMIWeb/IS/is100.asp>

intervention. This is why onsite protection is so critical. During our visit we found the 9-1-1 system to be confusing relative to how agencies are dispatched to an emergency. For example, firefighters in Puerto Rico work for the central government but are only responsible for fire suppression. They do not supply paramedic services. Ambulance and paramedic services are provided by both the central government and private businesses. It is not clear who responds to reports of drowning incidents.

USLA promulgates the only national certification program for ocean lifeguard services in the United States. This comprehensive program includes minimum recommended qualifications, training, and equipment for beach lifeguard agencies. The program is outlined in the publication, [*Guidelines for Open Water Lifeguard Agency Certification*](#), which is available at no cost from the Certification section of the USLA website – www.usla.org.¹⁶ Over 100 ocean lifeguard agencies currently participate in the program. USLA promulgates a companion national certification program for non-lifeguard responders to ocean rescues, which is designed for firefighters, sheriff deputies, and others who respond to these incidents. This program is outlined in the publication, [*Training & Standards of Aquatic Rescue Response Teams*](#), which is also available at no cost from the Certification section of the USLA website. These USLA programs do not set minimum staffing levels, which are left to be determined on a local level according to a wide variety of factors. At present, no lifeguard program in Puerto Rico is certified as meeting USLA standards.

Creating Protected Areas

Perhaps the first step in developing a lifeguard deployment strategy is determining where to staff lifeguards. This would be of particular import in Puerto Rico. Few lifeguard providers can afford to ensure continual surveillance of all waters within their jurisdiction, but by evaluating existing areas, designating appropriate areas for swimming, providing protection there, and encouraging swimmers to swim in protected areas, lifeguard providers can go a long way toward providing a reasonable level of aquatic safety.

This process may involve designating swimming areas by signs or ordinance. The protected areas should be in areas people are most likely to swim, where unusual hazards exist, and where historical incidents demonstrate a need (e.g. drowning death statistics). Existence of these protected areas should be clear. Encouraging people to swim near a lifeguard is an excellent approach, but people are not likely to travel far to find lifeguard protection. If the goal is drowning prevention, lifeguard services must be conveniently placed where people swim.

In some areas of the United States, lifeguard providers have found it effective to set offshore boundary limits on swimming activities. Such limits are common at most major beach areas under supervision of lifeguards in Florida, where offshore limits range from 50 yards to 150 yards. Some other areas of the country have not found it desirable to impose such limits. Potential benefits of such limits may include keeping swimmers close enough to shore to ensure

¹⁶ United States Lifesaving Association. [*Guidelines for Open Water Lifeguard Agency Certification; rev. November 2007.*](#)

that lifeguards can readily come to their aid in case of emergencies, having a designated swimming area that has clear and understandable boundaries where protection is provided, and keeping swimmers close enough to shore to reduce potential vulnerability to nearshore boaters.

During our visit we observed that the CPN does indeed set offshore boundary limits by fixing rope lines at its facilities. These parks are located in natural settings where there is minimal chance of large wave or rip current activity. This is not the case, however, in areas under the jurisdiction of the DNER. The municipal beaches generally face the open ocean and are subjected to wave and rip current action. They pose a challenging situation for Puerto Rico in that most are unprotected.

Periods of Operation

Periods of operation must be developed to designate hours and dates of operation that the beach will be actively guarded. In some areas of the country, on-site lifeguard services are provided only seasonally, because weather conditions, including water temperatures, keep all but the heartiest out of the water. In other areas of the country, lifeguard services are provided 365 days a year, 24-hours a day. Statistics reviewed for Puerto Rico (see Background section of this report) indicate that year-round, rather than seasonal beach lifeguard protection is needed. If beach drowning deaths were to occur in a completely equal number from month to month, there would be 8.33% per month. In fact, only two months of the year (October and November) represent less than 6% of the annual totals. The months with 8% or more are January, February, March, May, June, July, August, September, and December. Under the circumstances then, the statistics do not suggest that beach drowning death in Puerto Rico is associated with a particular “season.”

Times of Operation

With respect to time of day, while some US beaches with are staffed with lifeguards from 9:00 a.m. to 5:00 p.m., others are guarded all daylight hours or from a specified morning time until dusk. Typically, when the latter approach is taken, lifeguards work staggered shifts to ensure that all hours are covered, with less lifeguards on duty in morning and evening hours. An example is a beach area with four lifeguards, which is open from 9:00 a.m. to dusk (8:00 p.m. in this example). A deployment option involves two lifeguards working eight-hour shifts from 9:00 a.m. to 5:00 p.m. and the second two lifeguards working eight-hour shifts from noon to 8:00 p.m. Under this approach, most daylight hours are covered, but there is a lower staffing level in morning and late evening hours, when beach attendance is typically less. In any case, lifeguard hours should be consistent (though they may extend to a variable time of “sunset” for example) and clearly posted. Wherever possible, lifeguard staffing hours should cover the hours that people typically use the beach. We observed a system of gates and booths at the CPN facilities, but we were able to gain access despite the fact that some of these parks were closed during our visit.

Staffing Levels

Staffing levels should be appropriate to attendance and provide for public safety in a manner consistent with use patterns. Such responsibility should never be left with a single lifeguard.

Lifeguards work more effectively in teams, both for effectiveness and personal safety. These teams and/or sites should be managed through a central supervision system capable of providing necessary relief, backup, and resources.

Two primary factors influence the staffing level needs for lifeguards. These are attendance and hazard level. Attendance typically varies according to season, day of the week, weather, and other factors. The hazard, particularly at a surf beach, can vary according to surf, rip current intensity (which is typically directly related to surf), wind (which may influence surf conditions), water temperature, and other factors.

The number of lifeguards employed at a beach should be adequate to prevent drowning death, regardless of fluctuations in attendance and hazards. The provider of lifeguard protection must therefore either adopt a system to effectively vary staffing according to anticipated fluctuations in each factor or set a consistent staffing level aimed at the highest levels of attendance and hazard. Most lifeguard providers address this via a mix of the two. That is, they set regular staffing levels somewhat below the level needed to address the highest levels of hazard and attendance, but somewhat above the average levels thereof. Then, they develop a system to enhance staffing levels when unexpected crowds and/or hazards present themselves. Varying staffing levels by day of the week is also common in areas where attendance regularly fluctuates accordingly.

The primary tool lifeguards use to maintain water safety is vigilant observation. Studies have demonstrated that people in distress in the water rarely wave or call for help, being too busy trying to keep themselves afloat, and even nearby swimmers are often unaware of the problem. Thus, lifeguard vigilance is of key importance to spot the person in distress and respond before this becomes a drowning death. As well, alert lifeguards in advance of distress can take preventative actions.

Providing an adequate staffing level to ensure that the vast majority of routine preventive actions and rescues can be effected without unduly compromising aquatic safety is critical. If a lifeguard must interrupt observation for any reason, the safety of those protected by the lifeguard is compromised. In the most elemental example, a lifeguard working alone, who detects a swimmer in distress, will of course respond to effect a rescue, thus ceasing observation of all other swimmers. If another swimmer encounters distress while the lifeguard is effecting the rescue, that second swimmer may die for lack of recognition and response. This is analogous to having only one fire engine to protect a community, with no backup available.

Some may take the view that if a lifeguard's water surveillance is interrupted to conduct a rescue of a person in distress, this is reasonable, and the risk presented to others by lack of water observation during this period is acceptable. However, the goal of providing lifeguards is to completely prevent drowning death; and lifeguards need to leave their posts for a number of important reasons beyond effecting rescues, including issuing warnings to those whose actions may result in injury to themselves or others. This is one reason that staffing a single lifeguard at a beach is discouraged and why lifeguards utilize a system of overlapping water observation and backup.

An example of overlapping water observation is a beach with four lifeguard towers spaced equidistant. If the lifeguard in the third tower must leave the tower to effect a rescue, lifeguards in the second and fourth towers are expected to take over water observation of the area in front of the third tower during the period of interruption. In this way, while these lifeguards must temporarily cover a greater area, the complete loss of observation is avoided and those swimming in the area remain protected, albeit at a somewhat lesser level. Such a system requires excellent communication equipment so that actions can be coordinated.

There is no magic formula for determining the ideal number of lifeguards or lifeguard towers at a beach. This must be developed considering many factors, including unique attributes of each surf beach. Tower spacing on continuous areas of protection should be such that swimmers in the center of the swimming area between two towers can expect a response time adequate to prevent drowning death and such that lifeguards are not unduly stressed in their efforts to provide adequate surveillance of swimming crowds.

Staffing Locations

Even a casual observer will note that beach users tend to congregate in certain areas. Many factors influence this tendency. Wherever there are hotels, resorts, or concentrated areas of population close to the beach, people will tend to walk to the nearest beach area. Parking availability and beach access are also factors. Most people tend to walk the shortest possible distance when they visit the beach. When amenities are provided in front of the hotel, such as lounge chairs, they only enhance the sense of encouragement not to move far. Restaurants and restrooms are another attraction to which people will want to be in close proximity for comfort and convenience sake.

Through public information campaigns, people can and should be encouraged to swim only where lifeguards are on duty. In Puerto Rico, the effort will only be fully successful if lifeguards are placed at locations people desire to swim. If lifeguard locations are noted on maps, lifeguards should either be posted at all times or the dates and times of operation should be included (and rigorously followed).

History can also provide a guide of ideal locations. Records of past drownings (whether resulting in death or ultimate rescue) can help pinpoint areas where future problems may develop. Complete reliance on such figures is to be discouraged. Among other things, it is a reactive, rather than proactive approach to drowning prevention. However, ignoring history is foolish. If there are areas where the level of hazard is significantly higher, consideration should be given to either targeting the areas for lifeguard staffing or effectively closing them to use, if that is indeed possible.

Observation Points

As noted previously, the primary tool lifeguards use to maintain water safety is observation. Lifeguard observation points must have a clear and unobstructed view of the area of supervision.

Lifeguard observation points are ideally elevated (the higher the better within reason) and provide the lifeguard with protection from the elements. They should include adequate space to allow the lifeguard to stand and move while observing the water, and a place for necessary rescue and first aid equipment. The design of a lifeguard tower should include a way to respond on foot to a rescue without breaking observation of the swimmer in distress. Further information on lifeguard tower design and deployment is available in, [*Open Water Lifesaving, The United States Lifesaving Association Manual*](#).¹⁷

Backup

Like police officers and firefighters, lifeguards often need backup. Sometimes multiple victims are swept offshore in a rip current all at once. A CPR or other serious first aid case on the beach may require several lifeguards to effectively handle. And while these incidents are being attended to, the goal is to maintain water observation and response to the needs of others. Backup lifeguards should therefore be provided who can assume water observation when the lifeguard assigned thereto is called away and who can assist other lifeguards in more serious emergencies. Backup should be adequate to address problems that can be reasonably expected to arise.

The concept of lifeguard backup should be addressed broadly in a community. For example, police officers can effectively provide backup to certain beach incidents if they are readily available and can be easily summoned. This reduces pressure on the lifeguard employer with regard to lifeguard staffing levels. While a police officer may not be qualified to provide aquatic rescue, the police officer can very effectively assist with crowd control in a case of a person with a back injury and can help carry the victim once the victim has been placed on a spinal immobilization device by the lifeguard. Police officers can also assist with problem patrons who continue to defy lifeguard admonitions or tie up lifeguards with minor problems. For systems such as this to work, a high degree of coordination, mutual respect, and effective direct communications are needed.

Breaks

Observation of a swimming area requires constant vigilance. Much has been written about the tremendous challenge presented by attempting to maintain concentration in the face of the monotony of watching swimmers for extended periods of time. Training may help, but it does not eliminate normal human reactions to fatigue or boredom. If lifeguard concentration lapses, even momentarily, it can have lethal consequences for those under protection of the lifeguard. For this reason alone, regular breaks are critical.

Breaks are also needed due to the environment in which lifeguards work. Often it is hot and windy, and lifeguards are exposed to the elements. Breaks are required too for simple human needs, like eating, using restrooms, and stretching legs.

¹⁷ Brewster, B. Chris (Editor). [*Open Water Lifesaving, The United States Lifesaving Association Manual*](#); Prentice Hall 2003.

The United States Lifesaving Association recommends that lifeguards be assigned to water observation for no more than an hour at a time before being given a break of at least ¼ hour. A lunch and/or workout break should also be scheduled daily. USLA certification requires that lifeguards be provided an opportunity to work out each day during their regular shift. This helps keep lifeguards alert and helps encourage them to maintain the high levels of fitness needed for the job.

Equipment

Lifeguards need a variety of rescue and medical equipment to effectively carry out their jobs. The most basic is the rescue floatation device and swim fins. Additional equipment, such as rescue boards, first aid kits, binoculars, vehicles, and boats can be helpful as well. The provision of motive equipment can help limit the need for personnel, particularly backup personnel. A full list of the minimum equipment needed for effective lifeguarding can be found in, [Guidelines for Open Water Lifeguard Agency Certification](#).¹⁸ Further information on lifeguard rescue equipment options is available in, [Open Water Lifesaving, The United States Lifesaving Association Manual](#).¹⁹

In an area such as Puerto Rico, with extensive stretches of beach separated by significant distances, emergency response vehicles and boats are highly desirable. They allow rapid backup, conveyance of lifeguard equipment and personnel where needed, improved supervision, effective patrol, and a high level presence. Rescue boats can provide essential services to rapidly rescue multiple victims in high surf or rip current conditions. The availability of such tools can maximize the effectiveness of lifeguards and may help limit needs for personnel.

Responsibility and Management

Lifeguard agencies are providers of emergency services and are thus a link in the chain of public safety service systems. Lifeguards who serve marine environments are in fact hired to assume responsibility for the protection and rescue of people from a potentially dangerous environment. They should be well trained, have a high level of skills, be willing to accept a significant amount of responsibility and, at times, risk their lives. Employers or employees cannot take this duty lightly.

Firefighters, police, park rangers, and EMS workers should generally be viewed as additional resources in responding to aquatic emergencies. A clear chain of command should be prearranged to avoid any confusion at emergency scenes. If firefighters, police, park rangers, or EMS workers are to be permitted to participate in in-water rescue, they should first be fully trained to recognized national standards.²⁰ This helps ensure adequate victim care and personal safety protection for the employees so assigned.

¹⁸ United States Lifesaving Association. [Guidelines for Open Water Lifeguard Agency Certification](#); rev. November 2007.

¹⁹ Brewster, B. Chris (Editor). [Open Water Lifesaving, The United States Lifesaving Association Manual](#); Prentice Hall 2003.

²⁰ United States Lifesaving Association. [Training & Standards Of Aquatic Rescue Response Teams](#)

Although commonly accepted standards of care owed to individuals vary, any determination of negligence or civil liability is based on standards for performance of the professional lifeguard. Ignorance of such professional obligations is no excuse for failing to meet them. Therefore, people with the administrative and functional expertise to administer a comprehensive public safety quality assurance program should conduct management and supervision of beach safety personnel.

Recruiting and Retention of Lifeguards

The first step in recruiting lifeguards is to determine how many people will be needed and during what period of time. The level of pay should be carefully considered. Labor is a supply and demand commodity. Regardless of the job, the higher the pay, the easier it is to recruit. Generally speaking, if the pay and benefits are right, there will be adequate numbers of people willing to do the job. Finding the proper level is a challenge for the employer, but in the case of lifeguarding the strategy should be to determine the hours and times that lifeguards will be staffed, then ensure that pay and benefits are high enough to attract and retain qualified people during periods. The United States Lifesaving Association offers free salary surveys for many areas of the US, which may be helpful to determining appropriate levels in Puerto Rico.

Training opportunities must be accessible and convenient for prospective employees. For example, if the goal is to recruit college students, holding weekday training in May is unlikely to be well attended. The prospective employment pool should be considered in such scheduling.

There are a number of ways to mitigate high labor costs. One of these is creating an excellent working environment that attracts people to seek and stick with the job. While many may think being a lifeguard is enough to attract people regardless of the pay, that has not proven to be the case. Working independently can seem fun initially, but with long, tedious hours in the sun, this can quickly wear. By providing liberal breaks to the tedium, opportunities to exercise, and chances to interact with the public (in a professional manner), enjoyment of the lifeguard job can be significantly improved. Conversely, the lifeguard assigned to a single post for hours at a time will not only have a lowered level of attentiveness (thus providing a lowered level of safety protection), but will become tired of the job very quickly.

Facilities provided to lifeguards are sometimes of much poorer quality than those provided to other public safety employees. Some are truly deplorable. This is a mistake. It signals a low level of respect for the employees and causes them to feel unappreciated. Lifeguard facilities should be of high quality and provide amenities one might expect at a fire or police station. This is especially true considering that lifeguards will welcome and medically treat the public at such facilities. The public will, of course, expect sanitary conditions while a wound or other injury is being treated.

Active recruiting through the media that promotes the job of the lifeguard can also be expected to be effective. Police and fire services in many communities have done an excellent job of promoting these professions as local heroes through print advertising, billboards, television, and

other means. Providing good quality uniforms is very attractive to some, enhances the image of lifeguards themselves, and helps to protect them.²¹ Conducting local thank-you and recognition events is another way of demonstrating community appreciation. Sponsoring lifeguard competitions can improve morale and provide a spectator event on the beach. Bottom line, promoting lifeguarding as an important local job can be expected to improve recruiting efforts, boost lifeguard morale, and limit costs of pay and benefits required to attract lifeguards.

Significant benefits might be realized by a cooperative approach to recruiting and training by all lifeguard employers in Puerto Rico. This approach has been successfully employed in San Diego County, California, where a regional lifeguard academy provides training for most local lifeguard employers at levels recommended by USLA and graduates are eligible to work for any of the participating employers. The course is accredited by a local community college. Participants learn about the beaches of all participating agencies (thus helping in later mutual aid incidents) and are given employer specific training after they are selected for employment by one of the employers. Whether or not this specific approach is used, regional collaboration could be expected to reduce costs and improve interagency cooperation. Regional collaboration with respect to pay and benefits may reduce interagency cannibalizing of the employee pool.

PUBLIC AND PRIVATE PROTECTION OPTIONS

In the United States, lifeguard protection is most commonly provided by the entity that owns the adjacent beach. This is true even though the owner of the beach is not always the owner of the water. In effect, the owner of the beach provides lifeguards to protect users of its beach who venture into adjacent waters, regardless of who owns these waters.

Beach lifeguard services are provided both by public and private entities. The vast majority of surf lifeguard programs in the U.S. are run by governments (federal, state, and local), with the lifeguards employed by those governments. These are some of the best recognized, leading lifeguard agencies in the U.S. In some cases, private companies provide lifeguards, either under contract to a government or as a service of a private landowner.

Contracts with private providers can be written to ensure certain levels of service, but such contracts can rarely be written to standards that ensure complete adherence to meeting all community expectations. As such, contracts of this nature require good faith efforts on the part of the contractor. Without such efforts, so long as major elements of the contract are met, the contracting government and its citizens can be left disappointed. Moreover, contract enforcement must be appropriate.

