

**Recreational Scuba Training in the United States: History, Trends, Industry Perspectives  
and a Model for the Future**

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## **A short history of recreational scuba training**

Scuba diving is less than 60 years old as an outdoor recreational activity. It is an equipment-intensive activity that began primarily with adventure-seeking young men pushing the envelope and diving primarily in local water bodies. Although initially an unregulated sport, fatal accidents forced the industry to respond in the late 1950s and require that divers be trained. Classroom teaching in the early years of recreational diving was thorough and water skills training was rigorous or even bordered on harassing. Dive shops sprung up all over the country through the 1960s and 1970s and most divers trained in these shops primarily or exclusively dived locally. Even inland states had active dive clubs and individuals were diving quarries and lakes under a variety of conditions. Many of those divers from the early era are still diving and make up part of the aging diving population. The Diving Equipment and Marketing Association (DEMA) has regularly identified the graying of divers as a significant challenge for the diving industry but offered no meaningful solutions to this trend. And yet without significant change the current trend of reduced local diving activity, shrinking of dive retail outlets and an overall reduction in the dive equipment industry will continue in the United States.

The diving instruction or certification industry began in Los Angeles in 1953 and went nationwide in 1959 when the YMCA developed a certification course and instructor training standards. Through the 60s and 70s new training agencies split from the YMCA Scuba Program and with these new agencies scuba instruction became a for profit business. Early courses were still heavy on academics including physics, physiology and decompression tables and courses were more often than not meeting twice a week for 6 weeks or more. As today, instruction was centered on dive shops, but the dive shops had a large degree of autonomy when it came to instruction.

Sometime in the late 1970s or early 1980s many of the recreational scuba training agencies began to reduce the academic content and in-water contact time in the basic scuba training course. The pressures of marketing and seeking larger market shares drove some of the agencies to streamline their courses and increase the number of divers being trained. Concurrent with this trend of ramping up numbers were the development of profit centers in class materials such as text books, work books, and dive tables. Dive shops and dive centers were willing or unwilling participants in this trend that resulted in rising numbers of certified divers.

Unfortunately, the reduced training standards led to an increase in the number of diving accidents and fatalities. As a result, the insurance industry brought the major training agencies to the table in 1986 and demanded that the training agencies establish a minimum standard for training courses. These early meetings were quite acrimonious, but they established a minimum training standard for U.S. scuba certification and also created a way for the agencies to communicate through what became the Recreational Scuba Training Council (RSTC). RSTC standards are recognized a national minimum standard for scuba instruction by the American National Standards Institute (ANSI).

Since the adoption of the RSTC standards many of the training agencies have developed novel ways to meet the minimum standard for teaching hours and shortening the time that a student spends with an instructor. At the same time nearly every agency has reduced the amount of information in the Open Water Diver course, either to save time or to promote the marketing of additional courses. The abbreviated course benefits the training agency and the instructor whose sole motivating factor for being an instructor is profit. However I believe that the abbreviated course is one of the major impediments to the growth of the scuba industry in the

U.S. It is also dangerous, releasing incompletely trained divers onto dive charter vessels and tropical dive resorts with questionable levels of competence and confidence and an extremely limited ability to solve the most basic of problems.

### **Where we are as an industry**

The typical open water certification course may last as little as two weekends or even one weekend as compared with the traditional RSTC minimum 24 hours of classroom and pool time plus the required open water dives. Some dive centers boast that a student can “Scuba Dive in Just 2 days.”

Classroom time is replaced with web-based distance learning tools or self-study DVDs that greatly reduce the amount of time that students spend in the presence of an instructor and eliminate traditional teaching. The classroom becomes a place for one or two review sessions and a testing center rather than a lecture hall. Moving to a distance learning or e-learning model may have some merit as long as there is adequate opportunity to interact with an instructor during the process. Putting the learning process entirely in the lap of the student in a self-learning model does not replace traditional classroom teaching.



Practical (confined water or pool) training for many agencies has become one or two extended pool sessions instead of the traditional method of meeting once a week for 2 hours over the course of 6 weeks. One dive shop in the Florida panhandle has reduced the pool time in their Open Water Diver course to one two-hour session. Because of the shortened time frame pool sessions are designed to get a student through a checklist of necessary accomplishments rather than working on mastering important skills. As a result there is little room for practice, repetition, and mastery of a skill and tasks as simple as clearing a mask or setting up the scuba unit may be observed and performed only a few times or possibly even *once* on the way to receiving a certification card that is equivalent to that issued by an instructor offering an extended training course.

