AAUS Diving Officer and Scientific Diver Certifications: The Need for Quality Control

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Abstract

A roadmap is outlined as a model for an American Academy of Underwater Sciences (AAUS) 'Diving Officer' and 'Scientific Diver' certification program. AAUS historically has relied on nationally recognized diver training agencies for its scuba instructor and entry-level diver certifications, yet neither commercial nor military diving entities have done so. The specificity of training requirements necessary to becoming a qualified scientific diver has been fundamental to the evolution of AAUS. Indeed, the concept of reciprocity is based upon a verifiable level of standardized scientific diver training. As AAUS has evolved, it has become increasingly obvious that a clear definition and implementation of scientific diving training standards is fundamental to its continued successful development in support of scientific diving programs. Further, there is a need to develop quality control mechanisms due to an often transient scientific diver population. A reduction of the multiple mechanisms for organizational member program scientific diver certification through a standardized approach will help meet this need. The AAUS Diving Officer and Scientific Diver certification program would result in: a) imposition of a measure of quality control; b) reduction of reliance on recreational diver training agencies; c) generation of additional revenue for AAUS; and, d) retention of control of scientific diver certification standards. An implementation plan is offered for AAUS consideration, including promulgation of certification standards and procedures, training materials, liability exposure, quality control, and program roll-out to the diving community. If AAUS is indeed 'self-regulated,' it is necessary to demonstrate the implementation mechanics for such self-regulation.

Introduction

In March of 2006, a position paper on 'Diving Officer' and 'Scientific Diver' certifications was co-authored by a random selection of a dozen Diving Officers and presented at the annual AAUS symposium at Friday Harbor Marine Labs for discussion. There appeared to be minimal disagreement among the 100+ AAUS members present based on the concept as it was presented. Notwithstanding, a number of uncertainties with regards to liability exposure, cost, and implementation of AAUS certifications were identified and are currently being evaluated. The paper's objective was to serve as a concise statement towards the promulgation of 'AAUS Diving Officer' and 'AAUS Scientific Diver' certification standards.

Background

The precursor of modern-day AAUS scientific diving programs began in 1950 at the Scripps Institution of Oceanography (SIO) when graduate students Andreas Rechnitzer and Conrad Limbaugh acquired newly imported scuba gear from University of California, Los Angeles (UCLA). The first formalized diver training at Scripps was organized by Rechnitzer, Limbaugh, and Jim Stewart in 1952
under mandate from the University of California (UC) Office of the President in response to a fatal diving accident at another UC campus. The following year a small group from Los Angeles County Parks and Recreation came to SIO to participate in dive training. This group, Al Tillman, Ramsey Parks, and Bev Morgan went on to provide the first recreational diver training nearly a decade prior to the birth of NAUI, PADI, SSI, and YMCA. AAUS has historically relied on nationally recognized training agencies for its scuba instructor and entry-level diver certifications with little concern for the wide variations in quality control in these organizations. These recreational training organizations have developed divergent training standards both within and between their organizations. Specialty training was initially intended as a supplement to basic training, used to cover the training gaps between the specific functional needs of the groups with different operational objectives. At this time, there are independent training organizations for nearly all of these specialties and in most cases each application has several agencies claiming to be the best. There are multiple training organizations for public safety divers, police and fire groups, technical divers, etc. These special interest groups continue to proliferate and we will very likely see this trend include scientific diving in the near future. This trend appears obvious and either AAUS will develop the criteria and the programs or someone else will. Any shift of control over setting scientific diving standards to other training agencies will further complicate the status of the current national scientific diving organization, the AAUS. It is important to note that neither commercial nor military diving entities rely on recreational diver training organizations to certify commercial or military divers and the public safety diving sector is rapidly developing in the same manner.

**Current Status**

The issues that confront AAUS with regard to certification are neither unique nor are they new. As each specialized sector of the diving community has evolved, it has had to face the inevitable dilemma associated with growth and implementation of specific operational standards. The specificity of training requirements necessary to becoming a qualified scientific diver has been fundamental to the evolution of AAUS. Indeed, the concept of reciprocity is based upon a verifiable level of standardized scientific diver training. As AAUS has evolved, it has become increasingly obvious that a clear definition and implementation of scientific diving training standards is fundamental to its continued successful growth and development.

The recognition that the 1980 (and pre-cursor) AAUS open-circuit, compressed air, single-hose regulator scuba diving standards are rapidly becoming inadequate for our needs is clearly manifest. There are many new and worthwhile advances in equipment and procedures that must be incorporated into our diving programs if they are to remain state of the art. There is a further need to develop quality control mechanisms for an often transient scientific diver community. A reduction of the multiple mechanisms for organizational member (OM) scientific diver certification through a standardized approach will help meet this need.

