The National Park Service maintains a core team of diving archeologists that serve as a catalyst group for generating research and resource monitoring programs in the National Park System. The Submerged Cultural Resources Unit is based in that bustling center of maritime activity in the Southwest, Santa Fe, New Mexico.

The group is composed of three archeologists, a technician, and a secretary, but it has indirect responsibility for overseeing underwater archeological research in over forty national park areas stretching from Guam in the west to the Virgin Islands in the east. By coordinating with Regional archeologists and local park superintendents, priority projects are identified and executed with a unit presence that may vary from one person to the full team. A great portion of the work force on projects is composed of park rangers who have collateral duty responsibilities as divers. There are over 200 NPS personnel who are certified to Service standards as Scuba divers.

As an introduction to the Unit’s activities, several projects from the last few years will be discussed briefly. This will include mapping of the USS ARIZONA in Pearl Harbor, documentation of shipwreck sites at Isle Royale National Park in Lake Superior, historic shipwreck surveys at Point Reyes and Channel Islands National Seashores in California, and various training programs the Unit conducts for sport divers and law enforcement groups around the United States. Volunteer divers from the sport diving community are also encouraged to participate in some of the research projects as part of the NPS Volunteers-in-Parks Program.

The National Park Service has as part of its general Congressional mandate responsibility for the management of archeological sites on submerged lands of the National Park System. There are 334 units in the U.S. National Park System and over 40 of these areas have submerged cultural resource management needs of one sort or another. Underwater archeology consequently is used as a research tool in the service of park management. The scientific approach used for this purpose, however, has been refined and adapted to keep within the agency’s strict conservation philosophy regarding nonrenewable resources.

Key words in this chosen methodology are “minimal impact,” “non-destructive,” “participatory” (regarding sport divers) and “public benefit.” Inherent in these terms is the stated intent to keep shipwrecks and other cultural sites in as pristine a state as possible for
the benefit of future generations. This means that not only the casual park visitor but the research community itself is admonished regarding the removal of artifactual or structural materials from these sites. Archeology which involves site disturbance (and until recently most archeology was very pointedly an exercise in site disturbance) is discouraged on NPS lands unless there are well documented mitigating circumstances, e.g. imminent destruction from natural causes, inability to answer major research questions on sites outside of the National Park System, etc. Since a significant number of compelling archeological sites are already known to exist on submerged lands of the National Parks in the United States, many researchers have been forced to examine alternatives to excavation and artifact removal as primary data extraction techniques. Nondestructive research is explicitly encouraged by park managers.

Although this situation results in occasional frustrated diggers, both scientific and nonscientific, it has proved to have a very positive effect on participation in underwater archeological activities by interested avocational divers. Highly qualified members of the diving community at large have volunteered their services to NPS park managers and researchers and in most cases have been warmly received. As long as they demonstrate a willingness to abide by the conservation ethic, divers are encouraged to visit sites and to work with agency or university professionals at the tasks of recordation and documentation. One common denominator in all the projects that will be discussed later in this presentation is some level of participation by volunteer divers.

Another key theme to the research approach used by the U.S. National Park Service is the concept of cultural continuums, i.e. that significance of sites is determined along relative and not absolute standards. Consequently, a site that was abandoned 40 years ago may be studied with the same energy commitment as a 17th century Spanish Galleon if the research design demonstrates the manner in which hypotheses relating to the general anthropological study of human behavior can be meaningfully tested. Thus, the Service would protect the remains of a World War II troop transport as vigorously as those of the hypothetical galleon if its value as a scientific resource is demonstrated or if, in fact, it simply has value as a visitor attraction to the public. In the latter case, the Service is explicitly recognizing the aesthetic, symbolic value of historic sites and managing them as if they were structures on land that were the focus of attention by park visitors. The same philosophy of "look, photograph, and leave for future generations" that typifies NPS management of Gettysburg or Cabrillo is extended to submerged lands.

Besides shipwrecks, this perspective on submerged archeological values extends to underwater components of maritime support sites, e.g. fishing camps, docks, submerged towns, and refuse areas. Since man has traditionally used water as a site for depositing unwanted refuse it becomes a focus for much of what archeologists of the anthropological persuasion hold dear: garbage. For archeologists, yesterday's trash has, in every sense of the word, become today's treasure. These "middens" sites, as they are referred to in the parlance, are also considered part of the archeological record of the National Park System and are also protected against unauthorized disturbance. Again, nondestructive archeological activities are encouraged but disturbance must be heavily justified.

To meet the need for survey and inventory of archeological sites on submerged lands, the National Park Service developed a core team of diving archeologists that serve as a catalyst group for generating research and resource monitoring programs in the National Park System. The Submerged Cultural Resource Unit (SCRU) is based in Santa Fe, New Mexico, at the agency's Southwest Cultural Resources Center.

The group is composed of three archeologists, a technician, and a secretary, but it has indirect responsibility for overseeing underwater archeological research in all areas of the system. By coordinating with regional archeologists and local park superintendents, priority projects are identified and executed with a unit presence that may vary from one person to
the full team. A great portion of the work force on projects is composed of park rangers who have collateral duty responsibilities as divers. There are over 200 NPS personnel who are certified to Service standards as Scuba divers. NPS standards are very similar to those of Scripps and AAUS because Jim Stewart was one of the prime movers in developing the original NPS policy in 1968. Volunteer divers are also encouraged to participate in some of the research projects as part of the NPS Volunteers-in-Parks Program.