Lifeguard agencies under public control provide direct accountability to both the government and its citizens. If expectations are not met, the government has the flexibility to take immediate steps to correct any deficiencies. This is of particular import with respect to the provision of public safety services. While the public provider may see a need to expand services or cut services and respond accordingly, a private provider's motivations, aside from presumed

²¹ Brewster, B. Chris; [Lifeguard Skin Cancer Protection - An Approach to Protecting Health and Promoting Image](#)

goodwill, are directly tied to the minimum requirements of the contract upon which the relationship is based.

Another option, when lifeguards are public employees, is conferment of enforcement powers. A variety of approaches in this regard are utilized in the United States, from arming lifeguards and providing them full police powers (ex: Volusia County, Florida and California State Parks), to providing limited arrest and citation powers, to conferring only the right to issue legally enforceable verbal warnings. When properly utilized, this option can reduce reliance on police, engender greater respect for and compliance with lifeguard directions, help keep beaches clean and orderly, and enhance beach safety. For example, lifeguards empowered in this manner, with appropriate lawful authority, can prevent use of the ocean under hazardous conditions. Obviously, conferring enforcement powers requires training appropriate to the level of enforcement power conferred.

REPORTING

Most beach lifeguard agencies develop consistent reporting procedures as a historical record of contacts, medical treatment, rescues, etc. This is a requirement of certification of an agency by USLA and sample forms may be found in [*Open Water Lifesaving, The United States Lifesaving Association Manual*](#). By developing data in this manner, the agency has the potential to chart dates, times, and areas of need. During our visit it became apparent that CPN lifeguards were not keeping daily activity reports.

EMS AGREEMENT

Lifeguards with medical aid training comprise a part of a community's emergency medical network. It is appropriate, therefore, to coordinate services with local ambulance providers, so that efforts are coordinated. While a formal agreement may not be necessary, pre-planning for emergency medical incidents large and small can help ensure coordinated actions when emergencies arise. As previously noted, there seems to be little interagency coordination in responding to various emergencies.

JURISDICTIONAL ISSUES

The most common principle applied in the United States, with respect to marine safety, is that those who own the beach provide lifeguard protection. The ocean waters off beaches are typically (though not always) the jurisdiction of the state, territorial, or federal government. Often, the beaches below high tide are also owned by these entities. Nevertheless, lifeguard protection is typically provided by the adjacent property owners. For example, in Florida, the City of Ft. Lauderdale provides lifeguard protection at beaches in its jurisdiction, the City of Sarasota provides lifeguard protection at its beaches, and the Town of Palm Beach provides lifeguard protection at its beaches.

Property adjacent to Puerto Rico's coastline is owned by private property owners (hotels, private homeowners, and the like), local governments, and departments of the Commonwealth. Users of these beaches are typically uncertain of who owns the beach and may not care. What they do care about is that they are able to access the coastline and that, in emergencies, someone will respond to the aid of themselves and others.

From the perspective of public health and safety, as well as tourism, it is in the best interest of the Commonwealth of Puerto Rico to provide lifeguard protection at appropriate locations on the beaches it owns (e.g. coastal parks) and to encourage the provision of lifeguard protection by other landowners at beaches available for recreational use (e.g. local government, hotels, etc.) A variety of incentives are possible. For example, where existing laws tend to expose those who provide lifeguards to higher levels of liability, they can be revised to be neutral or even to protect the owners from liability if they provide prescribed levels of lifeguard protection. The Commonwealth may also choose to extend grants and other incentives to local governments that provide targeted levels of protection.

FUNDING

It may seem that one of the biggest challenges to expanding prevention, swim instruction, and lifeguard protection is funding. Indeed, this was specifically discussed during our meeting with the Beach Board.

Rather than being seen as a barrier, funding of drowning prevention should be viewed as a cost of doing business, like crime prevention or fire prevention. It is essential to basic quality of life and to maintain income from tourism. This section provides some examples of possibilities.

GENERAL FUND MONIES

The Commonwealth of Puerto Rico and its municipios, like all municipalities, are stretched thinly with respect to available funds. Nevertheless, considering that Puerto Rico benefits tremendously by its beaches and tourism, it would seem that expenditures for beach safety protection are appropriate.

TOURISM OCCUPANCY TAXES

One of the greatest beneficiaries of safe beaches are tourists, and, in turn, vibrancy of the tourism industry depends upon tourist safety. A small tax on hotel guests, targeted to beach safety could be used to fund lifeguard protection programs. This could be administered by the Beach Board or a similar organization within the Commonwealth, with a particular amount earmarked for this purpose. The oversight authority could then provide grants to local communities and Commonwealth entities, which open their beaches to public use and provide lifeguard protection to prescribed levels. The taxes can be the same across the board, or can be scaled such that users of oceanfront hotels are taxed at a higher rate than inland or city hotel users.

As an alternative, it should be noted that, thirty years ago, the State of Florida authorized a Tourism Development Tax, which has provided a funding source that is currently being utilized to provide certain lifeguard services. This legislation targets tourists, who are generally defined as the users of transient accommodations, as providers of certain revenues.²² As Puerto Rico prepares to broaden its tourism marketing through the construction of new beachfront hotels and with the opening of a third major airport, it has an opportunity to dedicate new sources of funding for the protection of this market.

BEACH SERVICES

At some public beaches, private companies are permitted to conduct business. In these cases, licensing fees can be levied to offset the cost of protection and cleanliness. This is already being

²² See Chapter 67-930, Laws of Florida, as well as F.S. 125.0104 and F.S. 212.0305 (<http://www.leg.state.fl.us/Statutes/>)

done in some areas of Puerto Rico and can be expanded. Justification for this approach includes the fact that the beach vendors directly benefit by the beach and safety of the beach, that they rent items to be used in the water, and that they attract beach users.

JUNIOR LIFEGUARD PROGRAM

As explained earlier in this report, some junior lifeguard programs actually generate a small amount of income for the agencies that manage them. In any case, they are generally self-sufficient, with participant income fully offsetting expenses. Thus, with a lifeguard program in place, the community would benefit not only by public safety protection, but also by existence of a valuable youth program with no associated cost. Junior lifeguards often return year after year to continue their involvement in the programs, which could be a very beneficial tourist retention tool. This same program may help develop a pool of prospective applicants for future beach lifeguard jobs.

RECOMMENDATIONS

TO THE GOVERNOR OF PUERTO RICO

- 1) Issue a proclamation identifying the importance of drowning prevention and encouraging implementation of the actions listed in this report.
- 2) Recommend, in writing, to the mayors of each of the oceanfront municipios that an aquatic safety audit be conducted to identify areas with aquatic safety problems and to take appropriate steps to address them.
- 3) Each year, in advance of the week ending on Memorial Day Weekend, issue a proclamation for National Beach Safety Week, using the standard materials available on the United States Lifesaving Association website.

TO THE ATTORNEY GENERAL OF PUERTO RICO

- 4) Evaluate existing civil liability laws to determine whether these laws create any disincentive to providing beach lifeguard protection. If so, advise the Governor and Legislature as to changes that could remove these barriers and thus encourage broadening of lifeguard protection.

TO THE PUERTO RICO INTERAGENCY BEACH BOARD

- 5) Encourage the Governor and all other parties listed in this report to take the actions recommended here.
- 6) Within six (6) months, publish a public report on drowning in Puerto Rico, broken down by issues such as specific location, time of day, month, residence of victim, etc. This report should cover the past 10 years, with any trends noted. Update and issue the report annually.
- 7) Within six (6) months, issue a recommendation that all employers of beach lifeguards in Puerto Rico should be certified by the United States Lifesaving Association as meeting minimum standards within two (2) years.
- 8) Within one (1) year, in consultation with experts, develop comprehensive recommendations for drowning prevention at all of Puerto Rico's beaches and waterways. These recommendations should target areas where people are known to gather for recreation and where accidents have been known to occur, regardless of jurisdiction.
- 9) Within one (1) year, develop a three-year plan to reduce drowning death at Puerto Rico beaches by no less than 25%.

TO THE DEPARTMENT OF NATURAL AND ENVIRONMENTAL RESOURCES

- 10) Within one (1) year, establish an aquatic and beach safety information site on the Internet, with safety tips, locations of areas protected by lifeguards, times and availability of

lifeguards, and related information. Include links to established to recognized aquatic safety organizations, such as USLA.

- 11) Within one (1) year, establish a recorded telephone line, updated at least daily, providing current beach information such as tides, surf size, diving conditions, lifeguard availability, and other information likely to appeal to beach users, whether experienced or novice. This number can be advertised on flyers, maps, and in other literature. An example of the sort of information that can be provided can be garnered by dialing 619-221-8824 or 954-828-4597.
- 12) Within one (1) year, develop a map useful for tourists and local residents which identify beaches with lifeguards and the dates and times that lifeguard are posted and which encourage people to swim only in lifeguard protected areas. Make this map available to all interested parties, including hotels, schools, tourism information providers, etc.

TO THE SECRETARY OF EDUCATION

- 13) Within one (1) year, develop a program to educate students in aquatic safety and drowning prevention and begin implementing the program.

TO THE SECRETARY OF HEALTH

- 14) Within one (1) year, convene a committee, including the Department of Sports and Recreation, to evaluate ways to promote learn-to-swim programs for all children in Puerto Rico. Within two (2) years implement a plan.

TO THE SUPERINTENDENT OF POLICE

- 15) Within one (1) year, develop a training program for all police officers to make them generally aware of aquatic hazards in Puerto Rico and places with lifeguard protection so that they may enhance their own safety while advising members of the public of safe practices.

TO THE INSTITUTE OF FORENSIC SCIENCES OF PUERTO RICO

- 16) Within six (6) months, increase the specificity of existing drowning reporting to include consistent information on location of the incident and activity of the deceased at the time of the incident. Within one (1) year, update prior statistics for the past three years to be consistent with these improvements.

TO THE PUERTO RICO TOURISM COMPANY

- 17) Within one (1) year, in consultation with national and local experts, develop standardized beach and water safety flyers for use by hotels and other locations where visitors stay. Include information on where to find areas protected by lifeguards areas and the dates/times

lifeguards are on duty. Once safety materials are developed, encourage all hotels and other visitor locations to publish and offer these materials in each room and the hotel lobby, so that every guest is provided an opportunity to read them.

- 18) Within two (2) years, in consultation with national and local experts, develop an educational video on how to safely enjoy Puerto Rico's aquatic areas and encourage all hotels and vacation locations to play these for tourists.
- 19) Within two (2) years, develop and begin implementation of a program to train local tourism employees likely to interface with tourists in basic information on aquatic safety to provide to visitors. Lifeguards should be made available to assist in this regard.

TO THE HOTEL ASSOCIATION

- 20) Work with the Tourism Company to develop standardized beach and water safety flyers for use by hotels and other locations where visitors stay. As soon as these materials are available, encourage all members to publish and distribute them in each room and the hotel lobby, so that every guest is provided an opportunity to read them.
- 21) Work with the Tourism Company to develop an educational video on how to safely enjoy Puerto Rico's aquatic areas. As soon as this video is available, encourage all members to include it in internal loops and other places for guests to view.
- 22) Work with the Tourism Company to develop a program to train local tourism employees likely to interface with tourists in basic information on aquatic safety to provide to visitors. As soon as this program is designed, implement it.

TO THE DIRECTOR OF SEA GRANT PUERTO RICO

- 23) Fund the production of rip current education signs that were jointly developed by the United States Lifesaving Association – National Oceanic and Atmospheric Administration – Sea Grant for posting at all beachfront locations, make them available to at no cost, and encourage their placement.

TO THE SECRETARY OF SPORTS AND RECREATION

- 24) Local lifeguard agencies should be encouraged to develop junior lifeguard programs, under the supervision of lifeguards, with a goal of educating youth about aquatic safety, developing a pool of prospective applicants for lifeguard jobs, and providing a valuable community activity that is considered attractive to local and tourist youth.
- 25) Work collaboratively with the Secretary of Education to develop curricula for aquatic safety education.

TO THE NATIONAL PARKS COMPANY

- 26) Broaden lifeguard protection to all locations where swimming is known to occur with regularity, on a daily basis, during times of day when people are most likely to swim. For less utilized areas, develop strategies to ensure that on-duty lifeguard personnel can quickly respond to emergencies.
- 27) Within two (2) years, ensure that all beach lifeguards are trained and equipped in accordance with minimum standards recommended by the United States Lifesaving Association (USLA) and within three (3) years the become certified by the USLA.
- 28) Within one (1) year, conduct a review of existing lifeguard facilities at beaches elsewhere in the USA. Within six (6) months afterwards, develop a plan for making appropriate modifications to existing facilities consistent with best practice.
- 29) Within one (1) year, conduct a review of existing lifeguard equipment at beaches elsewhere in the USA. Within six (6) months afterwards, develop a plan for making appropriate modifications to existing equipment consistent with best practice.
- 30) Assign no lifeguard to work alone, without an immediate source of qualified backup. This is a fundamental principle of public safety work. While, in some cases, lifeguards may need to work alone for limited periods of time, backup must be rapid, reliable, and adequate to ensure safety of the lifeguard and the public.
- 31) Develop major incident plans to deal with unusual staffing needs during periods of high hazard and/or water use.
- 32) Grant lifeguards adequate enforcement powers to allow them to enforce beach and water ordinances, at least to the point of issuing lawfully enforceable warnings.
- 33) Assign lifeguards to utilize a professional system of logs and statistical reporting, consistent with USLA standards, to develop a baseline for future decision-making.
- 34) Assign lifeguards to develop model policies and procedures for lifeguards in consultation with other lifeguard agencies and the United States Lifesaving Association to ensure a professional and consistent approach to protecting the public.
- 35) Develop programs for recruitment and retention of lifeguards, including issues such as pay and working conditions adequate to attract and retain qualified personnel. Creating a positive image for lifeguards should be carefully approached as a means to assist in retention, employee morale, and community respect for the services they provide. Examples of methods that could be employed include high quality uniforms comparable to firefighters and police officers, recognition events, lifeguard of the year selections, etc. Most fire and police agencies work hard to ensure recognition of their staffs and lifeguards should be treated similarly.
- 36) Post rip current education signs provided by Sea Grant at all beachfront accessways.

TO THE COMMISSIONER OF MUNICIPAL AFFAIRS

- 37) Encourage and assist the mayors of all municipios to address recommendations listed in this report that are directed to them.

TO THE MAYORS OF ALL MUNICIPIOS WITH OCEANFRONT

- 38) In collaboration with the Puerto Rico Interagency Beach Board, conduct an aquatic safety audit to identify areas with aquatic safety problems.
- 39) Provide lifeguards trained to USLA minimum standards at locations where swimming is known to occur with regularity, on a daily basis, during times of day when people are most likely to swim. Examples include existing park areas, beach accesses, and in front of major tourist hotels and condominiums. For less utilized areas, develop strategies to ensure that on-duty lifeguard personnel can quickly respond to emergencies. Work with the Beach Board to identify these areas.
- 40) Assign no lifeguard to work alone, without an immediate source of qualified backup. This is a fundamental principle of public safety work. While, in some cases, lifeguards may need to work alone for limited periods of time, backup must be rapid, reliable, and adequate to ensure safety of the lifeguard and the public.
- 41) Develop major incident plans to deal with unusual staffing needs during periods of high hazard and/or water use.
- 42) Grant lifeguards adequate enforcement powers to allow them to enforce beach and water ordinances, at least to the point of issuing lawfully enforceable warnings.
- 43) Assign lifeguards to utilize a professional system of logs and statistical reporting, consistent with USLA standards, to develop a baseline for future decision-making.
- 44) Acquire lifeguard towers and equipment, including motive equipment, in a quantity and quality appropriate to the role of lifeguards. Resources for determining appropriate levels include, [*The United States Lifesaving Association Manual of Open Water Lifesaving*](#) and the United States Lifesaving Association, [*Lifeguard Agency Certification Program*](#).
- 45) Assign lifeguards to develop model policies and procedures for lifeguards in consultation with other lifeguard agencies and the United States Lifesaving Association to ensure a professional and consistent approach to protecting the public.
- 46) Develop programs for recruitment and retention of lifeguards, including issues such as pay and working conditions adequate to attract and retain qualified personnel. Creating a positive image for lifeguards should be carefully approached as a means to assist in retention, employee morale, and community respect for the services they provide. Examples of methods that could be employed include high quality uniforms comparable to firefighters and police officers, recognition events, lifeguard of the year selections, etc. Most fire and police agencies work hard to ensure recognition of their staffs and lifeguards should be treated similarly.
- 47) Post rip current education signs provided by Sea Grant at all beachfront accessways.

RECOMMENDED REFERENCES

Lifeguard Effectiveness: A Report of the Working Group

Branche CM, Stewart S. (Editors). Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2001. (see Appendix)

Download from: <http://www.cdc.gov/ncipc/lifeguard/lifeguard.htm>

Guidelines for Open Water Lifeguard Agency Certification

United States Lifesaving Association, rev. November 2001 (see Appendix)

Download from: http://www.usla.org/Train%2BCert/USLA_Guidelines.pdf

Open Water Lifesaving – The United States Lifesaving Association Manual

Brewster, B. Chris (Editor).

Pearson Custom Publishing. 2003. ISBN 0-536-73735-5

A Work Behavior-Oriented Job Analysis for Lifeguards - Final Technical Report

National Center for Injury Prevention and Control

Mael, Fred A. et al. Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 1998

Download from: http://www.usla.org/PublicInfo/lfg_library.shtml

International Standards for Beach Safety and Information Flags

International Life Saving Federations

<http://www.usla.org/PublicInfo/library/FlagWarningStandardsILSFinal20FEB04.pdf>

Lifeguard Skin Cancer Protection - An Approach to Protecting Health and Promoting Image

B. Chris Brewster

Better Beaches

Griffiths, Tom. National Recreation and Park Association; 1999. ISBN 0-929581-62-8

A Study of (Florida) Lifeguards and Lifeguard Agencies

Florida Office of Emergency Medical Services in conjunction with the Emergency Medical Services Advisory Council; 1993

The Lifeguard Library

http://www.usla.org/PublicInfo/lfg_library.shtml

APPENDIX

The following are attached in order of appearance and are copyrighted material of the noted entities:

A Lesson in Cooperation

Conway, Tim. Aquatics International; June 2001

San Diego Municipal Code (excerpts)

Lifeguard Effectiveness: A Report of the Working Group

Branche CM, Stewart S. (Editors). Atlanta: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2001.

