

Aquatic Management Assessment Tool (AMAT)

The following checklist is designed to help operators of aquatic venues review current practices and compare with the following list. The intent is to reduce the risk and liability of an aquatic venue by preparing a comprehensive plan to be ready to prevent, control and/or response in the case of an emergency.

Operational Structure:

1. The Aquatic Venue and surrounding area
2. The staff and chain of command
3. The programming of the Venue
4. The water treatment component
5. The safety and emergency plans
6. The aquatic equipment
7. Hiring, requirements and training procedures of staff
8. Community Involvement

Item Index Key

Must Have

Should Have

Could Have

1. The Aquatic Venue and surrounding area have or should have the following:

- Adequate barriers to prevent unauthorized entrance.
- Proper lightning for deck, water and parking areas if the venue is open during night hours or is indoors in accordance with the Health Authority.
- Backup emergency lighting systems for indoor pools and used for night operational.
- Pre-Opening Inspection checklists that are used and maintained.

Checklists account for the following:

- Deck area
 - Safety Equipment including structures
 - Special Use Structures
 - Working communication equipment
 - Locker rooms and sanitary facilities
 - Ladders, hand rails, ramps, steps, lifts, starting blocks and other entrance areas to the water
 - Current Environmental conditions and forecast
 - All warning and information signage
 - Venue specific items

- **Water area**
 - **Water chemistry is within approved parameters**
 - **Water clarity and temperature is within approved parameters**
 - **Floating or submerged hazards**
 - **All submerged suction covers (drains, returns, etc)**
 - **All lifelines and depth indicators in place**
 - **All personnel properly positioned before patron use**

- **Closing checklists that are used and maintained.**
 - Checklist account for the following:**
 - **Check of all areas for patrons**
 - **Cleaning and sanitization of venue**
 - **All safety equipment returned and stored properly**
 - **Safety Equipment including structures**
 - **Special Use Structures**
 - **Working communication equipment**
 - **Review of any special concerns from patrons, lifeguards or management that need attention before next opening**
 - **Complete and review all incident and accident reports**
 - **Make sure all reports are witnessed, signed according and follow up is scheduled to take place.**
 - **Record all reported rescues**
 - **Security system activated.**
 - **Inspections of all possible entry points are working properly and secured.**
 - **Venue specific items**

- **Proper communications for lifeguard to lifeguard, lifeguard to patron, lifeguard to management and venue to the local emergency management system (EMS).**
- **Identify and obtain agreements, as necessary, with external emergency response resources, such as local fire, police, emergency medical services, local public health, Red Cross, emergency management and local businesses that will provide assistance during an emergency.**
- **Required lifelines and/or safety lines are properly placed and secure.**
- **Clear and appropriate markings separate “shallow” and “deep” water depth**
- **Warning markings placed indicating “NO DIVING – SHALLOW WATER” at proper locations and in accordance with the Health Authority.**
- **Warnings for patrons of dangers for extended underwater breath holding and hyperventilation.**
- **Requirements, procedures and/or policies for non-swimmers.**
- **Age limit, size, and/or ability limits for parts of the venue.**
- **Restrictions by age, size and/or ability limits for unaccompanied minors.**

- Required signage by code and any additional signage as needed due to the nature of the Venue.
- Properly marked emergency exits that are functioning properly.
- First Aid station properly equipped, supplied and easily identifiable to patrons.
- Chemicals safely stored in a manner to meet and exceed all codes that may apply.
- Ventilation system maintains a safe and healthy environment for all areas of the venue.
- Make contact with venue responding emergency management system (EMS) to review protocols.
- Display the operation permit from the Health Authority or whatever is required.
- Proper deck clearance around the water areas of the venue free of trip hazards.
- No overhead hazards such as power-lines, damaged or deteriorated ceiling or roof.
- Meet all current requirements for the Americans with Disabilities Act (ADA).
- In compliance with all current requirements of the Virginia Graeme Baker Pool and Spa Safety Act.
- Have a risk management plan for indentifying, evaluating and implementing procedures for managing risks.
- Procedures for communicating with employees, families, patrons, emergency response organizations, media representatives and other stakeholders prior to, during and after an emergency.
- Designated "Safe Place" for employees, patrons and others.
- Official meeting place in case of an evacuation.
- A copy of the aquatic venue business continuity plan.
- Have designated area for lost and found items.
- Other Venue specific items
- After hour's security is provided.
- Contact information regarding the local American Red Cross Chapter and their aquatic specialist
- A bather load or venue load policy and are limits posted.
- A copy of the Health Authority codes that govern the aquatic venue.
- A blank copy of Health Authority inspection form.
- Filed copies of past Health Authority inspection forms.
- Use of universal signage and multilingual signs to warn of potential dangers.
- Any requirements, procedures and/or policies for patrons to wear lifejackets.
- All contact information for emergencies by type, their location and how they can help.
- The parking area has some type of surveillance.