Many students are becoming “certified” without the ability to adequately plan even the most basic dives and lacking the understanding of the most dangerous aspects of diving. Many divers do not ever dive again following certification, and of the ones that do, the majority do not dive in local waters but prefer to dive maybe once a year in warm water while on vacation. As a result, these divers are inexperienced and at great risk to injure themselves, another diver, or a diving professional attempting to rescue them.

### **Practical examples**

The recreational training agencies and their instructors have created an ever declining spiral in terms of the completeness of the entry-level training course and the time required to teach it. In Tallahassee, FL there used to be two dive centers, but one recently closed as a result of the economic downturn. One dive center taught their Open Water course over one weekend, while the other offered the course over two weekends. As a result of the marketing by the local dive centers, even in competition with dive centers in larger markets that blanket the internet with advertising, local people have been trained to believe that scuba training does not require a large time commitment. Many prospective students want to know why it takes longer than a weekend to learn to dive. The two-weekend shop was reluctant to teach a more complete course because they were already being out-marketed by the one-weekend shop. Both represent RSTC member agencies and must meet required minimum course content, but it is unlikely that a one or two-weekend course can properly prepare a diver for the open water experience.

A diving charter captain in Pensacola, FL recently told me that they weekly receive phone calls from people wanting to dive the wreck of the aircraft carrier U.S.S. Oriskany. The mast of the Oriskany rises to a depth of 80 feet, and its control tower or island descends to about 140 feet. The keel of the ship is in the sand at a depth of 212 feet and the wreck is often within the influence of the Gulf of Mexico loop current, so this is an advanced dive. The charter operator has recently had to start asking if the caller is a certified diver. Surprisingly, the answer has sometimes been “No, I just want to dive the Oriskany.” This captain has divers show up that do not own a snorkel and jump in and burn their bottom gas while waiting for their buddy and swimming against the current to the down line. An estimated 75% of the divers have never been taught the backward roll entry, which is the most appropriate entry from a small vessel, and virtually none of the divers have any clue as to how to read or interpret a dive table. Finally, the top two reasons for rescuing a diver reported by this operator are that the diver got water in their mask and never really learned how to clear the mask in their certification course or that the diver was over weighted and had no concept of neutral buoyancy, never having been shown how to properly weight themselves when diving with a variety of equipment configurations.

Another retail dive center and former charter vessel operator in Venice, FL left the charter business because divers were appearing on the boat that could not properly assemble dive gear, properly plan a dive, or deal with the water conditions in the eastern Gulf of Mexico. The vessel captain was simply terrified that some kind of tragedy was inevitable as a result of the poor training and preparation of the recreational divers. That same dive center often receives phone calls from vacationers who want to take an open water class, but most of them hang up when they find out that a private class (which meets RSTC minimum standards) lasts 4 days long. The typical question is “How come so long?”

A third charter operator in Key Largo, FL has had a recreational scuba instructor board the vessel that did not know how to assemble their scuba unit. The owner of the business is very glad to see my students and has on numerous occasions informed me that the captains and mates all breathe a sigh of relief when they see us coming because they know they can relax a little. On our last trip to the Keys this operator stated that it was difficult to believe that many of the divers they were seeing had been through any instruction. We all had an opportunity to observe what he meant as two “divers” joined our group for two shallow reef dives. Neither one of them successfully made either of the dives as a result of a variety of miscues and general ineptness.

**Who suffers from modern scuba training?**

As previously stated, the only groups that benefit from a “quickie” scuba course are instructors who are in the business for the quick dollar and the training agencies. It is, quite simply, a matter of money. The rest of the industry suffers from incompletely trained divers. The student suffers from not having the skills or knowledge to safely dive or may even lack the confidence, physical ability, or psychological ability to dive at all. Scuba diving is not an activity that fits the physical or psychological abilities of every person, and yet the pressure is on to sell that person a diving course. Training agencies suffer because they get the initial certification fee and material sales but then lose most of their repeat business because of a lack of retention. The Outdoor Foundation estimated that in 2012 over 25% of the people participating in diving were first-time participants. This can happen if the activity is a relatively new one or if it has a high turnover rate, attracting new participants and losing existing ones. The same organization reported that scuba diving is holding at somewhere around 1% in terms of participation by Americans. DEMA, the major dive industry organization, estimates that 50% of divers drop out every 5 to 7 years, but this may be a low estimate. A local dive shop in north Florida recently estimated that 1 person from every class continues to dive after their certification course. If an average class consisted of 4 people (likely a low estimate), this would indicate a 75% non-retention rate *in the first year*. The retail dive centers suffer terribly from lack of retention. A student that takes the Open Water diver course buys skin diving gear, maybe a weight belt and course materials but rents everything else. The students who drop out buy no other equipment and never return to diving, so the dive center loses equipment rental fees, equipment sales, additional training course fees, service fees, participants on dive trips, and a long-term customer. Resorts and charter vessel operators suffer because they are plagued by poorly trained students who can't properly assemble their equipment, do not understand dive planning, or how serious avoiding decompression sickness is. These divers can't control their buoyancy, can't navigate, and are unable to handle even relatively mild waves and currents. I have watched divers in their shiny new, colorful gear stand there while a divemaster tells them which direction to swim, how to avoid getting behind the dive boat, etc., only to witness the divemaster bringing them back to the vessel at the end of the dive. Equipment manufacturers never even get a chance to market to the majority of students because the students drop out before they have even considered purchasing a set of equipment and are lost forever to scuba diving. And all of the experienced divers know that there is an overabundance of almost new equipment on eBay or Craigslist from the recent dropouts who do purchase gear.