Guidelines for Open Water Lifeguard Agency Certification

United States Lifesaving Association, rev. November 2007

International Standards for Beach Safety and Information Flags

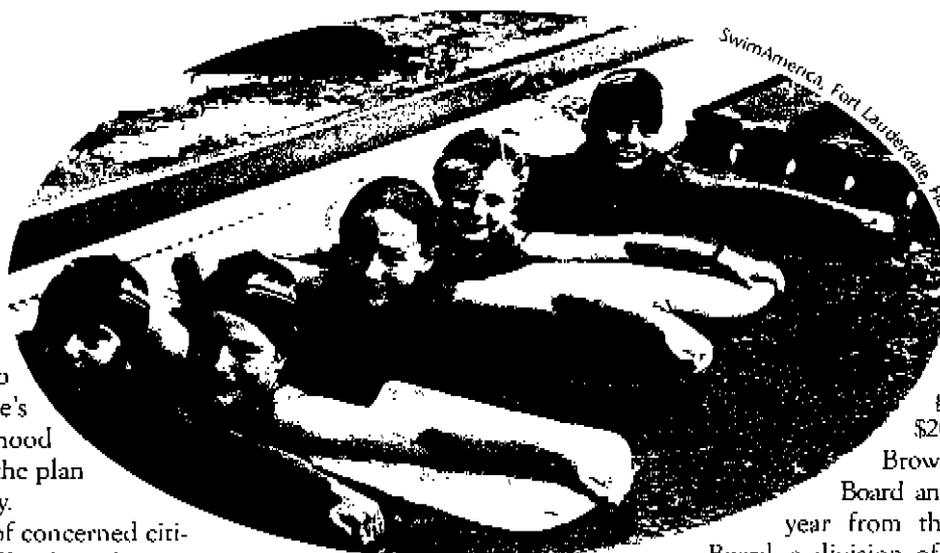
Lifeguard Skin Cancer Protection - An Approach to Protecting Health and Promoting Image

B. Chris Brewster

A lesson in Cooperation

by **Tim Conway**

Staff Writer



Priate and public organizations in South Florida are working together to eradicate the state's No. 1 cause of childhood death — and so far the plan has gone swimmingly.

In 1998, a group of concerned citizens, government officials and aquatics professionals in Broward County, Fla., met to discuss the alarming rate at which children 5 years and younger were drowning in their county. In 1998 alone, 11 young children drowned in Broward County.

The groups joined forces to create Swim Central, a county-wide approach to water-safety education. "No one was making a real effort about the drownings," Swim Central director Kim Burgess says. "Drowning is the No. 1 cause of death for children under 5 in the county and in the state of Florida."

Swim Central focuses on water-safety lessons for preschoolers and kindergartners. To date, more than 22,000 area children have learned to swim through the program.

Public school students and various children's groups attend public and private swim schools across the county for up to 20 swim lessons. Swim Central provides busing to all lessons, which take place during the school day.

Swim Central pays all swim-lesson providers \$3.20 per lesson taught (the prevailing rate in the area) and reimburses programs for certifying their staffs to teach classes and guard the pools.

The Broward County Commission's office sponsored the pilot program at a cost of \$82,000. The program now receives \$200,000 annually from the Broward County School Board and nearly \$400,000 each year from the Children's Services Board, a division of the county's Human

Services Department. Swim Central receives additional funding through grants, corporate sponsorships and donations. Additionally, Swim Central created the SWIMS (Safe Water Instruction Means Safety) Foundation, which raises funds to rent buses and other equipment.

In addition to the lessons, Swim Central funds pay for educational and promotional materials. Twice a year, parents of the 127,000 elementary school students in Broward County receive questionnaires regarding their children's safety in and around water. Swim Central also launched a television campaign to spread the word.

The various aquatics agencies in the county used to compete for swim-lesson dollars, according to Burgess. "All of a sudden, they're making more money now and the classes are more filled up than they've ever been. We've noticed ... a 100 percent rise in swim lessons."

Swim Central is in the process of expanding to other Florida counties, Burgess says, with the ultimate goal of becoming a national program. ●

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§63.20 Beach Areas — Authority and Control

- (a) The Park and Recreation Department of The City of San Diego shall have jurisdiction and control over all beaches owned or controlled by The City of San Diego and all waters abutting or adjacent thereto within the limits of The City of San Diego, and of all lands heretofore and hereafter owned or controlled by the City, adjoining the waterfront of the Pacific Ocean and the waters of Mission Bay, and it shall be responsible for the control and management of said beaches and lands, and waters abutting or adjacent thereto, and of the recreational activities thereon and therein.
- (b) In the following sections dealing with the same subject, wherever the context thereof shall permit, the term "beach area" shall mean any beach or land and the waters abutting or adjacent thereto under the jurisdiction and control of the Park and Recreation Department, as set forth in paragraph (a) of this section.
(Retitled to "Beach Areas— Authority and Control" on 5-31-1994 by O-18073 N.S.)

§63.20.1 Authority to Enforce Provisions

It is the duty of the Park and Recreation Director, as the City Manager's designee, to enforce the provisions of these sections; and all employees of the Park and Recreation Department charged with the duty of maintaining peace, order and safety in beach areas are empowered to assist the police officers of The City of San Diego in the enforcement of the provisions of these sections including the power to make arrests for the violation hereof.

Whenever a power is granted to, or a duty is imposed upon the Director, the power may be exercised, or the duty may be performed by the Park and Recreation Director, or any person the Director may designate for the enforcement of these regulations.
(Amended 5-31-1994 by O-18073 N.S.)

§63.20.2 Water Activity Zones Established

- (a) It is the intent and purpose of the Council of The City in enacting this Section, 63.20.2, to regulate recreational water activities such as swimming, board surfing, and boat launching in and upon the waters and lands of all beach areas.
- (b) There are hereby established, in and upon the waters and beaches under the jurisdiction and control of the Park and Recreation Department, six (6) activity zones. Unless otherwise defined and with the exception of Closed

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Zones, all activity zones shall extend one thousand (1,000) feet seaward from the mean high tide line. Boat Launch Zones shall also include the adjacent beach area. The six activity zones are as follows:

SWIMMING ZONE
BOARD SURFING ZONE
CONTROL ZONE
NO BOARD SURFING ZONE
CLOSED ZONE
BOAT LAUNCH ZONE

The boundaries of each zone are designated from time to time by resolution of the Council of The City of San Diego. These boundaries notwithstanding, City of San Diego lifeguards may, due to weather, crowd conditions, special events, or other factors, alter the boundaries on any given day; and persons shall be notified of any change by signs, signals, verbal warnings or other means. A checkered flag may be posted on the boundary line between two activity zones and when so posted shall constitute due notification of said boundary whether it is the regular boundary fixed by resolution of the Council or a temporary change in the boundary made by lifeguards. Nothing in this Section, 63.20.2, empowers lifeguards to permanently change existing boundaries.

(c) Definitions:

- (1) "Bathing and swimming" shall mean all bathing and swimming activities conducted in water except those activities which involve board surfing or those which involve the possession, control or use of a surfboard.
- (2) "Surfboard" shall mean any noninflated device upon which or with the use or aid of which a person can ride waves or be carried along or propelled by the action of the waves.
- (3) "Board surfing" shall mean any activity which involves riding waves with the use or aid of a surfboard, or being carried along or being propelled by the action of the waves with the use or aid of a surfboard. To "board surf" shall mean to do or engage in board surfing.

- (d) Only bathing and swimming are permitted in a SWIMMING ZONE, and it is unlawful for any person to board surf in, or to possess, control, release, place,

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carry, throw, or discharge a surfboard into, or to permit a surfboard to float, drift or be carried into, a SWIMMING ZONE.

- (e) Only board surfing is permitted in a BOARD SURFING ZONE, and it is unlawful for any person to engage in bathing and swimming activities, except as may be incidental to board surfing, in a BOARD SURFING ZONE.
- (f) The following regulations shall be in effect in any area designated as a CONTROL ZONE beginning on the second Saturday in June and extending through the first Sunday after Labor Day of each year:
 - (1) It is unlawful for any person to wade, bathe, swim, surfmat, or engage in any activities incidental to bathing or swimming activities, except those incidental to board surfing in a CONTROL ZONE, prior to eleven (11:00) o'clock a.m. and after six (6:00) o'clock p.m. daily.
 - (2) It is unlawful for any person to board surf in, to possess, control, release, place, carry, throw, or discharge a surfboard into, or to permit a surfboard to float, drift, or be carried into a CONTROL ZONE during the hours between eleven (11:00) o'clock a.m. and six (6:00) o'clock p.m. daily.
- (g) It is unlawful for any person to board surf in a NO BOARD SURFING ZONE or to ride or attempt to ride waves with the use of aid of any other object, except swim fins.
- (h) It is unlawful for any person to board surf in, or to possess, control, use or permit a surfboard to float, drift or be carried into, or to engage in bathing and swimming activities in, a CLOSED ZONE or BOAT LAUNCH ZONE.

(Amended 5-31-1994 by O-18073 N.S.)

§63.20.3 Warning Signals

- (a) It is unlawful for any person to bathe, swim, surfboard ride, row, canoe, or operate a sailboat or power boat or other device on or upon water when warning signals have been placed on or upon said water or the adjacent beach area except for the purpose of making a rescue.

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- (b) It is unlawful for any person to operate a vessel, as defined in the California Harbors and Navigation Code, or a windsurfer, sailboard, or similar device within a swimming area which has been marked by means of buoys or to operate same within one hundred (100) feet of such area at a speed in excess of five (5) miles per hour.

(Retitled to "Warning Signals" and amended 5-31-1994 by O-18073 N.S.)

§63.20.4 Compliance

It is unlawful for any person to refuse to follow or comply with any lawful order, signal, or other direction of a lifeguard, or to knowingly provide false information to a lifeguard, or for any person without lawful authority to deface, injure, knock down or remove any sign or warning placed for the purpose of enforcing the provisions of Chapter VI, Article 3.

(Retitled to "Compliance" and amended 5-31-1994 by O-18073 N.S.)

§63.20.5 Waste, Refuse, Fires

- (a) It is unlawful for any person to leave, discard, deposit, or throw away any glass container, tin can, waste food, papers, or any refuse or rubbish upon any beach area in the City of San Diego. All waste materials shall be deposited in trash cans or receptacles provided for that purpose.
- (b) It is unlawful for any person to move, rummage through, turn over, remove, deface, or knock down any trash can or receptacle placed in any beach area by the City.
- (c) It is unlawful for any person to build, maintain, use, or be within ten (10) feet of a fire on any public beach that is not in a City-provided fire container. Fires may be built using fire materials limited to charcoal, clean wood, or paper products, none of which contains landscape debris, paint, stain, sealer, wood preservative, cloth, rubber, metal (including nails and other hardware), asphalt, foam rubber, plastic, or any similar matter or material producing noxious fumes, odors, smoke, or leaving any type of solid residue other than ash. Fire materials shall not exceed a height of more than twelve (12) inches above the upper edge of the fire container and must be wholly contained within the inside edge of the fire container. It is permissible to build a fire on a public beach in a portable barbecue or other similar device using fuel material authorized in Section 63.20.5(c). Coals from any portable barbecue or similar device shall either be removed from the beach area or be deposited in a City-provided fire container or designated hot coal container provided on the

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beach for such purposes.

- (d) It is unlawful to use a City–provided fire container for purposes of disposal or for any purpose other than the building of fires for cooking or warmth or for the deposit of coals.
- (e) It is unlawful for any person to possess or use any container made of glass upon any beach or adjacent sidewalk area in the City of San Diego.
- (f) It is unlawful for any person who has built, maintained, used, or been within ten (10) feet of a fire on the beach to abandon the fire until all ignited fire fuel material has been exhausted or extinguished. Sand, dirt, or similar material shall not be employed as an extinguishing material. Extinguished ashes shall not be covered but may be left in fire containers. All unused fire material must be removed from the beach and the adjacent public areas of the beach or park. All refuse or rubbish adjacent to the fire container must be removed from the beach or placed in trash receptacles provided for such purpose, so that the beach is left in a clean, sanitary, and presentable condition.

(Amended 7–8–2002 by O–19075 N.S.)

§63.20.6 Certain Lifeguards Designated Harbor Police

- (a) Purpose and Intent. It is the purpose and intent of the City Council in enacting Section 63.20.6 that certain City lifeguards who are regularly employed and paid for duties performed in Mission Bay which are commonly performed by Harbor Police, be designated by the City as Boating Safety Unit members. "Boating Safety Unit" means a unit of the lifeguard service, which, in addition to regular lifeguard functions, is responsible for functions similar to those performed by Harbor Police.
- (b) Those lifeguards designated as Boating Safety Unit members, who enforce laws of The State of California and The City of San Diego which pertain to boating, are designated as Harbor Police; are declared to be regularly employed and paid as such; and are authorized and empowered to act as Harbor Police while on duty in the beach area.
- (c) Those lifeguards designated as Harbor Police are peace officers as defined in Section 830.33 of the California Penal Code; however, they are not peace officers for the purposes of California Penal Code, sections 171c, 171d, or 12027 which deal with the possession of firearms.

(Amended 5–31–1994 by O–18073 N.S.)

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§63.20.7 Driving Vehicles On Beach Prohibited; Exceptions; Speed Limit On Beach

- (a) Except as permitted by the Director and except as specifically permitted on Fiesta Island in Mission Bay, no person may drive or cause to be driven any motor vehicle as defined in the California Vehicle Code on any beach, any sidewalk or turf adjacent thereto; provided, however, that motor vehicles which are being actively used for the launching or beaching of a boat may be operated across a beach area designated as a boat launch zone.
- (b) The driver of any vehicle operated under the authority of this Section, 63.20.7, shall use extraordinary care and shall at all times limit the speed of the vehicle to five (5) miles per hour or less.
- (c) This Section, 63.20.7, does not apply to vehicles operated by governmental employees in the discharge of official duties.
(Retitled to "Driving Vehicles On Beach Prohibited; Exceptions; Speed Limit On Beach" and amended 5-31-1994 by O-18073 N.S.)

§63.20.8 Lifeguards Authorized to Enforce State and Local Codes — Arrests and Citations

- (a) Purpose and Intent. It is the purpose and intent of the Council in enacting this section that all City lifeguards be specifically authorized pursuant to the provisions of Section 836.5 of the Penal Code of the State of California, to make arrests without a warrant whenever any such lifeguard has reasonable cause to believe that the person to be arrested has committed a misdemeanor in the lifeguard's presence which is a violation of a statute or ordinance which such lifeguard has the duty to enforce.
- (b) That lifeguards of The City of San Diego, be, and they are hereby authorized, empowered and given the duty to enforce provisions of the San Diego Municipal Code and misdemeanors designated in the State Codes; to make arrests without a warrant whenever any such lifeguard has reasonable cause to believe that the person to be arrested has committed a misdemeanor in the lifeguard's presence; and while engaged in the performance of their duties, to arrest persons and issue citations for violations of said Codes under the provisions of Sections 836.5 and 853.6 of the Penal Code of the State of California when violations occur in City of San Diego beach areas.
(Retitled to "Lifeguards Authorized to Enforce State and Local Codes — Arrests and Citations" on 5-31-1994 by O-18073 N.S.)

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§63.20.9 Boat Beaching Areas and Boat Launching Zones, Beaching Prohibited Elsewhere

The Director may designate any beach area or portion thereof as an area which may be used for the purpose of beaching or launching boats, and may establish and collect fees for the use of such boat beaching or launching areas, subject to the approval of the City Council. Such provisions shall be effective when signs are posted in such areas giving notice of such designation and fees.

No boat or vessel, excepting inflatable boats which are not propelled by machinery, may be launched or retrieved from any beach area in the City except in a designated boat beaching area or boat launch zone. Boats or vessels in distress are exempted from the foregoing provided there is a verifiable emergency immediately threatening persons or property and provided the boat or vessel can reach the shore without further threatening the safety of other persons or property. The burden of proof that an emergency exists or existed rests with the owner and pilot or person in command of the boat or vessel.

(Retitled to "Boat Beaching Areas and Boat Launching Zones, Beaching Prohibited Elsewhere" and amended 5-31-1994 by O-18073 N.S.)

§63.20.10 Regulations For Use of Boat Launch Areas

- (a) Boat launch zones are intended exclusively for the purpose of the expeditious launching and retrieval of boats and vessels. It is unlawful for any person to remain in or to interfere with the lawful launching or retrieval of boats and vessels in boat launch zones. Legally registered vehicles, including trailers, used for launching or retrieving boats or vessels shall not be obstructed. Vehicles shall not be left unattended in a boat launch zone and shall not be parked for periods in excess of five (5) minutes.
- (b) It is unlawful for any person to allow a vessel to be anchored, parked or left in a boat launch zone for any period in excess of fifteen (15) consecutive minutes and a total of (30) thirty minutes on any given day.
- (c) Repeated beaching and launching which would tend to obstruct beaching or launching by others is prohibited. In enforcing this Section, 63.20.10, enforcement personnel shall consider the attendance level at the time of the violation and shall not issue a notice of violation until a verbal warning has been issued and there has been a lack of compliance.

(Retitled to "Regulations For Use of Boat Launch Areas" and amended 5-31-1994 by O-18073 N.S.)

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- (2) Upon any subsequent violation of Section 63.20.23(b)(1) by the juvenile, a parent who has been warned previously pursuant to Section 63.20.23(c)(1) is guilty of a misdemeanor and shall be required to appear in court.
- (d) Penalties. Any juvenile who violates Section 63.20.23(b)(1) is guilty of an infraction. Any other person who violates Section 63.20.23(b)(1) is guilty of a misdemeanor. In addition to any other penalty imposed by the court, any person convicted of violating this Section shall pay a fine of no less than \$100.00 or be required to perform public works service or community service, or both. The parents of juveniles who violate this Section are strictly liable for ensuring payment of the fines assessed.

(Amended 5-28-1996 by O-18310 N.S.)

§63.20.24 Floats Prohibited In La Jolla Cove

Except for the purpose of effecting a rescue, it is unlawful for any person to introduce into or upon the waters of La Jolla Cove any floating object, such as a body board, foam object, ball, life preserver or other similar device, which is used or could be used to assist in the floatation of a person. This Section, 63.20.24, does not prohibit scuba divers from using wetsuits, swim fins or inflatable devices.

("Floats Prohibited In La Jolla Cove" added 5-31-1994 by O-18073 N.S.)

§63.20.28 Endangering Aquatic Activities

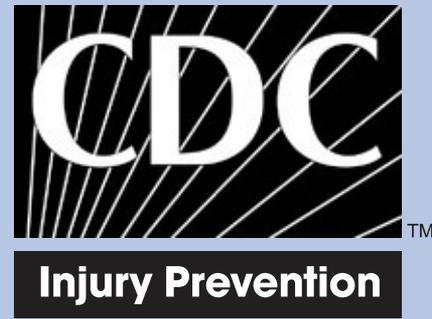
No person shall use any surfboard, paddleboard, bellyboard, skim board, ski, canoe, boat or vessel of any type, or any similar device in a negligent manner so as to endanger the life, limb or property of another person.

("Endangering Aquatic Activities" added 3-24-1976 by O-11819 N.S.)

§63.25 Mission Bay Regulations — Power to Designate Officials

Whenever a power is granted to, or a duty is imposed upon the Park and Recreation Director, the power may be exercised, or the duty may be performed by the Director or by the individual or individuals whom he or she may designate for the enforcement of these regulations.

