Section 3: Reporting Progress on the Identification, Protection, and Use of Federal Historic Properties

By: Steven A. Nagel, Federal Preservation Officer, U.S. Geological Survey

Report: 2011 - 2014

U.S. Department of the Interior
U.S. Geological Survey

Question: Building upon previous Section 3 reports, please explain how many historic properties have been identified and evaluated by your agency in the past three years. Has your inventory improved?

Through historic evaluations performed by Secretary of the Interior (SOI) qualified evaluators, the U.S. Geological Survey (USGS) has identified a small number of properties that have been determined eligible for listing on the National Register of Historic Places (NRHP). These properties require a "Determination of Eligibility" process with the State Historic Preservation Officers (SHPO) to determine if the properties are eligible or ineligible for listing on the NRHP.

During the past 3 years the Facilities Management Branch of the USGS has historically evaluated 102 buildings and structures through its Comprehensive Condition Assessment Program (CCAP). The CCAP has proven to be the most efficient and cost effective way to accomplish this task since the disciplines that inspect the operable condition of our facilities are akin to researching the historic condition of the asset. Furthermore, all tasks are completed in one site visit realizing efficiencies in time and labor. It is important to the managers of our USGS science centers that site visits are conducted efficiently and with minimal disruption to science research occurring at the centers.

Our inventory of historically evaluated assets has improved since the previous Section 3 report in 2011, not only through the CCAP but through a contract dedicated towards historically evaluating our older facilities. Through the contract, 22 buildings and 1 structure have been evaluated, all over 50 years of age. One group of 12 buildings on a 48-acre parcel of land was evaluated and determined to be eligible for listing on the NRHP as a historic district.

Construction of the buildings was completed in 1956 by the United States Coast and Geodetic Survey, which was created one year prior to the formation of the USGS in 1879 by the U.S. Congress. The site, called the Fredericksburg Geomagnetic Observatory, has produced high-quality data of geomagnetic research for 57 years and is one of the world's most important observatories. The science of geomagnetism and the observatories, including Fredericksburg, continue to serve government agencies, such as the National Oceanic and Atmospheric Administration (NOAA), the U.S. Air Force Weather Agency, and the U.S. Army.

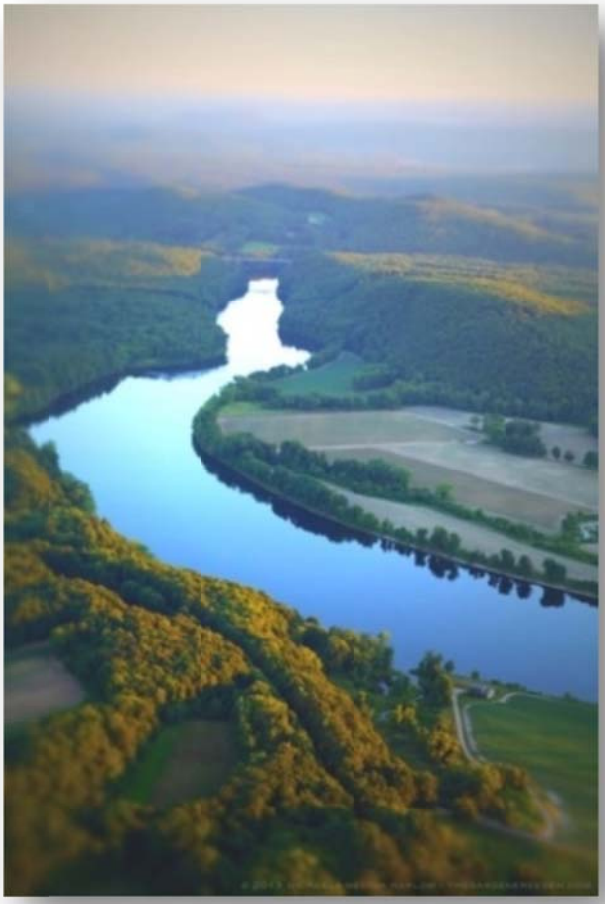
The USGS occupies a variety of notable facilities that have been evaluated for historical value with interesting results. In the state of Washington, the USGS owns three sites that originated during various times in U.S. history. The Marrowstone Island Research Station is a USGS science center where water and biological science research is conducted. Its light keeper's residence and boathouse, both built in 1896, are in well-kept condition and today serve as living quarters and a research laboratory for visiting scientists, respectively. Only the residence was determined to be eligible for listing on the NRHP. The adjacent boathouse is not eligible because

of modifications made throughout the years.