2. The Aquatic Venue has or will have the following related to the staff and chain of command:

- An established and written chain of command structure.
- A viewable emergency and contact phone list including a staff directory.
- Written job descriptions, requirements, expectations and duties for all of the positions.
- Policies regarding hiring and termination.

- Grievance procedures.
- Procedures for reporting any type sexual or racial harassment, concerns for the safety of the employee or others.
- A signed and dated employment contract for each employee.
 - Amount the wage
 - Employee expectations and responsibilities
 - Employer expectations and responsibilities
 - Length of employment
 - Outside employment expectations
 - Confidentiality agreement
- Legal responsibly of the employee.
- Insurance coverage for employees.
- Any background checks for criminal behavior or drug use including random or scheduled drug testing.
- Any policies and procedures related to an employee that maybe impaired or unable to properly perform their duties.
- Policies and procedures regarding employee illness or unable to work.
- Policies and procedures for any inappropriate activities or actions.
- Information regarding when and how the employee will be paid.
- Required orientation training for all job positions at the aquatic venue.
- Positions of employment that are required to be in or near the water is checked for water competency.
- Employer provided equipment and personal equipment required by the employee to perform their duties.
- Employer plan and procedures for employee “Sun Safety” protection (when appropriate)
- A manual for each employee covering the items above.
- Other Venue specific items

3. The Aquatic Venue programming contains or will contain the following courses:

- American Red Cross Parent Orientation to Swim Lessons
- American Red Cross Parent and Child Aquatics
- American Red Cross Preschool Aquatics
- American Red Cross Learn to Swim Program
- American Red Cross Junior Lifeguard
- American Red Cross Basic Water Safety
- American Red Cross Lifeguard Training
- American Red Cross Water Safety Instructor
- American Red Cross Lifeguard Management Training
- American Red Cross Bloodborne Pathogens Training
- American Red Cross First aid and CPR
- Hazardous Material Training

- **Recreational Water Illness Prevention Training**

3a. The Aquatic Venue programming could contain or will contain the following courses:

- *American Red Cross Shallow Water Lifeguard*
- *American Red Cross Waterfront Lifeguarding*
- *American Red Cross Waterpark Lifeguarding*
- *American Red Cross Lifeguarding and Lifeguard Instructor*
- *American Red Cross Safety Training for Swim Coaches*
- *Competitive swimming and diving (USA Swimming)*
- *American Red Cross or US Power Squadron water craft safety*
- *Skin and scuba diving(approved)*
- *Water Fitness Certification and training(AEA and others)*
- *Springboard and platform diving (US Diving)*
- *Pool Operator Training*
- *Synchronized swimming*
- *Underwater hockey*
- *Water polo*
- *Triathlon training*
- *Other aquatic fitness, sport and recreational activities appropriate for the venue.*
- *Other Venue specific items*

4. The Aquatic Venue's water treatment component has or should have the following:

- **All equipment installation and operation is approved by the Health Authority.**
- **Required Material Safety Data Sheets (MSDS) properly displayed.**
- **Handling of Hazardous Materials training and materials completed.**
- **All chemical handling, storage and use are done in accordance with all Health Authority, local, state and federal guidelines and requirements.**
- **Proper water testing equipment.**
- **Testing reagents replacement plan and proper disposal of expired reagents.**
- **Pipes and valves properly marked.**
- **Emergency shutoff(s) if required by Health Authority.**
- **Chemical shower and eye wash if required by Health Authority..**
- **Properly sized filtration and recirculation equipment.**
- **Training program for staff assigned to work in this area.**
- **Emergency communication system in mechanical room.**
- **Proper lighting and ventilation in mechanical and chemical areas.**
- **Secure entrance to mechanical and chemical areas.**
- **Accurate flow meter(s) and Influent and effluent pressure gauges.**