(Amended 5-31-1994 by O-18073 N.S.)



Lifeguard Effectiveness:

A Report of the Working Group



Lifeguard Effectiveness

A Report of the Working Group

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Executive Summary

Each year, about 4,000 people die from drowning in the United States. Drowning was a leading cause of unintentional injury death among all ages in 1998, and the second leading cause of unintentional injury death among children ages 1-14 that same year. Approximately 50-75% of drownings occur in open water such as oceans, lakes, rivers, and ponds. About 60% of drowning deaths among children occur in swimming pools.

Many organizations, including the Centers for Disease Control and Prevention (CDC), routinely respond to inquiries regarding the efficacy of lifeguards in preventing drownings. Community and local government officials facing decisions about whether to begin, retain, or discontinue lifeguarding services typically want to know whether lifeguards are truly effective in preventing drowning and other aquatic mishaps, and whether the value of providing lifeguard protection outweighs the costs. Most drownings are preventable through a variety of strategies, one of which is to provide lifeguards in public areas where people are known to swim and to encourage people to swim in those protected areas. Some estimates indicate that the chance of drowning at a beach protected by lifeguards can be less than one in 18 million. There is no doubt that trained, professional lifeguards have had a positive effect on drowning prevention in the United States.

The significance of the patron surveillance and supervision that lifeguards provide is emphasized by understanding how people drown. Many people assume that drowning persons are easy to identify because they exhibit obvious signs of distress. Instead, people tend to drown quietly and quickly. Children and adults are rarely able to call out or wave their arms when they are in distress in the water, and can submerge in 20-60 seconds. For these reasons, managers should never assign lifeguards duties that distract them from keeping an eye on the water, such as selling admission tickets or refreshments. In addition, the presence of lifeguards may deter behaviors that could put swimmers at risk for drowning, such as horseplay or venturing into rough or deep water, much like increased police presence can deter crime.

When making decisions about using lifeguards and other means of increasing public safety in aquatic settings, policy makers should use available local evidence. This evidence includes:

- the effects that lifeguards have had on patrons' safety and attitudes;
- the number of people using the facility or beach area during the past years;
- the incidence of water-related injuries and drownings at the facility or beach area during those time periods;
- data on the number of water-related injuries and drownings at pools and beaches in the local area or state with and without lifeguards, for comparison; and
- the level of lifeguards provided (e.g., number of lifeguards per number of persons using the facility).

In addition to these factors, policy makers should consider public attitudes about lifeguards and legal issues related to using lifeguards.

Introduction

Each year, about 4,000 people die from drowning in the United States (National Center for Health Statistics, 2000). Drowning was a leading cause of unintentional injury death among all ages in 1998, and the second leading cause of unintentional injury death among children ages 1-14 that same year (National Center for Health Statistics, 2000). Approximately 50-75% of drownings occur in open water such as oceans, lakes, rivers, and ponds (Dietz & Baker, 1974). About 60% of drowning deaths among children occur in swimming pools (Dietz & Baker, 1974).

Most drownings are preventable through such means as restricting swimming areas, posting warning signs, and fencing the perimeters of pools and waterways. Two important preventive strategies are providing lifeguards in public areas where swimmers frequent, and encouraging use of such protected areas. The United States Lifesaving Association (USLA) compiles statistics for drownings that occur at about 95% of ocean beaches and at some non-ocean sites patrolled by lifeguards.¹ For the years 1988-1997, USLA recorded fewer than 100 drownings at these sites with more than three-quarters occurring during hours when the beaches were unguarded (USLA, 2000). These data indicate that the vast majority of drownings each year occur at unguarded locations (Mael, Seck, & Russell, 1999); about 60%-70% of U.S. beaches are unguarded (Brewster & Richardson, 2001). USLA statistics estimate that the chance of drowning at a beach protected by lifeguards trained under USLA standards is less than one in 18 million per year (USLA, 2001).²

The Centers for Disease Control and Prevention (CDC), the American Red Cross and USLA routinely respond to inquiries regarding the efficacy of lifeguards in preventing drownings. Community and local government officials facing decisions about whether to begin, retain, or discontinue lifeguarding services typically want to know whether lifeguards are truly effective in preventing drowning and other aquatic mishaps, and whether the value of providing lifeguards outweighs the costs. Officials often use cost as the primary criterion in their decision-making.

This report is the result of a 1998 meeting CDC convened with a panel of experts to identify gaps in lifeguard effectiveness at recreational waters, and ways to remedy them. This meeting was intended as a discussion about the issues related to the provision of lifeguards. This working group discussed:

- the problem of retaining lifeguards and evaluating the efficacy of existing lifeguard services;
- drowning fatalities and other hazards resulting when lifeguards were removed from facilities;

¹ Open water lifeguard agencies submit reports on annual beach attendance, rescues, preventive actions, drownings and other information to USLA, which reports lifesaving statistics from eight regions, with typically over 85 agencies and beaches reporting (USLA, 2001).

² This calculation is based on ten years of reports from USLA affiliated lifeguard agencies, comparing estimated beach attendance to the number of drownings in areas under lifeguard protection.

-
- the best methods to communicate information about the efficacy of lifeguards to relevant constituents; and
 - sources of information about the efficacy of lifeguards, additional data, resources, and case studies.

The report includes a brief history of lifeguarding services in the United States; data and findings related to the use of lifeguards in preventing drowning in open water and swimming pool facilities; the experience of an agency which does not provide lifeguards at its water recreation facilities; and economic and legal issues related to the provision of lifeguards. We also provide suggestions for decision makers and alternative solutions for preventing drowning.

Drowning prevention, much like other areas of injury prevention, is a young and emerging field. This report aims to stimulate new ideas and approaches. The authors of this report hope it is useful to local policy makers who must make vital decisions about the provision of lifeguards and other interventions to enhance water safety in their communities.

Lifeguarding Services in the United States

A Brief History

In the 1800s, swimming, then known as bathing, became an increasingly popular recreational activity in the United States. Entrepreneurs built resorts in places like Atlantic City, New Jersey, to attract people from inland cities to escape the summer heat. As water activity increased, so did the incidence of drowning. In fact, by the early 1900s as many as 9,000 people drowned each year in the United States (American Red Cross, 1995).

Initial efforts to reduce drownings included installing lifelines.³ However, lifelines proved inadequate because struggling swimmers were not always able to hold on to them. Duke Kahanamoku, the famed Hawaiian surfer, introduced the rescue board between 1910 and 1915, and Captain Harry Sheffield of South Africa is credited with developing the first rescue float (American Red Cross, 1995). Some municipalities assigned police officers to perform water rescues, but this diverted resources from law enforcement. Eventually, municipalities began to hire persons trained and equipped specifically for water rescue. They were called “lifeguards.”

The lack of a consistent lifeguard presence at all bathing areas led the Young Men’s Christian Association (YMCA) to develop a volunteer National Lifesaving Service in 1912. In 1914, Commodore Wilbert E. Longfellow established the American Red Cross Lifesaving, which trained swimmers throughout the United States in lifesaving and resuscitation, organized them into a volunteer corps, and encouraged them to accept responsibility for supervision of bathing activities in their communities.

At their inception, these lifesaving training programs primarily emphasized personal water safety: how to prevent drownings and protect oneself in emergencies. Nonswimming rescue methods, such as throwing a rope or a floating object to the person in the water, were encouraged. Lifeguards considered swimming rescues a last resort due to the hazard presented by a panicked person in the water.

However, swimming rescues were unavoidable for professional beach lifeguards in the United States. Special tools, such as the landline⁴ and the dory,⁵ were developed to assist in swimming rescues. Over time, improved lifesaving devices were created by beach lifeguards in the United States. These include the rescue buoy, the rescue tube, and the rescue board⁶ which are commonly used around the world at beaches, pools, and water parks. Today, many beach lifeguards use powerboats and personal watercraft to assist them in reaching off-shore swimmers in distress quickly and use scuba equipment for deep water rescues.

In 1964, the organization now known as the United States Lifesaving Association (USLA) was founded by members of several California surf lifeguard agencies originally to enhance lifesaving efforts and drowning prevention, to standardize beach lifeguard practices, to educate the public about water safety, and to improve professionalism among

³ Lifelines are ropes tied onshore and to poles in the ocean water, to which bathers can cling.

⁴ The landline is a rope used by a lifeguard during a swimming rescue. A lifeguard swims with the landline to a victim in the water, and people onshore pull both lifeguard and victim to safety.

⁵ The dory is a small boat rowed out to rescue victims in distress.

⁶ The rescue board is a surfboard modified for rescuing drowning victims.

beach lifeguard organizations around the country. Membership has since expanded to include any employee of an ocean, bay, lake, river or other open water rescue service (Brewster, 2001). In 1980, the World Waterpark Association was formed to address needs in aquatic amusement parks. Following this, Ellis and Associates, through the National Pool and Waterpark Lifeguard Training program, established specialized waterpark lifesaving standards and certification programs. In 1983 and 1986, respectively, the American Red Cross and YMCA expanded their training programs to provide nationally standardized instruction for lifeguards at both swimming pools and beaches. Local employers continue to provide lifeguard training at most surf beaches. The American Red Cross, USLA and Ellis and Associates establish standards which are universally adopted for lifeguard training.

Lifeguards have always provided first aid as well as rescue. Cardio-pulmonary resuscitation (CPR) and general first aid training are standard requirements for most lifeguards. In addition, many lifeguards are now both trained and certified to use advanced lifesaving tools such as the external defibrillator and portable oxygen. In some communities, lifeguards have taken on broader public safety responsibilities, such as advanced life support, coastal cliff rescue, and law enforcement.

Major aquatic safety organizations in the United States have continually emphasized prevention rather than rescue as the primary method to reduce drownings. Public safety education and onsite supervision by lifeguards have helped keep drowning rates low for 40 years, and have significantly reduced the number of drownings in the United States. Since 1960, both beach attendance and rescues by lifeguards have risen steadily, although the total number of reported drownings on lifeguarded beaches remained relatively stable with fewer than 106 cases each year (USLA, 2000). In fact, from 1986 through 1999, USLA reported that in California, while beach attendance has increased, so has the amount of lifeguard education (See Figure 1 in Appendix) (USLA 2000). Although rescue activity fluctuated, the number of drownings is down.

Estimates indicate that today, U.S. lifeguards rescue more than an estimated 100,000 persons from drowning annually. USLA data show a rescue-to-drowning ratio in the 1960s of one drowning for every 2,004 rescues at beaches with on-duty lifeguards. In the 1990s, however, the ratio improved to one drowning for every 4,832 rescues at lifeguarded beaches. In addition, for every rescue, an effective lifeguard makes scores of preventive actions, such as warning an individual away from a dangerous area and suggesting that poor swimmers stay in shallow water. There is no doubt that trained, professional lifeguards have had a positive effect on drowning prevention in the United States.

While the number of Americans participating in water recreation has grown tremendously since the late 1800s and the popularity of aquatic activities has increased, the annual incidence of drowning in the United States has declined from about 6,300 persons in 1981 to about 4,000 persons in 1998 (National Center for Health Statistics, 2000). Nevertheless, despite the advances in rescue techniques and the decline in drowning rates in the United States, drowning remains a leading cause of unintentional injury death, especially among children and youth. If the incidence of drowning is to be reduced further, greater attention to prevention, including the staffing and training of lifeguards, is essential.

Events Describing the Efficacy of Lifeguards in Preventing Drowning Deaths

Evidence suggests that lifeguard services benefit public safety by saving lives, lowering drowning rates, and preventing injuries in aquatic recreational environments. Lifeguards also indirectly provide economic and social benefits. They add to the savings in emergency medical care and long-term hospital treatment involving cases of near-drowning (Hassell 1997) and alleviate emotional trauma and social costs to family and friends.

Communities sometimes choose to discontinue lifeguards as a cost-saving measure. We provide a series of case studies to demonstrate the impact of lifeguards on drowning. A few caveats are worth noting when considering these case studies. First, geography, environmental conditions, demographics, and other local conditions may be factors in drownings. Also, national data are not available to assess the number of drownings that occur on beaches without lifeguards because no centralized reporting system exists. Nonetheless, case studies help illustrate the potential effects of lifeguards on public safety.

Case Studies

Case 1: American Beach (Nassau County), Florida

In 1989 the Nassau County Commission decided to eliminate lifeguards on American Beach in order to save county expenses. Less than a year later on Memorial Day, 1990, five persons drowned and 20 others nearly drowned when rough ocean conditions and strong winds caused rip currents to form immediately offshore, making this one of the worst drowning episodes in Florida's history. Shortly after this tragedy, local officials reestablished lifeguarding services. In the eight years since, no one has drowned.

Case 2: Keawaula Beach, Hawaii

Keawaula Beach at Kaena Point State Park is located at the westernmost point on the island of Oahu. The beach is exposed to high surf; a strong shore break; and a strong, often severe, current. The remote, pristine site attracts many surfers, sunbathers, swimmers, and waders. The combination of dangerous physical features and heavy use by patrons increases the risk for water-related injury and death. From 1985 to 1991, two drownings and 40 near-drownings occurred at Keawaula Beach. Although the State of Hawaii does not provide lifeguards, it elected to contract with the City and County of Honolulu to place lifeguards at Keawaula Beach beginning in January, 1992. Since then, no drownings have occurred at this beach.

Case 3: Ocean Beach, San Francisco, California

Ocean Beach covers more than five miles of the Pacific shore in the City and County of San Francisco. Rip currents are common in the water off this beach. The beach is administered by the U.S. National Park Service and is part of the Golden Gate National Recreation Area (GGNRA). Until the early 1990s, GGNRA provided lifeguards at several beaches in the region, including Stinson Beach, China Beach, and Aquatic Park near

Fisherman's Wharf, with occasional patrols and emergency response to Ocean Beach. As a result of budgetary concerns, lifeguards for Aquatic Park, China Beach, and Ocean Beach were gradually removed in the early 1990s. However, the beach-going public continued to swim at Ocean Beach, and drownings continued to occur, despite the development of an aquatic response team by the San Francisco Fire Department, which accomplished a number of rescues. During the late spring and early summer of 1998, there were seven drownings at Ocean Beach, which exceeded the previous six-year total. These drownings generated extensive media attention and resulted in calls by several major groups and prominent individuals for lifeguard protection. GGNRA consulted with USLA to develop a plan to employ, train, and deploy aquatic rescue personnel at Ocean Beach. On-site lifeguard services began before the summer of 1999, and since that time, no drownings have occurred at Ocean Beach.

Case 4: Ocean Beach, San Diego, California

In 1918, 13 people drowned in rip currents in a single day at San Diego's Ocean Beach, garnering local and national news attention. Beach attendance that day was estimated at 5,000. City officials cited inadequate lifeguard protection as a cause of the tragedy, and as a result, initiated a municipal lifeguard service. The ocean conditions have changed little since then. San Diego's local leaders view the 17 miles of oceanfront shoreline, which include Ocean Beach, as a safely managed tourist attraction due to the presence of lifeguards. Despite an average estimated annual attendance of 15 million people and over 7,000 rescues at the major lifeguarded beaches, the average number of drownings in areas under lifeguard protection is between zero and one annually.

Patron Surveillance: A Key Component of Lifeguarding Services

Lifeguards play an important role in a swimming facility's risk management program. Lifeguards are trained to monitor the aquatic environment, supervise patrons, inform patrons about the potential for injury, educate them about the consequences of injury-producing behavior, and enforce rules and regulations that prevent injuries. They are also, of course, expected to perform rescues to prevent drownings and to provide immediate first aid and CPR. But to do so, they must first identify persons who are in distress in the water.

Patron surveillance is key to preventing aquatic injury. It involves maintaining a constant watch over persons both in and out of the water and over the aquatic facility in order to identify circumstances that may cause injury. Action can then be taken to prevent or minimize injury. For example, a lifeguard may notice a small child playing alone in the water near a known drop-off and intervene before the child steps in water that is too deep. A lifeguard may also observe a person struggling in the water and perform a timely rescue.

The importance of lifeguards providing patron surveillance, especially monitoring the behavior of swimmers, can be demonstrated with a brief description of how persons drown. Many people assume that drowning persons are easy to identify because they will exhibit obvious signs of distress in the water, such as yelling or waving their arms. However, this kind of behavior is not common. Instead, people tend to drown in more quiet, less attention-getting ways. Drowning persons usually struggle to keep their mouth above the surface of the water in order to breathe. Struggling to stay afloat and possibly suffocating, they are rarely able to call out or wave their arms. Observational studies of persons at flat water (non-surf) beaches have revealed that non-swimming adults who find themselves in water over their heads are generally able to struggle on the surface of the water for about 60 seconds, while infants and very small children can submerge in as little as 20 seconds. These characteristics of drowning – the inability of a person to call or wave for help and the short time period before submerging – emphasize the need for lifeguards as a source for continuous surveillance and immediate action.⁷

However, supervisors and managers at aquatic facilities sometimes make the mistake of assigning lifeguards unrelated duties to perform while also expecting them to conduct effective patron surveillance. Because drowning can occur quickly and quietly, it is not surprising that lifeguards, distracted from keeping an eye on the water by other assigned duties, have failed to spot drowning persons in time to rescue them. Indeed, unobserved drownings have occurred even while lifeguards were stationed 20 feet from the water, taking tickets of those entering the facility or selling refreshments. It is clear, therefore, that swimming facilities must be staffed adequately to ensure effective and continuous patron surveillance, and that lifeguards should be given no other task that would distract them from this work. This concept is also supported by the USLA. The USLA

⁷ These characteristics of persons in distress in the water have been called the Instinctive Drowning Response by Pia (Pia F., 1971, *On Drowning*, 2nd rev. ed, Water Safety films, Inc., Larchmont, NY; Pia F., 1974 *Observations on the drowning of nonswimmers*. *Journal of Physical Education*, The YMCA Society of North America, Warsaw, IN).

requires lifeguard agencies seeking USLA certification to adhere to the following principles: “Lifeguards assigned to supervise an aquatic area shall not be subject to duties that would distract or intrude their attention from proper observation of persons in the waterfront area, or that prevent immediate assistance to persons in distress in the water. Specifically, lifeguards assigned to water surveillance shall not be assigned to any duties other than public safety” (USLA, 2000).

Use of Design Criteria to Reduce Drownings at Lakefront Facilities

Although providing quality lifeguarding services at water recreational facilities is effective in preventing drowning, some decision makers may elect not to hire lifeguards. In that case, environmental modifications to the facility can still improve safety for patrons. This section describes some environmental design changes that one water recreation provider used to reduce drownings at facilities that did not employ lifeguards.

The U.S. Army Corps of Engineers is the second largest provider of outdoor recreation facilities in the United States, managing more than 7 million surface acres of water and 4.5 million acres of land. Corps lakes are located in 43 states, and in 1998 staff recorded 2.6 billion visitor hours at these lakes. Approximately 58% of these hours (1.5 billion hours) are attributable to water recreation, such as swimming, wading, boating, water skiing, and fishing.