Also in Washington, the USGS occupies a remnant of a large military west coast supply depot built near the end of World War II. The site is named “Steilacoom Warehouse and Storage,” in namesake of the Washington town nearby. The three warehouses were used to house a locomotive repair facility that supported an immense military supply center called an Advance Base Depot (ABD), which was the departure point for WWII supplies being dispatched to the Pacific Theater of the war. Due to the remote location of the Steilacoom warehouse complex, set aside from the main portion of the ABD, and lack of notable construction, USGS facilities at Steilacoom were not deemed to be historic or contributing to the historic integrity of the ABD.

At a third location in Washington near Seattle was another WWII military installation. The USGS’ Western Fisheries Research Center is located here. At this site, the USGS uses one WWII building that once housed ammunition for a seaplane training base. The ammunition storage building, which now serves as a chemical storage building, was determined not eligible for listing on the NRHP because the small building was back-staged by modern buildings making up the Western Fisheries Research Center. Their juxtaposition of modern behind old style degrades the historic integrity of the chemical storage building.

On the east coast by the Connecticut River, a USGS science center in northwestern Massachusetts named S.O. Conte Anadromous Fish Research Center is situated on land that is evaluated by the Massachusetts State Historic Preservation Officer (SHPO) as eligible for listing on the National Register. For thousands of years, early Native Americans used the Connecticut River and its tributaries as a transportation network for goods and sustenance. Hundreds of archeological sites indicate there was a network of Indian settlements connected by an extensive trail network paralleling the river.



Question: How has your agency established goals for the identification and evaluation of historic properties including whether they have been met?

The USGS has established a goal to historically evaluate all of its built assets by 2021 through the CCAP. Since the CCAP was created in 2000, funding levels for the condition assessment program have not increased to keep pace with inflation. Consequently, existing resources are finite and the condition assessment process is constantly strained by competing programmatic needs. Because Section 110 is a lawful requirement, the USGS will evaluate its entire asset inventory. Thus far 102 of 655 assets have been evaluated.

Question: Explain how your agency has used historic properties and has exercised Executive Order 13287 in doing so.

The Leetown Science Center (LSC) has the longest history of all USGS sites being operated today. It was officially named the U.S. Fisheries Experimental Station 84 years ago. The site is considered eligible for listing on the NRHP by the Jefferson County Historical Society as historically significant to the local community in Jefferson County, West Virginia. Construction of the research facility started in 1930 on a 148-acre tract of land surrounding a group of three original buildings that formed the nucleus of a settlement called Hite's Town. The town name was changed to Leetown in honor of General Charles Lee. One of the original buildings purchased by the Federal Government with the tract of land was a grist mill that was constructed between 1773 and 1775; the mill was the center of commerce at the time of the fledgling community. Today, the mill is attached to the LSC administration building by an atrium space designed and built by the LSC's previous owner. The surrounding land had an ample supply of cold-water springs, which were beneficial for the sustainment of fisheries operations. The U.S Fisheries Experimental Station was established at the site, and its first mission was the propagation of trout to be later transplanted to various locations to help replenish waterways and streams for commercial and recreational benefit. Over the years, the hatchery has produced fingerling trout and fish eggs at the station that have been distributed to bodies of water in at least 16 states. The LSC started from a collection of three buildings in 1930 to become a 466-acre campus of 58 buildings, structures, ponds, and reservoirs. The success of LSC as a fish hatchery is evidenced in its growth and its adaptability to accept new mission roles in diagnosing fish disease and health. The program continued to expand and in the ensuing years, domestic and foreign scientists, students, and fishery workers vied for the opportunity to study or train at the Leetown Science Center. The LSC has hosted many public events over the years through partnerships that advance historic tourism at the site, as advocated by

Executive Order 13287 for youth who do not normally have an opportunity to enjoy the outdoors.

In October 2011, another “all-day” fish derby was sponsored by the LSC for children with special needs. The USGS science center has unfailingly provided a thrilling experience for the participants. A year ago, the Center hosted one-hundred 7th and 8th grade students from nearby Wildwood Middle School of Jefferson County, WV. The students received brief presentations on the history of the LSC as well as an introduction to brook trout and fish diseases. The students toured a histology lab and learned about histopathology; they also toured a microbiology lab and learned about bacterial cultures and classical biochemical tube tests. The events at Leetown are part of several outdoor events hosted by the USGS showing support for “Let’s Move Outside”: http://www.letsmove.gov/lets-move-outside. In total, the USGS has helped more than 11,000 young people and their families have healthy, outdoor experiences. The historic context available at the Leetown Science Center offers the best of both worlds: a long history, and lots of green space outdoors to explore and have fun in.

