Regardless of the views of diving scientists, sport divers have and will continue to have an effect on underwater environments and resources. Perhaps nowhere has the impact of sport divers been so great as in the areas of underwater archaeology and paleontology.

To prevent or restrict the interaction of sports divers and research scientists would be a mistake. If scientists were forced into a "professional shell" it would result in damage to underwater resources. Continued training and guidance in avocational underwater archaeology and paleontology and true cooperation are important steps to increased site protection.

The impacts of possible national scientific diving standards on the use of sport divers as volunteers should be addressed by whatever organization may attempt this undertaking. Small underwater science programs often interact with sport divers as a means of more efficient data gathering and a first line of defense for conservation of the resource. For scientific dive standards to be successful, they must be flexible and not create undue burdens for the volunteer diver.

With the advent of scuba equipment, Florida became a diving mecca and is now one of the most popular sport diving areas in the world. Florida has a variety of diving locations that attract sport divers interested in spear-fishing, artifact collecting and other activities that affect underwater resources. Perhaps nowhere has the impact of sport divers been so great as in the areas of underwater archaeology and paleontology. For example, sport diving and collecting on underwater archaeological sites can be traced to the 1930s in Florida. And recent federal statistics indicate that sport divers have been responsible for locating about 80% of the known shipwreck sites in the United States (Giesecke 1984).

In 1983, a joint underwater archaeological and paleontological survey was initiated in the Aucilla River in northern Florida. Sport divers familiar with the area volunteered their time and located 36 inundated prehistoric sites previously unknown to scientists. Prior to the Aucilla River survey only 20 inundated prehistoric sites were recorded for the entire state. The 36 new sites were located in a survey area that includes about three miles of river channel and a few chert rock outcrops offshore from the mouth of the Aucilla River (Faught and Dunbar 1986). One of the recorded sites—the Page/Ladson site—has been the subject of archaeological test excavations and has yielded stratified deposits containing major artifact and fossil bone concentrations dating 10,000 years to
12,000 years before present (Dunbar, Webb and Cring, in press). Because contemporaneous land sites lack organic preservation (bone, charcoal etc.), this type of underwater site yields a rare opportunity for scientific investigators.

When the Florida Bureau of Archaeological Research began interacting with sport divers, the intent was to stimulate avocational interest in underwater archaeology. The program has included the use of volunteer divers on underwater archaeological digs. The puzzle solving qualities of conducting archaeological research are emphasized to introduce archaeology as the science that goes beyond the artistic appeal of artifacts to uncover our cultural heritage. Through education, it is a program to promote resource preservation on a grass roots level.

The interaction of volunteer and scientific divers has rarely needed to be addressed at large institutions that support highly technical, deep water marine science programs because recreational activity is neither appropriate or safe. Because the subject of sport diver interaction has never come up at these institutions, there may be a tendency to ignore the issue.

This coupled with the AAUS effort to nationalize scientific dive standards and concerns regarding liability could lead to standards that either prohibit volunteer divers or standards that allow the use of volunteer divers but are too stringent. If national standards were to divide scientific and sport divers, it would lead to poor communication and damage to underwater resources.

Regardless of the views of diving scientists, sport divers have and will continue to have an effect on underwater environments and resources. Ignoring the fact that sport divers have an impact, or attempting to preclude access to resource rich waters, will not provide a solution to this complex problem.

Like other underwater endeavors, underwater archaeology is more costly than its counterpart on land. The effects of a national scientific dive standard that would greatly restrict or not allow sport diver participation could escalate costs and decrease the effective field time of some programs. For example, donations of time by volunteer divers have saved the Aucilla River survey an estimated $15,000.00 over the past three years.

I suggest that a number of questions should be considered regarding scientific dive standards and the use of volunteer sport divers:

1. Will the scientific dive standards add costs to small underwater research programs?

2. Will the effects of the scientific dive standards cause uncoordinated actions by the interest groups who affect underwater resources (scientist, sport divers and commercial enterprises) or promote resource conservation through coordinated efforts?

3. Will underwater resource management and conservation be facilitated or impeded as a result of proposed national scientific diving standards?

Because most of the smaller underwater science programs that utilize sport divers do not provide dive training and the interested sport diving population is capable of
providing instructors, AAUS has an opportunity to act as a catalyst for positive change. AAUS could allow the smaller institutions through some auxiliary type group to form an AAUS recognized chapter with dive officer, dive board, etc. The result would allow a larger scientifically trained labor force to be established when needed. If such a group were formed it would be in the best interest of AAUS to monitor the program.

To prohibit the interaction of sports divers and scientific diving programs would be a mistake. Some underwater programs depend on the continued use of volunteer divers in field projects to promote cooperation and increased resource protection. The creation of national scientific diving standards should be approached in a way that will not be too stringent for the scientific dive programs that use volunteer divers.

LITERATURE CITED