As a policy developed to limit liability, the Corps does not assign lifeguards to its facilities; it has a “swim at your own risk” policy. However, to reduce the number of drownings occurring at its beaches, the Corps established specific design criteria for its lakefront swimming beaches in 1987. These design criteria appear to have helped. Between 1971 and 1987, before the criteria were implemented, an average of 330 swimmers drowned each year. The design criteria were introduced between 1988 and 1998, and over that decade the yearly average fell to 183 drownings. These criteria are intended for inland lakes rather than surf beaches, where surf action makes them difficult to implement.

The majority of the design criteria for Corps swimming beaches relate to environmental controls. The priorities in the design of a beach are safety of the user, effects the physical features of the site will have on the beach, and future operation and maintenance considerations.

The Corps design criteria include estimating expected patron visitation levels; providing access for disabled persons; creating slope gradients that gradually and smoothly lead to deeper water; making efforts to ensure that the swimming area is protected from possible sources of contamination; maintaining consistent water levels; prohibiting diving platforms and swim floats; using buoys and markers to delineate the swim area and keep boats out; and ensuring the availability of additional safety measures such as rings, buoy lines, and poles. The complete design criteria for Corps swimming beaches can be found in Engineer Manual [EM -1110-1-400], Recreation Planning and Design Criteria, July 31, 1987.

The U.S. Army Corps of Engineers also supports a comprehensive water safety information campaign. Corps employees who work in water safety throughout the United States develop a coordinated, annual water safety campaign. Evaluations of previous campaigns allow the Corps to identify specific water safety issues each year for a full-scale educational campaign at all its facilities. The campaigns include print and television public service announcements. Many of the messages target school-aged children, a high-risk group.

Economic Costs of Drowning Deaths

Public safety education and onsite supervision by lifeguards have helped keep drowning rates low for 40 years, and have significantly reduced the number of drownings in the United States. Still, the cost of a single catastrophic injury or death while using an aquatic facility can be substantial. Experts have described the costs of unintentional death through two measures. The economic costs framework measures the victim's productivity loss and the expenses related to the event.⁸ Comprehensive costs include the economic loss, as well as the value of lost quality of life associated with the death or injury.

In 1997, the National Safety Council placed the economic value of each unintentional injury death at \$790,000 and the comprehensive cost at \$2,790,000 (National Safety Council, 1997). Using the drowning figures from beaches in the USLA reporting system, the comprehensive costs of drowning on coastlines in 1997 amounted to \$273,420,000. From 1960 to the present, the total cost of drowning deaths at these USLA beaches is estimated to have been \$4.2 billion. Factoring in costs of drowning in other aquatic facilities and the estimated annual cost of \$138,000 per incapacitating injury, and the \$180,000 annual cost for a catastrophic injury, the total costs of unintentional injury begin to climb geometrically. For comparison, salaries and benefits (typically 50% of costs) for full-time beach lifeguards range from \$26,500 to \$32,000 in Hawaii, Southern California and South Florida, where lifeguards work year-round. It is clear that providing a safe aquatic environment and instituting programs to prevent aquatic injury or death offer significant economic and social savings to society as a whole.

Although water-related injuries and drownings already result in tremendous costs, they would be substantially higher without lifeguards. One way of describing these costs is to estimate that one percent of the total rescues made by lifeguards would have resulted in a drowning death in the absence of lifeguards. In 1997, USLA recorded approximately 77,000 rescues for areas served by lifeguards. If one percent of these rescues (770) had instead resulted in death, either because the rescue had not taken place or because there were no lifeguards, then the economic cost of these deaths would be more than \$600 million, and the comprehensive cost would exceed \$2.1 billion.⁹

Using the same assumption, that one percent of the rescues instead resulted in incapacitating injuries (i.e., ones that would disable persons and permanently prevent them from performing some or all work), would yield a cost of approximately \$4.1 billion per year over and above initial economic or comprehensive costs. If one percent of the rescues had instead resulted in nonincapacitating injuries (i.e., ones that required medical care or hospitalization but would not result in disability), then the anticipated cost would be about \$10.7 million for economic costs per year and \$27.5 million per year for comprehensive costs. Table 1 in the Appendix includes cost estimates for different models using a lifeguard rescue effectiveness ranging between 1% and 36%.

⁸ Included in the components of economic losses are: wages and productivity; medical expenses; administrative expenses of law enforcement, legal fees and insurance costs; and employer costs.

⁹ These figures do not estimate the costs of converting a death to an incapacitating injury because of a rescue.

While these estimates help demonstrate the range of costs of drownings and water-related injuries and the benefits of prevention on a national scale, the numbers may be so large that they do not assist decision makers working with a single, community facility. Mael, Seck, and Russell (1999) provide a helpful method of estimating costs on a smaller scale by converting the ratios to a given baseline of 10,000 patrons. They estimate the number of rescues needed if no preventive actions are taken, the number of injuries if there are no rescues, and the number of drownings if there are no rescues (i.e., no lifeguards present to intervene). This method provides minimum and maximum estimates of both the economic and the comprehensive costs of drownings and injuries at unprotected sites. They calculate that the total economic costs for not having lifeguards per 10,000 patrons ranges from \$202,500 to \$4.6 million and the total comprehensive costs per 10,000 patrons ranges from \$705,380 to \$16.1 million (see Table 2 in Appendix).

Legal Implications of Providing Lifeguard Protection

The decision to provide lifeguard protection can be influenced by civil liability laws, which may hold the owners of aquatic areas and the lifeguards they employ responsible for fatal and nonfatal injuries.

One aspect of liability involves malfeasance. In most states, lifeguards, like other safety providers, are expected to act within a standard of care set by their training, local protocols, and past court rulings. A variation from the standard of care may result in liability. Another aspect of liability involves the condition of the facility and the quality of warning or protection provided. Some laws absolve federal, state, or local governments of liability for injuries resulting from natural conditions, such as currents and surf action. In California, for example, local governments are immune from injuries sustained at beaches as a result of natural conditions, regardless of the presence or absence of lifeguards or warning signs. This approach neither discourages nor encourages the placement of lifeguards.

Some state laws hold governments liable for natural conditions under certain circumstances. The Supreme Court of Hawaii (*Kaczmarczyk vs. City and County of Honolulu*, 1982) has determined that while a municipality is not an insurer of the safety of those using public beaches and adjacent waters, governments must exercise reasonable care in maintaining these facilities and in supervising their use by the public.

The court has found that the municipality has a duty to warn of extremely dangerous conditions known to the municipality which would not be obvious to an ordinary person. One method of warning is the placement of signs, and Hawaii is assessing the adequacy of warning by signage.

In Florida, municipalities have discretionary authority to operate a designated swimming area at a beach, but once they decide to operate a swimming facility, they assume a common law duty to operate it safely. In determining liability for drownings, Florida courts look for a previous knowledge of the danger, the presence of lifeguards, and the adequacy of warnings. Generally, a private Florida landowner, such as a hotel owner, has no duty to post lifeguards on public beaches or warn guests of hazardous ocean conditions. If, however, the hotel designates the beach as a swimming area, it incurs a duty to provide adequate warnings and safety precautions. Even if an area is not designated as a swimming area, a duty still may be placed on the landowner to operate the area safely through local ordinances or contractual agreements with beach vendors.

Liability definitions categorize swimming pools into those open to the public, those accessible by fee, and those provided by hotels. For public pools, some states and local jurisdictions specifically define the required level of lifeguard protection. In other areas, the level of protection may be left to the pool owner, but in the case of an incident, assessing the quality of protection may be a matter of what is considered reasonable by a judge or jury. In most states, hotels must simply post signs with approved or commonly accepted language. This passive approach to water safety may limit liability, but it also limits injury prevention. It is clear that lifeguards can significantly reduce the

incidence of water-related injury and death. Therefore, laws which encourage placement of lifeguards, although more expensive, can logically be expected to enhance public safety.

Decision Maker's Guide to Lifeguard Protection

The decision to protect the public in an aquatic facility, either by providing lifeguards or using another preventive strategy such as signage, requires careful assessment of the alternatives available to the facility or jurisdiction. This section offers some suggestions about how decision makers might approach such a choice and frame the alternatives.

In order to assist in evaluating the need for providing lifeguards in a facility or local jurisdiction, consider these steps:

(1) Use any relevant data available on the facility or jurisdiction. Data may include:

- The number of people using the facility or beach area during past years;
- The incidence¹⁰ of water-related injuries and drownings at the facility or beach during those times;
- The number of water-related injuries and drownings at pools and beaches in the locality or state with and without lifeguards, for comparison; and
- the level of lifeguards provided (e.g., number of lifeguards per number of persons using the facility).

(2) If lifeguards are already provided, then ask the questions:

- How have lifeguards affected patrons' safety and attitudes?
- Is the drowning rate increasing, decreasing, or has it remained unchanged?

(3) Assess proposed alternatives (e.g., hiring lifeguards, placing warning signs, modifying the aquatic environment or restricting access to the facility). As various alternatives are developed, use history and precedence to assess them.

- Try to estimate the cost-effectiveness of each alternative.
- Assess legal implications and opinions that are critical to the issue and the alternatives.

¹⁰ Incidence is the number of drownings (or number of water-related injuries) divided by the total number of visitors at the facility or jurisdiction, multiplied by the period of time in question (e.g., 1 year).

Summary and Conclusions

When making choices about drowning prevention interventions in their areas, decision makers must balance a sincere desire to protect the public with “real-world” issues of budgets and legal liability. In this report, we have attempted to provide useful information and relevant questions that can be applied when making these decisions. One effective drowning prevention intervention is to provide trained, professional lifeguards to conduct patron surveillance and supervision at aquatic facilities and beach areas.

USLA data during 1988-1997 indicate that more than three-quarters of drownings at USLA sites occurred at times when beaches were unguarded and that the chances of drowning at a beach protected by lifeguards trained under USLA standards is less than one in 18 million. The four case studies provided in this report also describe the positive impact of lifeguards at beaches where multiple drownings had occurred when unguarded. When lifeguards are employed, it is vital that they be trained effectively in detecting persons in distress, and when assigned to water surveillance not be given duties other than public safety. The presence of lifeguards may deter behaviors that could put swimmers at risk for drowning, such as horseplay or venturing into rough or deep water, much like increased police presence can deter crime. Also, the experiences of the U.S. Army Corps of Engineers suggests that environmental design changes (at inland lakes) and safety information campaigns can also play a role in reducing drowning deaths. Owners and managers of natural water recreation venues should consider these design characteristics, regardless of the presence or absence of lifeguards.

Regardless of the evidence, or lack thereof, of lifeguard effectiveness, some communities insist on lifeguard services, based on local circumstances. Policy makers need to make use of the available local evidence and consider public attitudes and the legal environment when making decisions about lifeguard services and other means for increasing public safety in aquatic settings. Providing a safe aquatic environment and instituting programs to prevent water-related injury or death offer significant economic savings. Table 2 in the Appendix can serve as a useful tool for estimating the human and economic impact of not providing lifeguards.

Finally, if a community develops water recreational facilities to attract patrons who spend money in the local area, then it can be argued that the community has an obligation to protect these patrons. When weighing the costs and legal implications of interventions to prevent drowning, decision makers should never lose sight of the enormous importance of protecting people from harm and preventing tragedy at beaches and pools, places where people go for pleasure, for health, and for solace.

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Organizations and Associations that Promote Lifeguarding and Water Safety

American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD)

1900 Association Drive
Reston, Virginia 22091
(703) 476-3400

American Red Cross Health and Safety Division

8111 Gatehouse Rd.
Falls Church, Virginia 22042
(703) 206-7180

BOAT/U.S. Foundation

880 S. Pickett Street
Alexandria, Virginia 22304
(703) 823-9550

Boy Scouts of America

1352 Walnut Hill Lane
Irving, Texas 75038-3096
(214) 580-2000

The Canadian Red Cross Society

1800 Alta Vista Drive
Ottawa, Ontario
Canada K1G4J5
(613) 739-3000

The Commodore Longfellow Society

2531 Stonington Rd.
Atlanta, Georgia 30338

Girl Scouts of America

420 Fifth Avenue
New York, New York 10018
(212) 852-5720

Jeff Ellis and Associates, Inc.

3506 Spruce Park Circle
Kingwood, Texas 77345
(713) 360-0606

National Intramural and Recreational Sports Association (NIRSA)

850 SW 15th Street
Corvallis, Oregon 97333
(503) 737-2088

National Recreation and Park Association (NRPA) Aquatic Section

650 West Higgins Road
Hoffman Estates, Illinois 60195
(708) 843-7529

National Association of State Boating Law Administrators (NASBLA)

Box 11099
Lexington, Kentucky 40512-1009

National Safe Boating Council

2911 Russell Road
Ostrander, Ohio 43061
(614) 666-3009

National Water Safety Congress Administrative Services

1181 Shake Rag Road
Buckhead, Georgia 30625
(706) 342-3775

The Royal Life Saving Society Australia

P.O. Box 1567
North Sidney, NSW 2059
02-957-4799
FX 02-929-5726

The Royal Life Saving Society Canada

287 McArthur Ave.
Ottawa, Ontario
Canada K1L 6P3
(613) 746-5694

The Royal Life Saving Society UK
Mountbatten House
Studley
Warwickshire
B80 7NN United Kingdom
+ 0527 853943

U.S. Army Corps of Engineers
Safety Office
20 Massachusetts Avenue, NW
Washington, DC 20314-1000
(202) 761-8600

United States Coast Guard (USCG)
Commandant (G-NAB)
2100 Second Street, SW
Washington, DC 20593-0001

United States Coast Guard Auxiliary
3131 North Abingdon Street
Arlington, Virginia 22207

United States Lifesaving Association
P.O. Box 366
Huntington Beach, California 92648
www.usla.org

YMCA of the U.S.A.
101 North Wacker Drive
Chicago, Illinois 60606
1-800-872-9622

YWCA of the U.S.A.
726 Broadway
New York, New York 10003
(212) 614-2700

World Waterpark Association
P.O. Box 14826
Lenexa, Kansas 66285-4826
(913) 599-0300

Figure 1
California Beach Activity 1986–1999

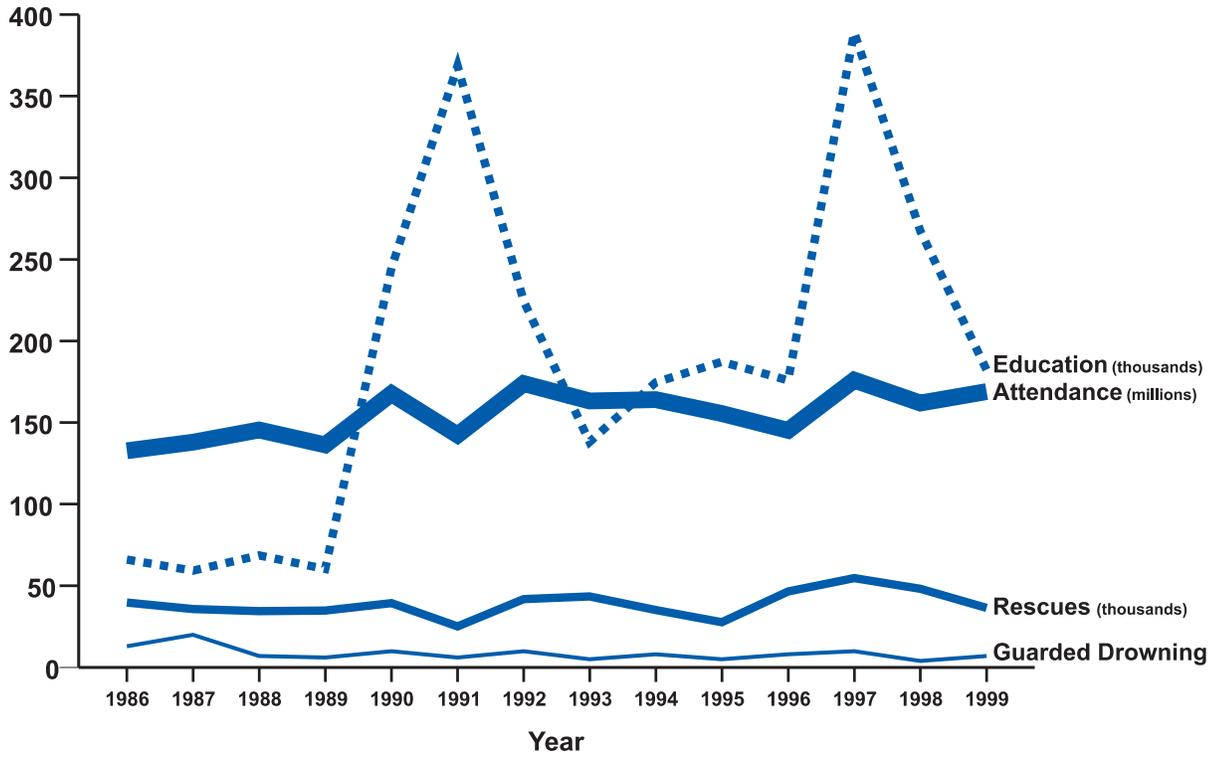


Table 1
Estimated Cost if Percent of 770,000 Reported Rescues in 1997
Had Not Been Made by Lifeguards*

Percentages:	1%	5%	10%	16%	20%	36%
Economic costs of deaths	\$609,130,000	\$3,045,650,000	\$6,091,295,000	\$9,746,072,000	\$12,182,590,000	\$21,928,662,000
Comprehensive costs of deaths	\$2,151,230,000	\$10,756,150,000	\$21,512,295,000	\$34,419,672,000	\$43,024,590,000	\$77,444,262,000
Economic costs of incapacitating injury	\$31,767,000	\$158,836,000	\$317,673,000	\$508,276,000	\$635,345,000	\$1,143,621,000
Comprehensive costs of incapacitating injury	\$106,405,000	\$532,000,000	\$1,064,050,000	\$1,702,478,000	\$2,128,100,000	\$3,830,576,000
Monthly costs of incapacitating injury**	\$4,163,700,000	\$20,818,350,000	\$41,636,700,000	\$66,618,720,000	\$83,273,400,000	\$149,892,120,000
Economic costs of nonincapacitating injury	\$10,718,000	\$53,588,000	\$107,176,000	\$171,482,000	\$214,352,000	\$385,833,000
Comprehensive costs of nonincapacitating injury	\$27,527,000	\$137,632,000	\$275,265,000	\$440,424,000	\$550,530,000	\$990,953,000

Source: USLA rescue data.

* Percentages represent assumed percent of deaths or injuries that would occur if rescues were not performed.