- Proper flow and turnover rates in accordance with Health Authority requirements.
- Maintain required water test log and other required procedures by the Health Authority.
- Maintain a safe and comfortable air and water temperature.
- Procedures for water testing and recording the information.
- Recirculation and filtration system capable of maintaining and achieving all Health Authority regulated concentrations of physical, chemical, and microbiological contaminants in the pool water, on pool system surfaces, and in the air above the water.
- Recirculation and the filtration system components be installed and operated in accordance with the designer's and manufacturer's instructions.
- Submerged suction outlets, including sumps and covers conform to the requirements of ASME/ANSI A112.19.8.
- Make up water is potable.
- Communications pathway and procedure for unacceptable water test results.
- Emergency backup lighting and or emergency backup power.
- All equipment is inventoried and recorded by type, purchased from and date, model and serial number, maintenance schedule, phone contact for manufacturer and repair service.
- Written plans for cleaning filters, draining and filling venue, valve numbering, open and closing for the season procedures, what if this breaks procedure, chemical spill, power loss, fire and other potential damages.
- Written plans for vacuuming and cleaning the water areas of the venue. Written plans for cleaning deck, concession, locker room, first aid station and other areas of the venue
- The venue has been checked as to determine if there are any areas of water that does not have proper recirculation, so there are no dead water areas that are not getting proper disinfection.
- Procedures for proper disposal of unused chemicals.
- Proper disposal of waste water and materials from the venue's filtration system in accordance with the Health Authority.
- Other Venue specific items

5. The Aquatic Venue has safety and emergency plans that contain or will contain the following:

- **Pre-Service for employees**
 - Document that lifeguard can proficiently perform the skills required for a rescue, as outlined in the Safety Plan specific to that venue. All lifeguards need to be ready to recognize, respond, rescue and resuscitate a victim.
 - Document that the lifeguards have been prepared in emergency response, resuscitation and first aid scenarios that are specific to the aquatic venue in which they are employed.
 - Ensure that any lifeguard that requires corrective lenses has been informed that they must wear the corrective lenses while conducting patron surveillance.

- Document that the lifeguard has received a copy and training on the venue's Emergency Action Plan.
- Document that the lifeguard has been trained on the aquatic venue's Zone(s) of Patron Surveillance responsibility diagrams for each lifeguard station configuration and the lifeguard rotation plan.
- Document and retain copies that the lifeguard has provided accurate information regarding current certification required including but not limited to:
 - Lifeguarding
 - CPR and AED
 - First Aid
- **Communication Standards**
 - Emergency communications equipment is operational.
 - Periodic testing procedures for communication devices readiness.
 - All signage meets or exceed the health authority requirements.
 - Type of devices or equipment to be used to communicate.
 - Backup plans if primary communication does not work properly.
- **Aquatics Safety Team Members**
 - Establish and document the membership the venue's safety team.
 - Define and indentify the responsibilities of the safety team members.
 - Aquatic Venue Safety team members receive a copy and training on the venue's Emergency Action Plan.
 - Lifeguards and safety team members receive a copy and training on policy and procedures for the specific aquatic venue personnel.
 - Training policies for working with the local emergency management system (EMS) responders.
- **In-Service training**
 - Documentation of all in-service trainings verifying the lifeguard(s) in attendance and content are the responsibility of the person conducting in-service training and kept on file readily available for inspection.
 - Documentation of all in-service training needs to be signed by the aquatic venue safety team member participating and the person conducting in-service training.
 - Documentation of all trainings be kept on file and readily available for inspection.
 - The topics of the in-service should include discussion and active practice of application of the following, but not limited to:

- **Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED), First Aid and other emergency protocols used specific to the aquatic venue's Emergency Action Plan (EAP).**
 - **Resuscitation and First Aid Treatment Protocols – Only protocols consistent with current American Red Cross guidelines be used during pre-service or in-service training specific to the aquatic venue.**
 - **Emergency Response Training - Lifeguards receive monthly emergency response training specific to the aquatic venue.**
 - **Aerobic fitness and physical conditioning for the specific aquatic venue meet aerobic and anaerobic energy systems requirements for that aquatic venue.**
 - **Lifeguards and other aquatic venue safety team members practice the Emergency Action Plan specific to the aquatic venue.**
 - **Aquatic Venue Accident Prevention Strategies (APS) should be reviewed and practiced. (preventive lifeguarding)**
 - **Participate in drills with the aquatic venue's Emergency Management System (EMS) that will be responding to the site.**
 - **Lifeguards and other aquatic venue safety team members receive training on all closure issues specific to the aquatic venue and their responsibilities.**
- **Aquatic Safety Team Staffing**
 - **A zone should be established so that the lifeguard is capable of viewing the entire area of the zone of patron surveillance, including from the bottom to the surface and above.**
 - **The lifeguard must be able to reach the furthest extent of the zone within 20 seconds.**
 - **A lifeguard station should be established for each zone of patron surveillance.**
 - **Zones of patron surveillance responsibility diagrams for each lifeguard station configuration be identified and maintained at all times.**
 - **Lifeguards assigned for the direct surveillance of bathers are not be assigned other tasks that intrude on patron surveillance.**
 - **The glare factor taken into account regarding positioning of lifeguards.**
 - **Lifeguards do not engage in social conversations, or have on their person or Lifeguard station cellular telephones, texting devices, mp3 players or other similar non-emergency electronic devices while conducting patron surveillance.**
 - **Lifeguards are able to identify all zone of patron surveillance responsibility for each lifeguard station at the venue.**
 - **Cardiopulmonary Resuscitation (CPR), Automated External Defibrillator (AED), First Aid and Lifeguarding qualifications be current and taught by an American Red Cross authorized instructor.**

- Policy and procedure for lost or missing persons.
- Emergency Action and Evacuation Plan are provided, practiced and posted.
 - The plan contains plan to move patron and staff out the venue in a safe and orderly manner.
 - Moving patrons that maybe mobility impaired.
 - Moving patrons and staff outside and plans for the environmental conditions that maybe encountered at different times during the year.
 - Clearly marked exits and designated safe areas.
- A plan should be developed for different potential groups and the staffing requirements and policies. (Day care, camps, party group, etc.)
 - The plan contains an orientation for the group regarding the venue and all safety related issues.
 - Groups have adults indentified as group leaders to be reportable to the Aquatic Safety Team.
 - A procedure should be in place to qualify swimmers that will or will not be able to go into water above chest depth.
 - Requirement of lifejacket for those that may not be able to qualify to go into water deeper than their chest.
 - There a plan to indentify group members to both lifeguards and adult group liaison (s). Diagrams for each lifeguard station configuration and the lifeguard rotation plan for different bather loads are provided and posted.
 - Policies and procedures for crowd control, unruly or violent behavior, weapon or bomb threat, evacuation of the venue and/or any other unsafe situation.
 - Plan and procedure for vandalism protection.
- Rescue Skill Competency
 - A lifeguard should be stationed in a zone of patron surveillance so that they will be able to recognize a victim in distress. This must be from the bottom to the surface and above the zone of patron surveillance.
 - A lifeguard must be able to response to a victim in any part of the zone of patron surveillance within 20 seconds.
 - A lifeguard must be able to rescue a victim in any part of the zone of patron surveillance including extrication to position of safety within two minutes from the start of the beginning of the assessment. (extrication should include another member of the Aquatic Venue Safety Team)
 - A lifeguard must be able to perform resuscitation skills for a victim after all of the above for a minimum of 3 minutes or longer if determined by emergency response time.

- A lifeguard must be able to swim along bottom of the deepest part of their zone of patron surveillance for at least 15 meters(16.4 yards).

- **Single lifeguard situation**
 - Any aquatic venue that requires a lifeguard, and is a single lifeguarded aquatic venue must have a safety team member person available that has current American Red Cross CPR and AED certification, and documented training in water extrication.
 - This other safety team member must be able to respond to the activation of the aquatic venues Emergency Action Plan within 1 minute.