### **Casting too broad a net**

Diving in the early years mostly involved young men who underwent strenuous physical and psychological training as well as extensive classroom sessions. The students were often thrill seekers looking for the adventure they imagined every time they watched *Sea Hunt* or *The Undersea World of Jacques Cousteau*. The classroom topics were extensive, including much time spent working decompression problems and talking about gas laws and diving maladies, and the pool training involved blackout sessions and equipment “readjustment” while the students swam around the pool. Getting through the class was an adventure in itself and the new students couldn't wait to dive and buy their equipment. It did not matter that the local quarry or lake did not resemble Silver Springs or the Mediterranean Sea, it was a new experience and simply diving was all that mattered.

In an effort to attract new participants the recreational training agencies “softened” the training experience to make it more attractive, enjoyable, and satisfying. As a result the thrill seekers began to train alongside people demographically similar to the average person. As this strategy worked to increase certification numbers the agencies went to the proverbial well again, targeting younger people (as young as 10) and even aggressively going after pre-scuba youth

to prepare them for the scuba experience when they reach the minimum age to train as a Junior Open Water diver. As a result many divers being certified today are not interested in a diving experience that is uncomfortable in any way, meaning that these divers are less likely than the divers of the past to dive when it is cold, rough, or when visibility is low.

The modern diver for the most part does not tolerate discomfort easily because they have not been trained to handle it. What this means to the local dive center is that the diver being certified today is not very interested in local diving if it involves poor visibility, cold temperatures and struggling into a lot of equipment. Have people really changed in 3 or 4 decades or has marketing exceeded the interest or ability of the prospective diver? Is diving really for everyone, and if not, how do we as industry professionals decide who can and who cannot dive? Is there a need to have divers either demonstrate a level of proficiency and diving activity or re-qualify? Why does the scuba certification never expire when we all know that unpracticed skills erode and the health of a person may change profoundly as they age? These are all relevant questions that must be addressed by the diving industry if it wants to shake off the stagnation in participation and reverse the suicidal retention rate seen in recent years. As baby boomers leave diving for a variety of reasons including health issues, the activity itself will be threatened.

### **What to do**

The recreational scuba industry needs to address this problem in a critical manner. It is not trivial on several levels; recreational divers continue to die and recreational scuba diving faces an uncertain future. Action must be taken to reverse these trends before the older divers leave the diving population. There are a number of steps that can be taken to address the problem.

1. *Increase training standards.* Training standards for the entry level Open Water diver course are too lenient. The entry level divers needs a minimum level of academic knowledge and demonstrated mastery of important aquatic skills. Examples of critical aquatic skills are neutral buoyancy, mask clearing, self rescue, and air sharing. Independent divers, divers who are about to be certified, must know how to safely plan dives and monitor their time, depth, and air consumption. Trained divers should know the potential dangers of diving and how to manage those dangers. Some level of aquatic ability and physiological fitness is essential to producing a comfortable, confident, competent diver and therefore divers must be required to demonstrate these capabilities. Academic training can involve closely monitored distance learning but contact hours must be increased and spread out over a number of days to maximize the learning potential of the diver. If distance learning methods are used, the instructor must actively participate in reviews and transfers of knowledge (testing). A complete course should include at least 12 hours of lectures and classroom teaching and 12 hours of pool training.

Pool sessions must be held over a number of days so that the prospective diver learns progressively and over sufficient time for learning to occur. Spending 8 hours in the pool on one day is not equivalent to four separate 2-hour pool sessions. Each aquatic skill must be practiced multiple times, not completed once as in a check off system. A task as simple as the inability to clear a mask or remove a weight belt can be a life threatening event to a new diver. Divers should be trained to use weight belts in Open Water courses because they are a tried and true method of ballasting and their function is universally understood by all divers.