** \$15,000 per month, assumption of 30 years continued life = \$5,400,000

Table 2
Number of Preventive Actions, Events Requiring Rescues, Drownings, Injuries,
Costs and Estimated Savings for Every 10,000 Beach Patrons

Maximum Estimates:		Economic Cost	Comprehensive Cost
Preventive actions	97.4		
Number of rescues if no preventive action	35.0		
Number of (nonincapacitating) injuries if no rescues	12.6	\$175,450	\$450,600
Number of drownings if no rescues	5.6	\$4,431,640	\$15,650,960
Total Savings for each 10,000 Patrons		\$4,607,090	\$16,101,560
Minimum Estimates:		Economic Cost	Comprehensive Cost
Preventive actions	97.4		
Number of rescues if no preventives	4.9		
Number of (nonincapacitating) injuries if no rescues	0.73	\$10,150	\$26,080
Number of drownings if no rescues	0.25	\$192,350	\$679,300
Total Savings for each 10,000 Patrons		\$202,500	\$705,380

GUIDELINES FOR OPEN WATER LIFEGUARD AGENCY CERTIFICATION

THE UNITED STATES LIFESAVING ASSOCIATION

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United States Lifesaving Association – Overview

The United States Lifesaving Association (USLA) is a nonprofit membership organization. Our mission includes the promotion of high standards of professional open water lifesaving and the provision of water safety education to the general public. We are the United States' Full Member of the International Life Saving Federation (www.ilsf.org).

To qualify as a professional member of USLA a person must be a direct, active employee of an ocean, bay, lake, river, or open water lifesaving or rescue service or a retired employee thereof. Our members include aquatic rescue professionals from lifeguard agencies throughout the US and from many allied aquatic rescue services. We also offer associate memberships to pool lifeguards, junior lifeguards, and members of the general public. Thus, any person may be a member of USLA.

USLA members associate primarily through local USLA chapters, which are generally constituted by reason of a common hiring agency or for geographic unity. The chapters form eight regions: New England, Mid-Atlantic, South Atlantic, Southeast, Great Lakes, Gulf Coast, Southwest, and Northwest. Every area of the United States is represented by one of these regions. Regional representatives meet biannually at national meetings as the USLA Board of Directors.

Membership dues help support USLA programs, including the National Lifeguard Agency Certification Program. Those interested in USLA membership should first attempt to join through an existing local chapter. One may also join directly with USLA. For information on membership, forming a chapter, or any other programs, you can contact USLA as follows:

World Wide Web: www.usla.org

USLA Secretary
PO Box 366
Huntington Beach, California 92648

Telephone: (866) FOR-USLA

INTRODUCTION

All lifeguards and other open water rescuers, regardless of assignment, are expected to use their skills and abilities to help prevent injury and drowning in the aquatic environment. Not all lifeguard assignments are the same however, so the training and standards needed by lifeguards in different assignments varies.

The most challenging assignment for a lifeguard is safeguarding natural bodies of water, which USLA refers to as open water. Unlike pools and waterparks, which are relatively similar regardless of locale, the crowd conditions, water currents, waves, dangerous animals, weather, and related conditions of open water differ greatly and pose unique obstacles to maintaining water safety. Furthermore, the responsibilities of open water lifeguards can include a wide variety of special assignments. Some examples are law enforcement, boat rescue, marine firefighting, cliff rescue, emergency dispatching, and flood rescue. Many beach lifeguards in California, Florida, and Hawaii are employed full time on a year-round basis, with some agencies providing 24-hour public safety service similar to that of a police or fire department.

When open water lifeguarding began in the 1800's, training standards and lifesaving techniques were set by local employers and varied widely. In the decades that followed, they were shared, becoming increasingly similar. In 1980, USLA co-hosted a conference in Galveston, Texas in an effort to develop guidelines for establishing nationally agreed upon open water recreational beach standards. All of the major groups in the US concerned with preventing loss of life in and around the water were represented. (You may download a copy of the report of this conference from the Lifeguard Library at www.usla.org.)

The Galveston conference resulted in consensus on many issues, such as minimum swimming skills, age, and training needed by beach lifeguards. Shortly thereafter, USLA developed and published a booklet called *Guidelines for Open Water Lifeguard Training*. It embodied the core recommendations from Galveston, but went further to recommend curriculum standards and other minimum recommended standards. It has since been revised to the document you now read.

In developing open water lifeguard training standards, USLA concluded that a single, rigid training program covering the widely varying conditions in open water areas throughout the United States would be prohibitively lengthy. It was also considered impractical and unnecessary, particularly since most lifeguards work for a single employer for their entire lifesaving career. USLA therefore designed a program with core instruction in basic lifesaving techniques, but one which requires local employers to adjust the training, within established parameters, to address local conditions. For this reason, a lifeguard trained under the USLA system must be retrained if the lifeguard moves to another area.

USLA does not "certify" lifeguards or lifeguard instructors. Instead, USLA certifies lifeguard employers, including their training programs and standards, which follow USLA guidelines. The USLA certification system is therefore, in effect, an accreditation system for local lifeguard training programs.

We consider our guidelines consistent with those of the highest quality open water lifesaving programs in the United States today. Many agencies surpass them and are strongly encouraged to continue providing the levels of excellence they have achieved. Lifesaving can continue to progress only if lifesaving agencies are willing to exceed the current norms, experimenting with new techniques and advanced equipment, the best of which will become the standards of tomorrow.

Since USLA is an organization of open water rescue professionals, our certification programs are designed to meet the needs of rescuers in this environment. Our *Lifeguard Agency Certification Program* is designed for public safety agencies that provide preventive lifeguarding services. Our companion *Aquatic Rescue Response Team* certification program is designed for public safety providers which do not provide preventive lifeguard services, but have responsibility for responding to open water emergencies. The document you now hold details requirements for the USLA Lifeguard Agency Certification Program. For information on the ARRT program, contact USLA at our website (www.usla.org) or at 866-FOR-USLA.

STEPS TO CERTIFICATION

Introductory Note: Training conducted under the USLA Lifeguard Agency Certification Program must be conducted on the beaches of the agency where the lifeguard will be employed or on nearby beaches with comparable conditions and geographic features. To be certified an agency must adhere to the following USLA requirement: "Lifeguards assigned to supervise an aquatic area shall not be subject to duties that would distract or intrude their attention from proper observation of persons in the waterfront area, or that prevent immediate assistance to persons in distress in the water. Specifically, lifeguards assigned to water surveillance shall not be assigned to any duties other than public safety."

Chair National Certification Committee: If you have questions not answered by this document, you may email the National Certification Committee Chair at certificationchair@usla.org.

1. Read the standards for open water lifeguards, trainees, and instructors to ensure that your agency is in compliance. If you do not employ full time lifeguards, you can ignore standards for these personnel. Existing lifeguard agencies which meet the certification guidelines may apply for certification and become certified at the appropriate level upon review and approval of the certification officer, certification committee and board of directors at the meeting following approval of their application. Newly established lifeguard agencies which apply for certification and meet the certification guidelines must operate for a period of one (1) season before certification may be approved.
2. Read the *Minimum Equipment Standards* and ensure that your agency is in compliance.
3. Read the *Required Course Curriculum* and ensure that your agency's basic training course includes all elements listed (except those specifically noted as optional). The curriculum is intended to ensure a broad understanding of the basic aspects of lifesaving, but allows tailoring to address local conditions. A copy of *Open Water Lifesaving – The United States Lifesaving Association Manual* must be available to each trainee. In developing course curriculum, the *Resource Material* section may be of assistance.
4. An agency wishing to have its training program and standards nationally certified submits a completed Certification Application and Curriculum Checklist (available in the Certification section of www.usla.org) with two copies of the agency's training curriculum and standards to the address listed on the form. A check covering the application and review fee of \$250 must be enclosed.
5. The USLA Secretary or designee will file one copy and send the second copy to a Certification Officer from the USLA region in which the agency lies. The Secretary or designee will attempt to choose a Certification Officer who is geographically close to the applicant.
6. Within sixty (60) days of receiving an application, the Certification Officer is responsible for conducting a thorough review and submitting written findings. The review must include, at a minimum, checking all documents submitted and ensuring that they show the agency to be in compliance with the current guidelines of USLA, at either the minimum or advanced level. It is also suggested, but not required, that an on-site review be conducted for most agencies. An on-site review is required for newly established agencies.
7. Upon receiving the written findings of a Certification Officer, the Secretary or designee will file a copy of the findings and forward a copy to the Certification Committee Chair for review by the National Certification Committee. This committee, which meets in May and November in conjunction with the Board of Directors, is responsible for recommending approval or disapproval to the Board, with final approval requiring a majority vote of the full Board.
8. In any case of a finding by the Certification Committee and concurrence by the USLA Board of Directors, at any time, that an applying agency provided information in the application that was materially false or misleading, the application and agency certification shall be deemed void, the application fee shall be retained by USLA, and the agency shall be advised of the reason. A subsequent application by the agency shall not be accepted for a period of one year from action by the USLA Board of Directors and shall require documentation of full resolution of the issues which caused revocation.

9. Upon favorable decision by the Board of Directors, a certificate so stating and signed by the President and Certification Committee Chair, will be issued and valid for a period of three (3) years. The agency must then reapply, again submitting the current fee.
10. Any changes to the recommended guidelines and standards which may be made by the Board of Directors after an agency has been certified become effective for future applications and renewals, but create no mandate for currently certified agencies. However, all certified agencies are strongly encouraged to adhere to the most current recommended guidelines.
11. By applying for and accepting certification, the certified agency agrees to maintain all standards asserted in the application during the application and certification period. USLA certification is valid only so long as the certified agency continues to maintain these standards. In any case in which the USLA Certification Committee Chair determines that a certified agency's program fails to meet these standards, the Certification Committee Chair may suspend certification of the agency, which suspension is effected via written notice to an appropriate agency representative. A letter of suspension shall include details of the reasons and an explanation of how the suspension may be appealed, which shall be via a written letter to the USLA President, with copy to the Certification Committee Chair. This suspension shall be effective for 30 days, during which the National Certification Committee shall be consulted. With concurrence of the National Certification Committee, suspension may be extended an additional 60 days (for a total of 90 days). Within 90 days of suspension, the USLA Board of Directors or, between regular meetings of the Board of Directors, the USLA Executive Board shall review information provided by the Certification Committee Chair, the agency, and any other appropriate sources, and shall render a decision to revoke certification, to reinstate certification, or to take any other appropriate action. A letter of suspension shall include the following language: "As of the date of this letter, you are no longer operating as a certified and approved USLA agency. All rights and privileges accompanying USLA certification have been suspended until further notice. You are instructed to remove all USLA signs, symbols and/or certification documents from public view."
12. The collection and publication of national lifesaving statistics is a critical service of USLA. The submission of annual statistics to USLA for each calendar year by March 1 of the following year is a requirement for any agency to achieve and maintain certification. This can be accomplished by mail or via the USLA website (www.usla.org). In the case of certified agencies which do not report their statistics by that date, a letter will be sent advising that failure to provide statistics within 30 days will result in suspension until and unless compliance with this requirement is achieved. That suspension will not require the procedures listed in #11 above, except that the Chair of the Certification Committee will send a letter of suspension and suspension shall be effective until a valid statistical report is received by USLA for the year in question.

USLA Certification Officer

Certification Officers are the persons primarily responsible for evaluating whether an applying agency adheres to the recommended guidelines of USLA at either the minimum or advanced level. Certification Officers then make recommendations to the national Certification Committee, which recommends approval or disapproval to the USLA Board of Directors. Certification Officers serve without compensation. The following are the criteria under which a Certification Officer may be appointed.

- Membership -- A candidate must be a current voting member of USLA.
- Lifesaving Experience -- A candidate must have a minimum of 4,000 hours experience as an open water lifeguard.
- Supervisory/Instruction Experience -- It is recommended, but not required, that a candidate for the position of Certification Officer have supervisory experience in an open water lifeguard agency and/or experience as an instructor in an open water lifeguard agency.
- Summary of Qualifications -- A candidate must compile a resume detailing qualifications.
- Nomination -- A candidate must be recommended for appointment by the Regional Council.
- Appointment -- The USLA President shall have the sole discretion for appointment of a Certification Officer once nominated by a Regional Council. It is recommended that the President attempt to balance the need for an adequate number of Certification Officers from each region against the administrative burden posed by having more than is necessary.
- Term of Appointment -- Appointments shall be for no more than two years, at which time a candidate may be reappointed under the same terms as for initial appointment.
- Certification -- No Certification Officer may certify an agency with which the Certification Officer is currently affiliated.

Open Water Lifeguard Instructor

The following are standards for instructors of open water lifeguard training programs. These are the standards for lead instructors. This does not preclude the use of assistants, field training officers or others who do not meet these standards. Open Water Lifeguard Instructors are directly responsible for ensuring that standards are met and that all training modules are taught by persons with proper credentials.

Standards To Be Met and Maintained Include:

- Work Experience – Must have worked a minimum cumulative total of 1,000 hours of employment compiled in no fewer than three seasons as a seasonal open water lifeguard or a full time open water lifeguard at a lifeguard agency which meets the standards of USLA. (Agencies applying for initial certification may need to request a waiver from this requirement.)
- Education – Must possess a high school diploma or equivalency certificate.
- First Aid Certification – Must be currently certified by an agency recognized by the Federal Government or the state government in the state of employment to instruct any first aid or CPR course provided to trainees by the employing agency or must ensure that a person so certified is responsible for providing such training.

Additional Standards for Advanced Agency Certification Include:

- Work Experience – Must have worked a minimum cumulative total of 2,000 hours of employment compiled in no fewer than five seasons as a seasonal lifeguard or above at a lifeguard agency certified as meeting the minimum standards of USLA.
- Training Experience – At least two seasons experience as an instructor or assistant instructor of a program which meets the minimum standards for USLA certification.
- Scuba Certified – Certified as a scuba diver by a nationally recognized certifying agency.

Open Water Lifeguard Trainee

An Open Water Lifeguard Trainee is a lifeguard in training. This category was created to address the needs of some agencies to train lifeguards in-service, rather than the preferred method of conducting a training academy prior to assignment. First aid and CPR training must be given before the lifeguard is given any assignment on the beach. The remaining training must be provided within 30 calendar days from the first day of deployment of the lifeguard. Open Water Lifeguard Trainees may work only under the direct and immediate supervision (side-by-side in the same station or area) of a Full Time Open Water Lifeguard or a Seasonal Open Water Lifeguard, either with at least 1,000 hours experience.

Standards To Be Met and Maintained Include:

- Age – A minimum of 16 years of age.
- Swimming Ability – Demonstrates an ability to swim 500 meters (550 yards) over a measured course in ten minutes or less. USLA requires that each applying agency have a written policy in place detailing its required swim test. The policy may, for example, be published in a policy manual or included in an official job announcement and must make clear that this is a standard that must be met and maintained by all lifeguards.
- Health & Fitness – Possesses adequate vision, hearing acuity, physical ability and stamina to perform the duties of an open water lifeguard as documented by a medical or osteopathic physician.
- First Aid Certification – Certified as having successfully completed a first aid course accepted by the Federal Government or by the state government in the state of employment. Total formal first aid training, including the certified first aid course (but not the CPR course), shall be no less than 21 hours.
- CPR Certification – Currently certified as having successfully completed a course in providing one person adult, two person adult, child and infant cardiopulmonary resuscitation (CPR), including obstructed airway training, accepted by the Federal Government or by the state government in the state of employment.
- Strength & Stamina – Successfully completes a pre-employment test demonstrating adequate physical strength and stamina to perform the duties of an open water lifeguard.

Seasonal Open Water Lifeguard

A Seasonal Open Water Lifeguard is a lifeguard employed part time, whether hourly or seasonally. For lifeguard agencies which provide services seasonally, the only employees are usually seasonal. Therefore, these agencies are not required to meet standards for Full Time Open Water Lifeguards.

Standards To Be Met and Maintained Include:

- Age – A minimum of 16 years of age.
- Swimming Ability – Demonstrates an ability to swim 500 meters (550 yards) over a measured course in ten minutes or less. USLA requires that each applying agency have a written policy in place detailing its required swim test. The policy may, for example, be published in a policy manual or included in an official job announcement and must make clear that this is a standard that must be met and maintained by all lifeguards.
- Health & Fitness – Possesses adequate vision, hearing acuity, physical ability and stamina to perform the duties of an open water lifeguard as documented by a medical or osteopathic physician.
- First Aid Certification – Certified as having successfully completed a first aid course accepted by the Federal Government or by the state government in the state of employment. Total formal first aid training, including the certified first aid course (but not the CPR course), shall be no less than 21 hours.
- CPR Certification – Currently certified as having successfully completed a course in providing one person adult, two person adult, child and infant cardiopulmonary resuscitation (CPR), including obstructed airway training, accepted by the Federal Government or by the state government in the state of employment.
- Training – Certified as successfully completing a course consisting of a total of not less than 40 hours in open water lifesaving which meets the curriculum requirements of the United States Lifesaving Association. This shall not include the minimum training hours required for first aid or CPR.
- Scuba Training – Any lifeguard who will be required to utilize scuba in the course of employment must, at a minimum, be certified as a scuba diver at the basic level by a nationally recognized certifying agency.
- Strength & Stamina – Successfully completes a pre-employment test demonstrating adequate physical strength and stamina to perform the duties of an open water lifeguard.

Additional Standards for Advanced Agency Certification Include:

- First Aid Certification – Certified as a first responder in a first aid course, accepted by the Federal Government or by the state government in the state of employment, which is equivalent to Department of Transportation First Responder. Total formal first aid training in the certified first aid course, including CPR training, shall be no less than 43.5 hours.
- Training – Certified as successfully completing a course consisting of a total of not less than 48 hours in open water lifesaving which meets the curriculum requirements of the United States Lifesaving Association. This shall not include the minimum training hours required for first aid or CPR.

Full Time Open Water Lifeguard

A Full Time Open Water Lifeguard, also known as a Permanent Open Water Lifeguard, is a lifeguard appointed to a full time, year round position as a lifeguard at an open water beach, who has successfully completed a probationary period. A probationary full time open water lifeguard must, at a minimum, meet the minimum standards of a Seasonal Open Water Lifeguard during the probationary period.

Standards To Be Met and Maintained Include:

- Experience – Must have worked no less than 1,000 hours as an open water lifeguard at the beaches of the hiring agency.
- Age – A minimum of 18 years of age.
- Education – Must possess a high school diploma or equivalency certificate.
- Swimming Ability – Demonstrates an ability to swim 500 meters (550 yards) over a measured course in ten minutes or less. Demonstrates an ability to successfully perform an open water rescue. USLA requires that each applying agency have a written policy in place detailing its required swim test. The policy may, for example, be published in a policy manual or included in an official job announcement and must make clear that this is a standard that must be met and maintained by all lifeguards.
- Health & Fitness – Possesses adequate vision, hearing acuity, physical ability and stamina to perform the duties of an open water lifeguard as documented by a medical or osteopathic physician.
- First Aid and CPR Certification – Certified as a first responder in a first aid course, accepted by the Federal Government or by the state government in the state of employment, which is equivalent to Department of Transportation First Responder. Total formal first aid and CPR training, in the certified first aid course, shall be no less than 43.5 hours.
- Training – Certified as successfully completing a course consisting of a total of not less than 48 hours in open water lifesaving which meets the curriculum requirements of the United States Lifesaving Association. This shall not include the minimum training hours required for first aid and CPR.
- Scuba Training – Any lifeguard who will be required to utilize scuba in the course of employment must, at a minimum, be certified as a scuba diver at the basic level by a nationally recognized certifying agency.
- Strength & Stamina – Demonstrates an ability through a test of strength and stamina to perform the rigorous physical duties of an open water lifeguard.