- **Lifeguard rotation procedures**
 - Establish a defined lifeguard rotation plan for the aquatic venue's Zone(s) of Patron Surveillance that will document the lifeguard rotation procedures.
 - The aquatic venue's lifeguard rotation plan to be practiced at that venue.
 - The lifeguard rotation plan must contain a period of non-patron surveillance, with change of position after no more than 60 minutes in one position.
 - The lifeguard rotation plan must contain period(s) of non-patron surveillance activity.
 - The lifeguard rotation plan be able to identify all zones of patron surveillance and responsibilities for each lifeguard station at the venue

- **Lifeguard Management**

At least one employee of an aquatic venue has documented American Red Cross training on lifeguard management. Essential objectives to be included in lifeguard management training include but are not limited to:

 - To identify common hazards or causes of aquatic injuries and their prevention
 - To understand the responsibilities of a lifeguard in Accident Prevention Strategies (APS).
 - To understand basic scanning strategies.
 - To explain factors which impede victim recognition.
 - To recognize the responsibilities of a lifeguard in reacting to an emergency.
 - To explain the recognition and identification of a person in distress and/or drowning.
 - To explain the use and importance of universal precautions in dealing with body fluids, blood, and preventing contamination according to current OSHA guidelines.
 - To develop an Emergency Action Plans (EAP's) for different type of aquatic venues.
 - To recognize the health and safety issues related to lifeguarding and bather supervision.

- To describe the common rules and regulations and how they are enforced along with the reasons and importance of uniform enforcement at aquatic venues.
- To define the legal issues and responsibilities relating to lifeguards.
- To demonstrate the ability to determine lifeguard zones appropriate for proper patron surveillance for aquatic venues.
- To demonstrate the development of Zones of Patron Surveillance responsibility diagrams for each lifeguard station.
- To demonstrate the development of a plan to qualify swimmers that will or will not be able to go into water their chest depth.
- **Venue Emergency Action**
 - Developed to be an aquatic venue specific as possible.
 - To respond to emergency closure issues.
 - To respond to dangerous behavior.
 - To respond to patrons needed rescue in the water.
 - To respond to possible life threatening injuries (drowning, spinal, head, lack of breathing, severe bleeding).
 - To respond to minor non-life threatening injuries.
 - To respond to fire, chemical and biological hazards.
 - To understand the process and policies to activate an Emergency Action Plan.
 - Any venue specific situations or operations that have been identified.
- **After the Incident Follow up**
 - Professional help indentified before the incident.
 - Debriefing should be documented.
 - Chain of command protocols.
 - Protocols for replacement of equipment and supplies used in an incident.
 - Incident reporting forms and filing procedures (venue, local and possibly federal).
 - Review of the incident, actions taken, what was done well, what could be improved.
 - Follow up with outside agencies involved.
- **Bloodborne pathogens exposure control plan on file.**
 - Consistent with federal, state and local health authority standards.
- **Closure for unsafe issues at the venue.**
 - Environmental
 - Equipment
 - Water clarity and disinfectant levels.
 - Incident in or outside the venue.
- **Other Venue specific items**

6. The Aquatic Venue's has or will have policies and procedures for rescue, safety and play equipment:

- All structures and play feature be approved for use by the Health Authority.
- All structures and play features be installed and operated in accordance with the designer's and manufacturer's instructions.
- All structures and play features be inspected according to designers and manufacturers recommendation.
- All safety and rescue equipment be inspected on a periodic basis.
- All safety and rescue equipment be replaced and properly discarded when it is deemed unable to function at the proper level of safety.
- An inspection form be completed and filed on every structure, lifeguard station, play feature, safety and rescue equipment that requires periodic inspection.
- All safety, rescue and first aid equipment and supplies are properly stocked and immediately accessible to lifeguards and rescue staff.
- Any rental equipment inspection list, check out and check in procedures.
- A check list for needed supplies and equipment.
- Properly working emergency communication equipment.
- Have an ongoing maintenance plan and replacement procedures.
- Maintain equipment data sheets and maintenance records.
- There is an inventory check list for all venue equipment.
- Other Venue specific items.