Increasing contact hours will also benefit local dive centers as the time a potential diver spends in the center increases and they become better integrated into the entire activity of diving. A

dive center would be wise to include breaks during class where divers have the opportunity to wander around the center and see the latest equipment. This alone should improve equipment sales and, eventually, equipment service as a new diver becomes a long-term customer.

2. *Raise the minimum age.* A diver younger than 12 is not psychologically prepared to learn this activity. Many below 12 may not be physically capable of handling the equipment. Twelve may be an appropriate age, but this issue should be re-examined in the future. It is unwise to push the minimum age any lower than 12 simply because they are a group of people that represent market potential. The diving industry should be interested in creating long-term customers, not dropouts.

3. *Add an expiration date to the certification card.* A diver that does not continue to dive following certification should have their certification expire. The industry as a whole needs to develop an acceptable dive logging system to demonstrate diving activity and also establish a minimum level of activity to remain current. Six to twelve dives a year would be a good place to start in terms of required diving activity. Agencies could establish a certification period of perhaps three years in which a diver would have to complete a certain number of dives and the agency would receive a nominal fee to renew a diver. Failure to maintain diving activity during the prescribed period would result in expiration and the diver would be required to complete a refresher course with an instructor.

4. *Create a new level of certification called Off Shore Diver.* Many divers complete all of their open water training in water bodies that have no discernible movement related to currents or waves. To demonstrate to charter vessel and resort operators that a diver has been exposed to conditions commonly faced in the ocean or large lakes the Off Shore Diver certification should be required for all ocean or large lake dives that involve vessel charters. The industry as a whole should develop minimum training standards for this certification.

5. *Match training with potential diving environments.* Divers who plan to dive in environments that may have challenging conditions such as cold water, low visibility, currents, high wave action or oceanic walls must demonstrate that they have been trained to dive in such environments or participate in additional training.

6. *Eliminate the resort course.* Recreational scuba is not for everyone for a variety of reasons. The resort course is simply a method of separating a person from a specified amount of money and it exposes the untrained diver to an incredible amount of risk. The “not quite ready for prime time” diver is exposed to all of the potentially dangerous events that might befall any diver with none of the preparation to be able to avoid or manage such risks. The resort course does not increase further participation in recreational diving and gives the participant the false impression that scuba diving is a simple and completely safe activity.

## **Summary**

Recreational scuba diver training has a serious problem in the United States. If the industry does not change its approach to training the entire diving industry will suffer in the long term. There must be a balance between making a profit and providing a valuable service to the customer, and the diving industry has a responsibility to ensure that diving is as safe as it can be. The recent trend in reduced training standards and contact hours as well as short, intensive training schedules produces inadequately trained divers that are uncomfortable, unsafe, and unlikely to remain in diving.

Dive centers that teach a longer, more complete, training course of five to eight weeks would reduce their annual training numbers by as much as 50%. But those trained would be better trained, more comfortable, more competent, and have more fun. And the better trained diver would be more likely to remain in diving, so a higher percentage would become repeat customers rather than someone the dive center will never see again. The percentage of newly certified divers purchasing equipment should increase despite the reduction in student numbers. A complete course means more contact hours in the dive center and increased positive interaction with the shop staff, customers, and activities such as social gatherings. New and better trained divers will be curious and more likely to join the dive center “family” and the local dive club. They will also be more likely to take additional classes and participate in the dive trips sponsored by the dive center. Retention rates for divers will increase and, as time goes by, this will result in additional equipment rental, sales and service because the number of repeat customers will increase.

For the recreational diving industry the suggestions presented here should increase the competence and comfort as well as the safety of divers. Making diving fun, challenging, and interesting may cause local diving to become popular again, and accident rates should decline. Adding revenue for renewals should offset any loss to certification agencies associated with the initial reduction in Open Water certifications.

## Contact us

This article is based on observation of the diving industry and conversations and communications with a number of dive industry professionals. The opinions presented in the article are mine alone and do not represent the official position of any certification agency or other organization. The report was greatly improved by contributions of industry friends and colleagues. This report is by design a preliminary document and intended to be updated and improved on a regular basis. Those wishing to contribute or comment should contact Dan Marelli at [dmarelli@scientificdiving.com](mailto:dmarelli@scientificdiving.com).

**About the author.** Dr. Dan Marelli had a career as a marine scientist and scientific diver before becoming a scientific diving officer. He has served as director of a major university diving program, conducted training for many government scientific and public safety agencies as well as non-governmental organizations and trained over 1500 recreational divers. He has served in the recreational scuba industry as an agency staff member and served on the board of the RSTC. He is currently President of Scientific Diving International, an organization that trains scientific and public safety divers, administers professional diving programs, and conducts scientific diving operations. He is also an active recreational scuba instructor trainer.