Additional Standards for Advanced Agency Certification Include:

- First Aid and CPR Certification – Certified as an Emergency Medical Technician.

Recurring Training

Recurring training is essential to ensuring that personnel maintain adequate levels of knowledge and fitness to continue to perform lifesaving tasks. In addition to maintaining the minimum standards necessary for the position, employees should be provided drills and formal training to ensure high levels of performance.

Standards for Recurring Training:

- Daily Physical Training - Employees are provided daily opportunities, conditions permitting, for activities such as swimming, rescue board training and running.
- Annual Rescue Skills Training - Subsequent to initial training being provided, employees are provided a minimum of 16 hours per year in formal training.

Additional Standards for Recurring Training for Advanced Agency Certification:

- Regular Drills - Drills are conducted such as mock rescues and other emergencies at least once per month which allow each employee some degree of participation.

Minimum Equipment Standards

Rescue

- At least one rescue floatation device (RFD) for each lifeguard on duty.
- Mask(s) and snorkel(s) readily accessible to mount an underwater search and rescue, as appropriate.
- Binoculars readily accessible in the beach area, and in each main tower and emergency vehicle.
- Marker buoy(s) readily accessible for submerged victim search and rescue.
- Swim fins for rescue purposes readily accessible to lifeguards as appropriate according to local conditions.

Medical

- A first aid kit adequate to treat minor injuries at each staffed lifeguard post.
- A first aid kit adequate to treat both minor and major medical emergencies at each beach area.
- Equipment to protect against bloodborne pathogens consistent with OSHA requirements.
- Spinal stabilization equipment, including spineboard, head and neck immobilization devices, and fastening devices readily accessible at each beach area.
- Oxygen readily accessible at each staffed beach area, with all lifeguard personnel trained in its use.
- A cardiac defibrillator¹ (or defibrillators) readily accessible at each staffed beach area, with personnel trained in its use (highly recommended for all agencies, required to achieve advanced certification or advanced recertification after January 1, 2004).

Communications

- Equipment for lifeguards to communicate with the public at a distance (ex: whistles, megaphone(s), air horn(s), etc.)
- Equipment for lifeguard to lifeguard communication.
- Equipment for lifeguards to immediately activate local emergency medical services (EMS).

Personnel Needs

- Lifeguards are required to wear an easily identifiable uniform, denoting the wearer as a trained rescuer (ex: "Lifeguard," "Beach Patrol," "Marine Safety") and denoting the employing agency.
- Sunscreen for all lifeguard personnel.
- Reasonable equipment to protect lifeguards from sun exposure.

Record Keeping and Reporting

- A system for documenting lifeguard activities, consistent with USLA standards, with annual statistical data reported to the USLA statistics coordinator by March 1 of each year.

¹ Automatic external defibrillator (AED) or semi-automatic defibrillator

Resource Material

Required for All Students:

- **The Open Water Lifesaving – The United States Lifesaving Association Manual**, *United States Lifesaving Association, B. Chris Brewster - Editor, ISBN 0-536-73735-5*

Recommended:

- **Advanced Diving Technology and Techniques**, *National Association of Underwater Instructors, ISBN 0916974545*
- **Chapman Piloting and Seamanship**, *Elbert S. Maloney, ISBN 1588160890*
- **The DAN Emergency Handbook: A Guide to the Identification of and First Aid for Scuba (Air Diving Emergencies)**, *John Lippman, Stan Bugg, ISBN 0959030611*
- **Emergency Care and Transportation of the Sick and Injured**, *American Academy of Orthopaedic Surgeons, James D. Heckman - Editor, ISBN 0763732486*
- **Emergency Response**, *American Red Cross, 1997, ISBN 158480095X*
- **First Responder, National Standard Curriculum**, US Department of Transportation, National Highway Traffic Safety Administration, <http://www.nhtsa.dot.gov/people/injury/ems/nsc.htm>
- **The Incident Command System (NFA-ICS-SM)**, *National Emergency Training Center, FEMA*
- **Scuba Lifesaving and Accident Management**, *YMCA, Tom Leaird - Editor, ISBN 087322132X*
- **Swiftwater Rescue**, *Slim Ray, ISBN 0964958503*
- **Technical Rescue Program Development Manual**, *United States Fire Administration, Federal Emergency Management Agency*
- **Waves & Beaches**, *Willard Bascom, ISBN 0385148445*

Required Course Curriculum

Terms

Identify means provide a full explanation to students and take steps to validate their comprehension and retention.

Demonstrate means show students how to accomplish the skill and ensure that they can adequately demonstrate an ability perform it.

I. Basic Rescue

Knowledge Objectives

1. Identify the importance of a lifeguard maintaining a position of safety when effecting a rescue.
2. Identify the appropriate method of entry for various types of water conditions, including, if applicable to the agency's beaches:
 - a) Shallow water
 - b) Deep water
 - c) Unfamiliar water
 - d) Surf
3. Identify the characteristics of a proper approach to a victim.
4. Identify considerations when making contact with a victim.
5. Identify the appropriate victim approach for different rescue situations: front surface, rear surface or underwater.
6. Identify the value of an arm assist or cross chest carry for a given rescue situation.
7. Identify appropriate methods of lifting and removing a victim from the water.
8. Identify the priority of resuscitation over removal of a victim from the water.
9. Identify the general principles of defense, release, and escape from a panicked victim.
10. Identify the advantages and disadvantages of using swim fins during rescues.
11. Identify the advantages and disadvantages of reaching, wading, and throwing assists.
12. Identify the need to assess for spinal injury prior to effecting a rescue or moving a victim.
13. Identify the physiological response and behavioral sequences in victim recognition.

Skill Objectives

1. Demonstrate stride jump, shallow water dive, and porpoising.
2. Demonstrate the heads-up breast stroke, heads-up crawl stroke, and quick reverse.
3. Demonstrate the front surface approach, rear surface approach, submerged victim approach and level-off.
4. Demonstrate the arm assist and cross chest carry.
5. Demonstrate appropriate methods of lifting and removing a victim from the water.
6. Demonstrate releases and escapes from a panicked victim or victims.
7. Demonstrate the donning and use of swim fins in rescue if swim fins are used by the agency.
8. Demonstrate donning and clearing of mask and snorkel, and surface dive to recover a minimum 150 pound victim from a depth of at least ten feet of water.

9. Demonstrate proper spinal injury management during a rescue.

II. Professional Lifeguarding

Knowledge Objectives

1. Identify the primary and secondary functions of a lifeguard.
2. Identify the need for policies and standard procedures.
3. Explain the role of public relations in lifeguarding.
4. Identify proper methods of communicating with the public.
5. Identify functions of tower systems, particularly those used by the employing agency.
6. Identify the uses of mobile vehicle support if used by the agency.
7. Identify the uses of both power and non-power vessel support.
8. Identify the correct way to interface with other local safety agencies including ambulance services, police, and rescue personnel. Identify the emergency plan to summon and utilize these agencies when needed.
9. Identify the importance of equipment maintenance.
10. Identify factors which increase the risk of legal action.
11. Identify the purpose of uniforms.
12. Identify the importance of in-service training.
13. Identify the need for skin and eye protection from environmental exposure.
14. Identify the risks of personal injury to lifeguards posed by trauma and biohazards, particularly during training and rescue responses.
15. Identify methods of promoting personal safety through stretching exercises, use of wetsuits and other protective gear, and the use of rescue equipment and victims as buffers from sources of injury.
16. Identify the need for and methods to access back-up in emergencies.

III. Environmental Conditions

Knowledge Objectives

1. Identify the various types of waves and the forces effecting their formation if the agency serves a beach with wave action.
2. Identify the characteristics and means of recognizing the types of currents experienced in the waters served by the agency.
3. If rip currents are present at beaches served by the agency, identify each of the various types of rip currents.
4. Identify the hazards associated with the following which are present at beaches served by the agency:
 - a) Rip currents
 - b) Longshore currents
 - c) Tidal currents
 - d) River currents
 - e) Inshore holes
 - f) Rocks
 - g) Reefs

- h) Lightning
- i) Offshore winds
- j) Bottom contours and composition
- k) Jetties and piers

IV. Communications

Knowledge Objectives

1. Identify the basic functions of a communications system.
2. Identify the usefulness and limitations of the following means of communication:
 - a) Personal contact
 - b) Whistle
 - c) Flags
 - d) Telephones and intercoms
 - e) Two-way radio
 - f) Public address systems
 - g) Megaphones
 - h) Hand signals
 - i) Signs
3. Identify the following arm signals from a lifeguard in the water:
 - a) Assistance required
 - b) Resuscitation required
 - c) Missing swimmer (Code X)
4. Identify the following arm signals from a lifeguard on shore:
 - a) Return to the beach
 - b) Go farther out
 - c) Go left
 - d) Go right
 - e) Stay there (or search there)
5. Identify the "No Swimming" flag and the diver flag.
6. Identify the following signs when used by the employing agency:
 - a) Swimming permitted
 - b) Swimming prohibited
 - c) Surfing permitted
 - d) Surfing prohibited
7. Identify appropriate telephone procedures.
8. Identify appropriate radio procedures if two-way radios are used by the agency:
 - a) Internal radio procedures
 - b) Radio procedures with other agencies

Skill Objectives

1. Demonstrate all methods of inter-lifeguard communication used by the agency including:
 - a) Hand/arm signals
 - b) Whistle systems
 - c) Two-way radios
 - d) Telephones
2. Demonstrate all methods of lifeguard to swimmer communications used by the agency including:
 - a) Personal contact
 - b) Whistle
 - c) Public address systems

- d) Megaphones
- e) Signs

V. Records and Reporting

Knowledge Objectives

1. Identify the need for precision in keeping written records.
2. Identify important details which should be included in an accident report.
3. Identify the importance of incident and activity reports as legal documents.
4. Identify the need for keeping accurate statistics on agency activities.

VI. Preventive Lifeguarding

Knowledge Objectives

1. Identify ways to recognize potential victims and proper water scanning techniques.
2. Identify hazards, such as the following, which are experienced at the locale of the employing agency:
 - a) Calm and rough water
 - b) Warm and cold water
 - c) Jetties
 - d) Piers
 - e) Storm drains
 - f) Rocks
 - g) Reefs
 - h) Creeks or streams
 - i) Rip currents and other water currents
 - j) Water animals, particularly those which can cause harm
 - k) Surf
3. Identify indications and signals of distress from:
 - a) Power boats
 - b) Sail boats
 - c) Divers
 - d) Surfers, including boardsailors
4. Identify the value of an offshore platform in management of a swimming crowd and identification of victims in distress.

VII. Rescue Techniques and Procedures

Knowledge Objectives

1. Identify the usefulness and limitations of the rescue tube and rescue can in the following situations:
 - a) Unconscious victim
 - b) Multiple victim rescue
 - c) Defense against a panicked victim
 - d) Rescue breathing in the water
2. Identify the usefulness and limitations of the rescue paddleboard in the following situations:
 - a) Long distance rescue
 - b) Multiple victim rescue
 - c) Rough water or high surf rescue
 - d) Artificial respiration on a rescue board
 - e) CPR on a rescue board

3. Identify the usefulness and limitations of the landline, if used by the employing agency, in the following situations:
 - a) Rescue of a single victim
 - b) Rescue of multiple victims
 - c) Special situations
4. Identify considerations when utilizing a helicopter for a rescue.
5. Identify considerations when assisting a disabled vessel and the passengers thereof.
6. Identify considerations of the following rescue situations where they may develop on beaches served by the employing agency:
 - a) Rescue from a pier
 - b) Rescue from rock areas
 - c) Rescue of a scuba diver
 - d) Rescue of victims in a rip current
 - e) Rescue of victims in various surf conditions
7. Identify the benefits, limitations and proper methods of using powered and non-powered vessels for the following tasks:
 - a) Preventive lifeguarding
 - b) Calm water rescue
 - c) Rough water rescue
 - d) Multiple victim rescue
 - e) Victim transport
 - f) Victim resuscitation and CPR

Skill Objectives

1. Demonstrate the use of the rescue tube or rescue can for the following situations:
 - a) Conscious victim
 - b) Unconscious victim
 - c) Panicked victim
 - d) Artificial respiration in the water
 - e) Multiple victims
2. Demonstrate the use of the rescue paddleboard in the following situations:
 - a) Conscious victim
 - b) Unconscious victim
 - c) Artificial respiration on a rescue board
 - d) Multiple victims

VIII. First Aid in the Aquatic Environment

Knowledge Objectives

1. Identify conditions which warrant suspicion of head, neck, and back injuries.
2. Identify methods of handling head, neck, and back injuries.
3. Identify the symptoms and treatments for the following injuries or medical problems:
 - a) Injuries caused by dangerous water animals and organisms in the locale of the agency
 - b) Drugs/alcohol
 - c) Heat cramps, heat exhaustion and heat stroke
 - d) Sunburn
 - e) Hypothermia
 - f) Near drowning (water aspiration)

Skill Objective

1. Demonstrate methods for safely extricating a person with head, neck or back injuries from distress.

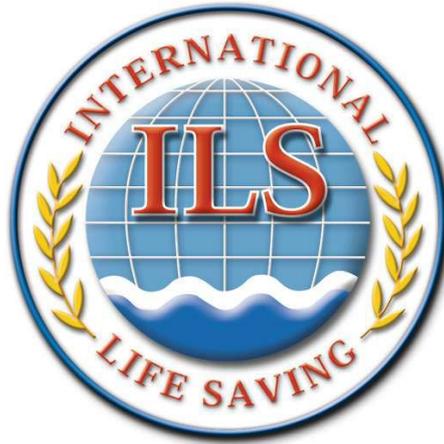
IX. Search and Recovery**Knowledge Objectives**

1. Identify methods for establishing landmarks in searches for submerged victims.
2. Identify the usefulness and limitations of the line sweep and circular sweep search patterns.
3. Identify the usefulness and limitations of the use of mask, fins, and snorkel in search and rescue operations.
4. Identify the usefulness and limitations of scuba in search and rescue operations.
5. Identify considerations in body recovery.
6. Identify line and shore signals for search and recovery.
7. Identify the use of range marks in fixing the "last known point" of the victim prior to submersion.

Skill Objectives

1. Demonstrate a line sweep and circular sweep search.
2. Demonstrate the use of range marks.

International Life Saving Federation



International Standards

for

Beach Safety and Information Flags

Approved by the Board of Directors 20 February 2004

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1. Overview

- 1.1. Flags are traditional devices for providing information to beach and water users which, if properly utilised, can be an effective element of a comprehensive safety system. Flags should only be used for waters normally designated for aquatic activity
- 1.2. These international standards have been developed by the International Life Saving Federation (ILS) by adopting and adapting the ‘best practise’ exercised by member federations from throughout the world.
- 1.3. International standardisation of beach safety flags can be expected to greatly improve understanding of water users with respect to beach conditions and rules, particularly when visiting countries other than their own. It will reduce language barriers. This standardisation can therefore be expected to reduce the likelihood of death and injury, furthering the primary goal of ILS: *world water safety* ©.
- 1.4. Development of these standards has involved acknowledgement and acceptance of the most widely used flag systems. This has resulted in a standard likely to cause the least possible disruption to existing systems and to ease the process of international standardisation.
- 1.5. Flags may help reduce the incidence of injury and drowning, but cannot assist those in distress. Therefore, these flags are only to be used on beaches where lifesavers qualified to ILS standards are on duty. Flags are not an acceptable substitute for properly trained and equipped rescuers, but rather a tool for their use.
- 1.6. Use of the flags described in these standards is encouraged, but not required of ILS member federations or their affiliated organisations. An organisation may choose to fly none, some, or all of the flags described here. All beach safety organisations worldwide are strongly discouraged from flying flags that conflict with these standards, as this could lead to public confusion and offset the value of international standardisation.

2. Scope – The primary purpose of the safety flags included in these standards is to provide safety information and related messages to users of aquatic facilities and environs. These standards set out the range of flags that might be used to identify conditions for wind, weather, water, and for a beach, and to identify designated zones for various aquatic activities. These standards include the possible locations for the flags at a coastline and for inland waters.

3. Terms and definitions

- 3.1. *risk* – combination of the probability of occurrence of harm and the severity of that harm
- 3.2. *hazard* – potential source of harm
- 3.3. *danger* – signal word used to indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury

- 3.4. *caution* – signal word used to indicate a potentially hazardous situation which, if not avoided, may result in minor or moderate injury
- 3.5. *safety colour* – specific colour to which a safety meaning is attributed
- 3.6. *colour code* – colours used to communicate a particular meaning
- 3.7. *safety symbol* – graphical symbol used together with a safety colour and safety shape to form a safety sign
- 3.8. *graphical symbol* – visually perceptible figure with a particular meaning to transmit information independently of language
- 3.9. *visibility* – relative possibility of being visually perceived under the conditions of distance, light and atmosphere prevailing at a particular time
- 3.10. *observation distance* – greatest distance from which a flag is legible and conspicuous
- 3.11. *high location* – installation position at a level not less than 2 metres above ground level
- 3.12. *ageing* – change of properties that occurs in materials with time after environmental conditioning
- 3.13. *beach safety flags* – an item of coloured fabric or synthetic material, of an oblong or square shape, attached by one edge to a pole or rope and used to give a safety message
4. Procedures for standards development – Before the creation of a new beach safety flag is considered by ILS the following procedure shall be carried out:
 - 4.1. A written proposal providing detailed rationale is made to the International Life Saving Federation Rescue and Education Commission by any interested party.
 - 4.2. A review of the proposal is conducted by the Rescue and Education Commission.
 - 4.3. The Rescue and Education Commission shall approve, disapprove, or modify the proposal.
 - 4.4. Any modification to these standards shall first be circulated for comment to all ILS member federations providing at least 180 days for comment.
 - 4.5. The Rescue and Education Commission shall review all comment received and take action it deems appropriate.
 - 4.6. To become effective, any substantive modification to the standards must first be approved by the ILS Board of Directors.