7. The Aquatic Venue's has or will have policies and procedures regarding hiring and training requirements of all staff contain the following:

- Job descriptions for all aquatic venue positions.
- Job application forms.
- Pre-Service requirements: water skills competency test, certifications required, working with the public skills reviewed for all lifeguards.
- Interview questions reviewed and procedures established for conducting the interview.
- Review the current Child Labor Law and the Age of Lifeguards by the U.S. Department of Labor/Wage and Hour Division.
- Job offer document with clear expectations of the employee and the employer.
- Venue and job orientation with check list of items to be covered, training and signed off on.
- Legal considerations for aquatic venue staff.
- Venue closure issues and staff responsibilities.
- Policies and Procedures for helping to prevent Recreational Water Illness in compliance with the Health Authority.
- Maintaining all staff documents related to hiring, pre-service, in-service, certifications, termination and other employment forms.
- Security of sensitive employee information maintained.

- Roles and Responsibilities of all aquatic venue staff.
- Provide a staff manual containing all appropriate materials.
- Employee Illness and Injury Policy and other personnel policies.
- Policies and procedures for special groups, events, aquatic instruction, play features or any abnormal activities.
- Staff members are required to sign and date any pre-service, in-service, and/or any training that they receive.
- Individuals that conduct any pre-service, in-service, and/or any training are required that they sign, date and accurately describe any training they conduct before the trainees sign.
- Conduct 4 hours or more a month of in-service for lifeguards and other safety team members.
- Staff training on child abuse recognition and prevention.
- Proper patron surveillance, scanning, communications with the patrons and special group procedures.
- Emergency and Non Emergency communication standards.
- Preventative incident training for all safety team members (Preventive Lifeguarding).
- Ultraviolet ray safety and protection (Sun Safety).
- Sexual Harassment and personal conduct of all staff.
- Do's and Don'ts for interacting with the public for aquatic venue employee.
- Promotion of professionalism to all staff.
- Employment contract.
- Staff performance evaluations tools.
- Staff Disciplinary Policies.
- Pre-service skills for all lifeguards that are reviewed and tested before being allowed to conduct active surveillance of patrons.
- Policies covering chemical handling, in-service training requirements, and diagrams for each lifeguard station configuration and the lifeguard rotation plan.
- Rules and regulations that all staff and patrons must obey when using the Venue.
- All lifeguards are ready to recognize, respond, rescue and resuscitate a victim when on patron surveillance.
- Copies made of all required certifications and expiration dates noted for aquatic safety team members.
- Adequately trained personnel for the supervision of lifeguards and other venue staff.
- Adequately trained personnel for the handling of any hazardous materials the employee may come in contact with.
- Employee informed of all benefits of employment.
- Use of legal counsel to explain employee responsibilities.
- Use an outside source to do a safety audit of the aquatic venue (ARC Aquatic Examiner)

- **Other Venue specific items**

8. The Aquatic Venue has or could have the following as part of their community involvement:

- *Conducting Longfellow's WHALE Tales in the public and private school system.*
- *Encouraging member of community to take Home Pool Safety course.*
- *Conduct Parent Orientation to Swim Lessons.*
- *Conduct "Water Safety Today" programs.*
- *Conduct Sun Safety programs for the community.*
- *Conduct "General Water Safety" programs.*
- *Conduct "Rip Current Safety" programs where appropriate.*
- *Provide information for preventing Recreational Water Illnesses (CDC info)*
- *Providing Water Safety Tear Sheets:*
 - Home Pool and Hot Tub Maintenance and Safety (English and Spanish)*
 - Swimming Safely in Lakes, Rivers and Streams (English and Spanish)*
- *Host American Red Cross Blood drives.*
- *Commit to work with the community on drowning prevention strategies.*
- *Led an educational campaign in the community that promotes personal and family preparedness with the American Red Cross message of "Get a Kit, Make a Plan and Be Informed." Ways to promote this message include newsletter articles, e-mail blasts, our Web site and opening training and presentations that are offered to our employees to their families and other groups.*
- *Signed a Venue agreement with our local Red Cross Chapter to allow our Venue to be used as a Red Cross shelter location, as needed, in the event of an emergency.*
- *Other Venue specific items.*

This is meant to be a living document to be improved upon as time goes on. Any suggestions, comments, addition or corrections please feel free to email me at roy@thepoolprofessor.com.