As an introduction to the Unit’s activities, several projects from the last few years will be discussed briefly. This will include historic shipwreck surveys at Point Reyes and Channel Islands National Seashores in California, mapping of the USS ARIZONA in Pearl Harbor, documentation of shipwreck sites at Isle Royale National Park in Lake Superior, and various training programs the Unit conducts for sport divers and law enforcement groups around the United States.

As the slide presentation illustrates, the range of environments in National Parks in which underwater sites can appear includes marine, riverine, lacustrine including reservoirs, Great Lakes region and in karst (underwater sinkholes and caves). National Park Service archeologists have conducted research operations in all of these environments. Types of sites were discussed briefly above, but it should be noted again they can range from prehistoric to World War II, and vary in nature from intact ships to mine tailings or broken ceramic pots.

During survey (the discovery phase) of investigations the Submerged Cultural Resources Unit usually has to employ sophisticated technology, including computerized interfaces between select instrument packages (magnetometer, side scan sonar and an electronic positioning system) but the follow up documentation on sites that are already identified is usually labor intensive. Techniques used for the latter emphasize quick, simple but accurate graphic coverage in a manner that can be easily taught to nonarcheologists. Trilateration with measuring tapes to known datum points on a baseline of nylon string is employed in most circumstances. Hardware includes clothespins, drug store protractors, flagging tape, and similar high level technology. Underwater video and photographic coverage is accumulated in addition to the mapping returns.

The following sample projects conducted during the past three years should illustrate the range of submerged cultural resources found on park lands in the U.S. and the spectrum of underwater archeological research activity conducted by the National Park Service.

**Point Reyes National Seashore**

An electronically positioned magnetometer survey of the submerged lands of Point Reyes National Seashore was conducted in 1982 with additional follow up work in 1983. Magnetic contouring was augmented by side scan sonar and subbottom profiling coverage. This is the first phase in the discovery process in underwater archeology. In the case of Drakes Bay and other portions of the seashore which have a heavy sediment load over most cultural features, the ground truthing or actual identification of sites hypothesized from the remote sensing returns will not occur until a Phase II test digging operation is carried out. One is tentatively scheduled for 1987 at Point Reyes.

**Channel Islands National Park**

Archeologists and technicians from the NPS Submerged Cultural Resources Unit worked with Park Archeologist Don Morris, private diver Peter Howorth, and sixteen park rangers from Western Region on a first level assessment of several shipwreck sites under the park’s jurisdiction. Prior to this documentation effort a NOAA research vessel conducted survey activities on the submerged lands in association with their National Marine Sanctuary program.
USS Arizona Memorial

In 1984 the hulk of USS ARIZONA was mapped in place by NPS and U.S. Navy divers under the leadership of the Submerged Cultural Resources Unit. Although blueprints and photos existed depicting the original vessel and some later modifications, the park Superintendent wanted to know what condition the vessel was in after a million pounds of explosives were detonated in the forward magazine and Navy salvage divers cut the superstructure off in 1943. In the shallow, low visibility water of the harbor, many of the short cuts to rendering an underwater facsimile such as photogrammetry could not be used. The final drawings resulted from three weeks of field activity in which a mile of survey string was laid over the hulk and thousands of measurements were recorded by the divers.

Isle Royale National Park (Lake Superior)

All ten major known shipwrecks of Isle Royale National Park have been documented by the NPS underwater archeological team over the last four years. They have all been nominated to and subsequently listed on the National Register of Historic Places. A final report on this project is slated for publication in 1986.

Apostle Islands National Lakeshore (Lake Superior)

Several new wrecks have been located, mapped, and brought under management control in the last two years. NPS archeologists, rangers, and volunteers from the sport diving community have produced an interpretive map of a 19th century lumber schooner and provided video footage to local public TV stations.

Fort Jefferson National Monument (Dry Tortugas)

NPS archeologists from the Southeast Archeological Center and later the Submerged Cultural Resources Unit have conducted survey and inventory work on several shipwreck sites and in the fort’s moat.

Padre Island National Seashore (Texas)

In 1985 NPS archeologists worked with the State of Texas on a connected underwater and terrestrial survey using a research design generated by NPS archeologist Larry Nordby.

Wrangell–St. Elias National Park (Alaska)

The remains of a shipwreck in the Malaspina Forelands were documented by NPS archeologists and rangers. This particular site did not involve diving operations. Additional efforts on nonsunken vessel remains include work by NPS archeologist Jim Delgado at Golden Gate National Recreation Area in California and Cape Hatteras National Seashore in North Carolina.

Also during 1984 and 1985, training courses for park rangers and select volunteer divers in underwater documentation techniques were conducted at Assateague National Seashore, Apostle Islands National Lakeshore, Cape Cod National Seashore, War in the Pacific National Historic Park in Guam, and Pu'uoohonua o Honaunau National Historical Park near Kona in Hawaii. These courses were designed to demonstrate the cross application of underwater archeological recording skills to the needs of law enforcement. Rangers were shown methods for mapping and photographing features underwater like the remains of an historic shipwreck or a modern airline disaster.

Plans for underwater archeological research in the National Park Service include upcoming surveys in the Virgin Islands, Texas, Florida, and Guam.