5. Types of beach safety flags

- 5.1. Yellow – Medium hazard. Moderate surf and/or currents are present. Weak swimmers are discouraged from entering the water. For others, enhanced care and caution should be exercised.
- 5.2. Red – High hazard. Rough conditions such as strong surf and/or currents are present. All swimmers are discouraged from entering the water. Those entering the water should take great care.
- 5.3. Double red – Water is closed to public use.
- 5.4. Purple – Marine pests, such as jellyfish, stingrays, sea snakes or other marine life which can cause minor injuries are present in the water. This flag is not intended to indicate the presence of sharks. In this latter case the red flag or double red flag may be hoisted.
- 5.5. Red/yellow (halved red over yellow) – The area is protected by lifeguards. These flags may be used in pairs spaced apart to indicate a designated area or zone along a beach or waterfront that is most closely supervised or patrolled by qualified lifeguards, and where swimming and/or body surfing is permitted. These flags may be used singly to indicate that swimming is permitted in front of the area where the flag is flown and that the area is under the supervision of a qualified person
- 5.6. Quartered (black/white) – These flags may be used in pairs spaced apart to indicate a designated area or zone along a beach or waterfront that is used by those with surfboards and other non-powered watercraft.
- 5.7. Yellow flag with central black ball – Surfboards and other non-powered watercraft are prohibited.
- 5.8. Orange windsock – This cone shaped device is used to indicate the direction of offshore winds and to show that it is unsafe for inflatable objects to be used in the water.

6. Supplementary text information

- 6.1. To ensure water users and members of the public are aware of the meaning of flags, beach users should be informed through signs, brochures, or similar means. The text may be fixed to the flagpole, or indicated on an information board or facility at the entrance to an aquatic location.
- 6.2. The text should be as brief as possible and give the prime meaning of the flag when hoisted.
- 6.3. Consideration should be given to the erection of information boards/notices, particularly at the entry points to aquatic locations. The information contained should include detail of the meaning of flags, locations and times of operation. This information may also be included in 'tourist' leaflets and publicity material.

7. Guidance for the operation of beach safety flags

- 7.1. Flags should only be selected and utilised by the persons defined in section 1.5 based on their knowledge and expertise
- 7.2. The flags should be attached by any reasonable means to poles, and erected so that the lowest point of the flag is not less than 2 metres above the immediate ground level. They should be positioned so that they can be readily seen by persons in or approaching the aquatic area or location. Flags should not be obstructed by other structures or by natural flora and fauna.
- 7.3. Except for the double red flag, yellow, and red flags shall not be flown at the same time. They are intended to indicate general conditions for the entire beach area, not for a particular area of beach.
- 7.4. As circumstances change, flags should be changed accordingly.
- 7.5. Flags used to zone a section of beach or water activity should be moved to suitable locations as changing conditions dictate.
- 7.6. Flags flown to provide information and/or instruction about such factors as prohibition of watercraft, offshore winds, or to identify an activity boundary should be removed when not required.
- 7.7. Because of the need to be present to monitor the conditions, and possibly to change flags, these systems should only operate during a prescribed and well publicised period each day. The presence of these systems may also relate to seasonal activity.
- 7.8. It is important that flags and particularly flagpoles should not become a hazard. Therefore the responsible location for placing flags should receive careful consideration at any planning stage.
- 7.9. Flags and flagpoles should be properly maintained. Flags have a limited lifespan, particularly in adverse weather conditions. Flags should be replaced once they become torn or faded.

8. Design specifications – All flags are 750mm by 1000 mm and may be made of polyester or other suitable material.

Flag	Meaning	Pantone (PMS)	Shape
Yellow	Medium hazard	PMS – 123	Rectangle
Red	High hazard	PMS – 186	Rectangle
Red over red	Water closed to public use	PMS – 186	Rectangles
Purple	Marine pests present	PMS – 266	Rectangle
Red over yellow	Recommended swimming area with lifeguard supervision	PMS – 186 PMS – 123	Rectangle with equal, parallel halves.
Quartered	Watercraft area	PMS – 6 (black)	Rectangular flag with four equal rectangular quarters. Black upper left and lower right. White upper right and lower left.
Black ball	Watercraft use prohibited (e.g. no surfboards)	PMS – 123 (yellow) PMS- (black)	Rectangular yellow flag with central black ball shape, 500mm dia.
Orange windsock	Offshore winds present, inflatables should not be used	PMS – 165	Cone shape 500mm at the hoist-tapering to 300mm x 1500mm long

Lifeguard Skin Cancer Protection

An Approach to Protecting Health and Promoting Image

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International Life Saving Federation Medical/Rescue Conference Proceedings
September 1997

Introduction

The problem of skin cancer is insidious. As a result of high levels of sun exposure, many lifeguards have sustained this disease, even at a young age. Throughout the world however, lifeguards can be seen working under the sun with little protection, wearing a minimum of clothing, even during the most severe hours of the mid-day sun.

Lifesaving is a hazardous profession. Orthopedic injuries abound, trauma injuries can occur due to wave action and other factors, and, occasionally, death can result. For this reason, in Southern California, many professional lifeguards are classified as having *high risk* jobs and are given enhanced injury and retirement benefits in recognition of that risk. The high risk designation was not conferred with skin cancer in mind, but beginning several years ago, skin cancer emerged as a significant injury source.

In the early 1980's, the San Diego Lifeguard Service realized that it had a problem. Lifeguards were contracting skin cancer at a seemingly accelerating rate, some forced to retire early. Experienced lifeguards seemed most susceptible. They had been guarding the beaches long before sunblock became commonly available and fully recognized as a valuable protectant; but even younger lifeguards were developing this disease. In fact, from 1984 to 1989, 25 San Diego lifeguards sought treatment or medical evaluation for suspected skin cancer.

In some cases, the cancer was treated and resolved, with doctors determining that the lifeguards could continue to work, using proper precautions. In other cases, the cancer was treated, but doctors determined that the lifeguards could no longer return to their customary and usual assignments. They were disabled and forced to retire – some while only in their 30's.

In either case, the results were costly, both to the physical well-being of the lifeguards and the financial well-being of their employer. California maintains employment laws that require both treatment of injured workers and certain payments to workers when they are permanently injured on the job. When they are forced to retire early, there is an additional cost borne by the employee retirement system. In the case of retirements, the

employer must hire new, less experienced personnel to take the place of those departing, and incur the costs of training. Such was the case for City of San Diego.

Lifeguards and Sun Exposure

Part of problem of lifeguard skin cancer rates is founded in the very culture of lifeguarding. Persons drawn to lifeguarding are typically highly physically fit and desirous of displaying their physical fitness. Those with light skin coloring typically consider a deep, dark tan to be an essential part of their self-image and personal appearance. Meanwhile, they are sustaining accelerated damage to their skin and apparently greatly enhancing the likelihood of becoming skin cancer victims.

The fact that lifesaving disproportionately attracts the youthful only compounds the problem. Youths rarely worry about problems they might experience later in life. They are known to be higher risk takers than the general populace and they are particularly concerned with personal physical attractiveness.

To address these issues, prudent lifeguard employers need to take strong steps to ensure that their employees are adequately protected. Lifeguard employers commonly distribute sunblock to their personnel and some require its application. Lifeguard station designs should take sun protection into account, not only to reduce skin cancer problems, but also to counter the accelerated fatigue which results from over-exposure to the elements, sapping attentiveness and physical readiness. Unfortunately, the San Diego Lifeguard Service found that these steps were not enough. In consulting experts, we learned that the only true protection came from covering up the body, particularly areas of the body that are frequent skin cancer sites.

The Professional Image

Skin cancer aside, lifesaving has an image problem. Too often, lifesavers are inadequately recognized for the essential role they play. Although lifeguards probably have a greater impact on the saving of human life than any other public safety providers, they are sometimes seen as having a less important role than, for example, police or firefighters. This, in turn, has a deleterious impact on lifeguard budgets, equipment, and public recognition, all of which are inextricably intertwined.

There are many reasons for this, including the fact that lifesaving is often, literally, a day at the beach, which most people identify with recreation and relaxation. Some are jealous of the person who is able to work daily where most can only vacation occasionally. Thus lifesavers are sometimes seen as having a role that is more of a vacation itself than a serious public safety job. This is far from the truth, but it is a part of the image lifesavers must continually work to shed if they are to attract the funding and support necessary to ensure that they can adequately do their job.

There are many ways to improve image. One of the most obvious is through uniforms. Police and firefighters are almost always attired in official and readily identifiable uniforms which are clean and authoritative. They imply professionalism, whether the individual employees deserve that image or not. To the general public, these are people who, if necessary, have committed to risk their lives for the lives of others and their uniform tells this story.

Contrast this image with that of a lifeguard, perhaps slouching in an elevated chair for all to see, with only a pair of trunks on, relaxed and seemingly "catching rays." Perhaps then one can understand a primary reason that fire and police agencies are typically better funded, equipped, and paid than lifesaving agencies. For all three, professional image is essential to ensuring public support, but in many places, lifesavers are losing the public relations battle over professional image.

Lifeguards too, wear uniforms, but often the uniform is just a pair of trunks with a small patch, and perhaps a T-shirt occasionally worn. To a degree, dressing light is necessary. Lifeguards must be ready at a moment's notice to enter the water and make a rescue. They also need to keep cool. Improvements are possible however, which do not impede a lifeguard's response.

Perhaps more important than image is the need for the beachgoer and other lifeguards to readily identify the lifeguard in a crowd or at an emergency scene. It is essential that the lost child, the distraught parent, the arriving ambulance crew, the patrolling police officer can quickly and easily find the lifeguard, but this is often a difficult task. Perhaps the lifeguards' swimsuits are of consistent color, but rarely are they of a color or design unavailable to the general public. A small patch on the suit may be the only distinction. How often is the lifeguard at an emergency scene brushed aside by other emergency workers, partly perhaps by negative stereotyping, but partly due to lack of a professional image as compared to other emergency services workers?

Uniforms are also important for proper attribution and visibility when the news media visits a rescue scene or other event. Many years ago, firefighters took to placing their names and that of their agencies on the upper back of their uniforms, probably to help identify each other while assaulting a house fire or similar calamity. Today however, one of the most photographed images in local and national news stories is the backs of firefighters prosecuting a fire or rescue, with their agency's name widely credited. On their chests too, and their helmets, their agency's name is available for all to see. And those who are inspired by the heroism of emergency workers are moved to support them all the more as a result.

In San Diego, we found that too often, news accounts of beach emergencies identified all of the emergency workers except the lifeguards. Less experienced reporters would identify a lifeguard rescue boat as belonging to the police or fire department. They might assume that a cliff rescue could not have been performed by lifeguards, so they reported that firefighters had accomplished the rescue, even if none were there. This led

to great frustration on the part of lifeguards whose deeds were not recognized or, seemingly, even appreciated.

Protecting Health and Image

In the early 1980's, the San Diego Lifeguard Service decided to address both of these issues in an effort to protect it's personnel and burnish its professional image. In 1984, it adopted a standardized uniform policy including everything from wetsuits to T-shirts and the dress uniforms worn by its personnel on formal occasions. A standard logo for the shirts was chosen, which is also an educational depiction of a person in distress in the water, waving for assistance. The backs of all uniforms state **LIFEGUARD** in bold letters, and **SAN DIEGO**. The front of beach uniforms of full time employees includes a silk-screened badge, as well as the employee's name. For seasonal employees, the front of the shirt includes a smaller version of the logo on the back. The colors of the shirts too, are consistent. This logo arrangement is also used on uniform sweatshirts, jackets, wetsuits, and personal floatation devices.



For trunks, tanksuits, and dress uniforms, the San Diego Lifeguard Service retained the traditional patch. It is worn on the lower left thigh of trunks or lower left abdomen of tanksuits. It is also worn on both shoulders of Class A (dress) uniforms, which include a metal badge and nametag. The patch, which is red, white and blue, appears at left.

The policy regarding the wearing of uniforms and sunblock, both for personal protection and professional image, is perhaps the most strict of any lifeguard service. It includes:

- Uniform shirts of a consistent color *must be worn at all times* unless actively involved in a water rescue.
- All upper body uniform items, including wetsuits, personal floatation devices, etc. must be emblazoned back and front with standard, identifying logos.
- Hats must be worn whenever the lifeguard will be exposed to the sun for more than 15 minutes.
- Sunscreen must be applied regularly to all exposed areas.

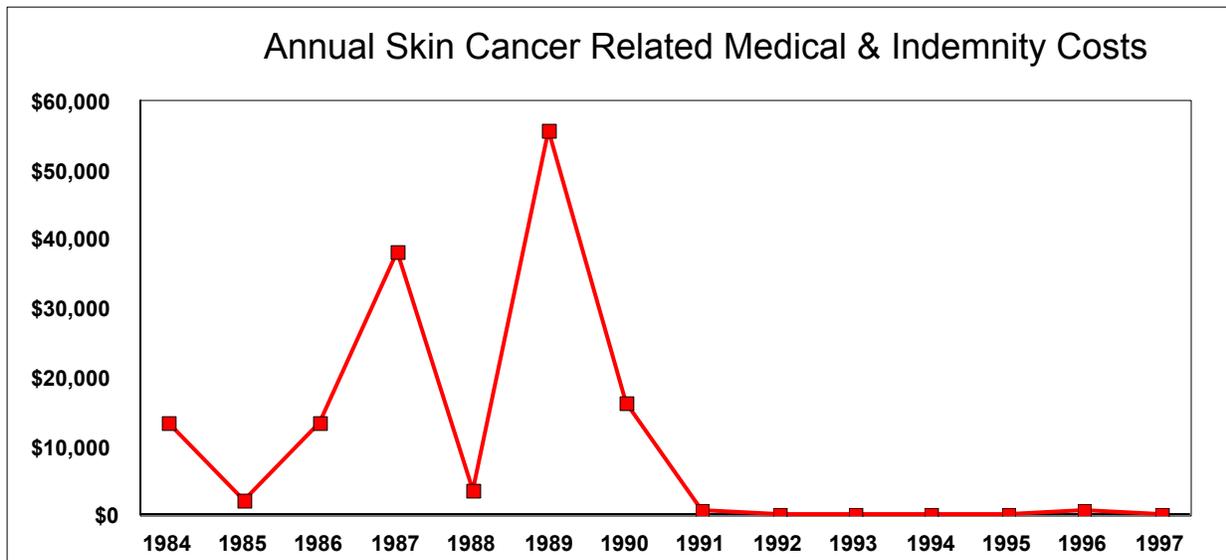
These requirements ensure that the upper bodies of lifeguards, excluding the necks and lower arms, are protected from the sun at all times, greatly reducing sun exposure of areas of the body heavily susceptible to skin cancer. They also ensure that San Diego

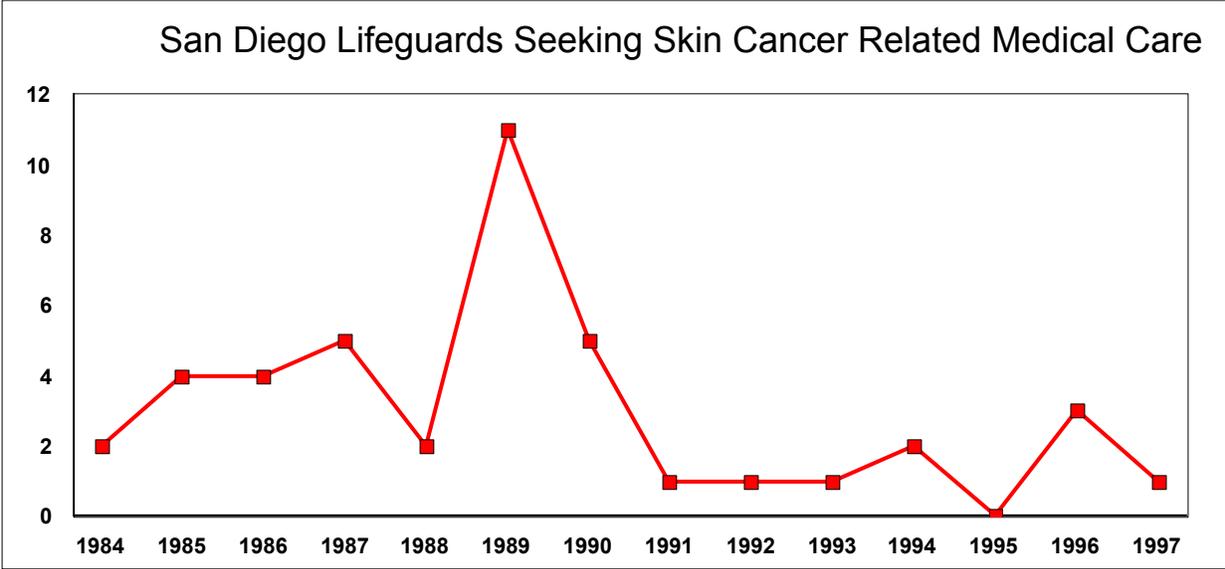
lifeguards are immediately identifiable to the public they serve, fellow safety providers, and to persons watching news media accounts.

Initially there was great resistance to the policy. Lifeguards rejected the shirts and strong supervision was required to keep the policy in force. Today, discipline is still occasionally meted out to lifeguards who decide that tanning is more important than personal protection, public identification, and professional image; but this is the exception.

Outcome

Has San Diego's initiative accomplished its twin goals? In regard to skin cancer, it appears that there has been a significant reduction, both in severity and frequency. Obviously this has also come during a time of heightened awareness of skin cancer and the need for sunblock, and skin cancer can take many years to develop, so the full effect of this policy may take decades to fully evaluate. No one however, would dispute the fact that covering up is the most effective way to protect against the ravages of the sun. The following charts give some specific data on our history of skin cancer problems:





As for the benefits of professional image, San Diego lifeguards have progressed tremendously over the past several years. Since implementation of the uniform policy, San Diego lifeguards have developed a much stronger strong public image within and outside their community. One reason is that San Diegans watching the local news regularly see the word "lifeguard" in local news accounts of beach area emergencies, be they cliff rescues, water rescues, boat fires, river rescues, etc. Even if the reporter gets the story wrong, the video identifies the rescuers. National news accounts of major disasters in

our area, such as flooding, as well as reenactment shows, have also shown San Diego lifeguards involved in rescue work. Each time, we believe that it gives the public a sense that their tax dollars are well spent on lifeguards.

Once a district within a division of the Park and Recreation Department, the San Diego Lifeguard Service was made a full division in 1988, then combined with the Fire Department to form a new organization called Fire and Life Safety Services in 1995. On July 30, 1997, a City Council committee discussed a proposal to make the San Diego Lifeguard Service an independent department.

Since 1985, the annual budget of the San Diego Lifeguard Service has grown significantly, from \$2.7 million to \$6.5 million. The number of budgeted full time equivalent positions in the Lifeguard Service has increased from 72 to 107 during that same period. Recently, the City Council voted to increase the annual budget of the Lifeguard Service by \$300,000, which translates to five additional full time lifeguard positions.

Certainly all of these improvements cannot be singularly attributed to uniforms and the professional image they bring. Professionalism, after all, goes well beyond image, but ensuring that the public we serve knows who made the rescue is very important. There is little doubt that the palpable change in public support for the San Diego Lifeguard Service and the various enhancements in pay, budget, and positions are owed to a large part to the improved image presented by the uniforms worn by its employees. Certainly each of them is better protected and better respected since this policy was implemented.