**Impact of Diving Officer Certification**

The AAUS Diving Officer and Scientific Diver certification program would result in: a) imposition of a measure of (currently non-existent) quality control; b) reduction of reliance on recreational diver training agencies for setting standards for instructor and entry-level scientific diver; c) generation of additional revenue for AAUS in concert with its strategic and business plans, including the consideration of development, fundraising, and external grants; and, d) retention of control and revisions of future certification standards for Diving Officer and Scientific Diver.
AAUS Diving Officer qualification criteria (AAUS, 2006) consist of being: a) trained as a scientific diver; b) a full member as defined by AAUS; and c) an active underwater instructor from an internationally recognized certifying agency. We offer that these 'certification criteria' are minimal at best, while the expectation is for AAUS, as an academia-based organization, to raise the bar for scientific diving and safety. AAUS Scientific Diver certification criteria are specified in AAUS Standards Sections 4 and 5.

The implementation of these certifications rests with the AAUS Board. We offer the following plan for consideration:

1. Promulgation and adoption of an 'AAUS Diving Officer' certification standard. This process should start by careful review and modification of current recreational scuba instructor certification standards (RSTC, 2004). This should be followed by replacement of the purely recreational aspects of diver training topics with specific scientific diving topics (theoretical, practical and administrative).
2. Initial certification procedure for current AAUS Diving Officers (approximately 100). This process should be done through one or more minimum three-day Diving Officer certification workshops. AAUS must make the effort through the acquisition of grant support to provide airfare/lodging for AAUS Organizational Member Diving Officers to participate. We recommend against an 'across the board' Diving Officer 'grandfathering' clause. In this next phase of AAUS evolution, it will be important to establish a platform where uniform training will be consistently implemented. Evolution rather than revolution argues for a carefully phased approach to the necessary changes. It might be necessary to develop a three to five year plan in order to ensure a progressive change for research institutions, university programs with recreational scuba components (who may need to retain recreational scuba instructor credentials in addition to AAUS Diving Officer certification) and 'other OMs.'
3. Adoption of an AAUS 'Scientific Diver' certification standard. Certification cards would be specifically restricted to scientific divers (as defined by the Occupational Safety and Health Administration) and Diving Officers of AAUS organizational member programs. These certifications would not be applicable to recreational, technical, commercial, military, or public safety diving purposes. Scientists should have the ability to receive technical applications (e.g., trimix, rebreathers, and surface-supplied diving) training and certification from within the scientific diving community as well. If scientific diver certification is recognized externally, then perhaps these 'specialties' should be recognized as well.
4. Initial certification of current AAUS Scientific Divers (approximately 4,000), retroactively for those individuals meeting the certification criteria. Recertification requires further consideration.
5. Consideration of liability exposure to AAUS for both certifications. Initial discussion with industry professionals indicates that AAUS would be subject to no additional liability by providing certification of 'Diving Officers' than it already incurs through the promulgation of consensual standards and their imposition on research organizations as a condition of membership. Liability for the training and certification of 'Scientific Divers' has and will remain the responsibility of the sponsoring OM. Yet, AAUS derives no benefit (financial or otherwise) from this exposure and furthermore has no mechanism in place to assure quality control and adherence to standards. AAUS must implement a formal quality control mechanism for 'complaints, standards violations, investigations,' etc.
Rationale:
   a. Diving Officers relying on recreational instructor insurance policies may not be covered for 'commercial ventures' (i.e., scientific diver training/certification using AAUS standards);
   b. AAUS would certify Diving Officers who would certify scientific divers for their OM; and,
c. These considerations would allow AAUS to secure insurance coverage for itself as the certifying agency and for its Diving Officer members.

7. Establishment of 'Scientific Diver' training curricula per AAUS Standards and development of standardized training materials in collaboration with NOAA. We further suggest that the proposed 'AAUS Diving First Aid Training for Scientists' (Lang et al., in press) be formally adopted by AAUS.

8. Press release to the diving community at large and specific discussion with chief executive officers of PADI, NAUI, YMCA, and SSI regarding recognition of AAUS Scientific Diving and Diving Officer certifications through their retail outlets.

9. AAUS infrastructure and business plan development is a responsibility of the AAUS Board, which is best positioned to determine costs and set revenue targets. Consideration of a vendor to provide these certification card services for AAUS must be explored.

Conclusion

If AAUS is indeed 'self regulated' it is necessary to demonstrate the implementation mechanics for such self-regulation. The above recommendations represent the outline for a mechanism that should permit AAUS to gain further control over its future.

References