Question: Explain the overall condition of the historic properties within your agency’s control.

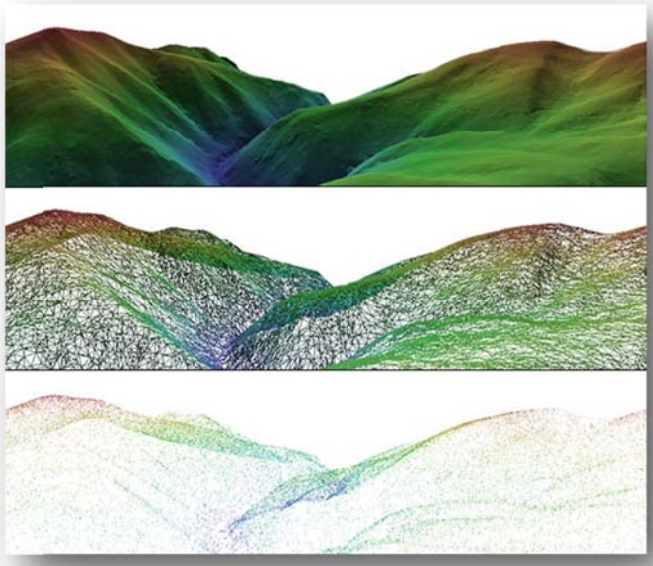
The Facility Condition Index (FCI) is an industry metric used to grade the condition of all buildings owned by the USGS. USGS buildings over 50 years of age have an average condition index of 79 on a 100 point scale. One group of USGS buildings forming a historic district eligible for listing on the NRHP has been scored at 88. They are located in Sitka, Alaska, and since 1942 have been used to study the Earth’s magnetism.

Before the U.S. Congress authorized the purchase of Russian America (Alaska) from the Russian Empire in 1867, a Russian/American company had been studying the effects of geomagnetism and weather from an island in Sitka's harbor. Construction of the buildings comprising the USGS site was originally finished in 1940 by DOI to further Sitka's unique magnetic heritage as the closest location to the Earth's magnetic North Pole for the United States. The Sitka Geomagnetic Observatory's five buildings are eligible for listing on the NRHP by Criteria of Evaluation "A" which associates the site with events that have made it significant in its contributions to the advancement of geomagnetic research and under Criteria of Evaluation "C" for its 1940's vintage buildings that made geomagnetic study possible since then. One of the structures at Sitka was a geomagnetic seismic vault built partially underground for the purposes of maintaining a constant ambient temperature for the data-collecting instruments inside. The structure was determined unsafe for occupancy by a condition assessment engineer. Its concrete roof beams, ceiling, floor, and walls showed visible cracks in the concrete. A portion of the roof spanning over the double walled structure collapsed, forewarning of failures to occur. The USGS planned to remove the entire structure. Before the concrete vault could be removed, it was subject to Section 106 review as a Federal undertaking that could have an effect on historic properties. A previous report was completed by the Alaska Office of History and Archeology in 2009 and had considered all the buildings and structures at the Sitka geomagnetic site eligible for listing in the NRHP as a historic district. As mitigation for the removal of the seismic vault, the USGS offered to leave the concrete floor slab in place in exchange for removing all the structure above floor level. The unsafe structure was removed and replaced with an above ground wooden building used to house scientific data-gathering equipment belonging to NOAA in support of the Tsunami Warning Network.

Another USGS site that has a condition index of 88 is the Landsat satellite monitoring facility called the Earth Resources Observation and Science (EROS) Center. Though constructed only 41 years ago, it has been evaluated and determined by the SOI qualified evaluator to be eligible for listing in the NRHP. EROS has collected the longest and most comprehensive record of the condition of the Earth, which has been used to track world changes in land use, wildlife occurrences, drought impacts, climate change, food shortages, and famine. These changes are used to predict future trends of environmental events. The data record collected at the facility qualifies the building with historic significance towards Evaluation Criteria "A". The Mundt Federal Building, housing the main function of EROS, possesses exceptional importance under Criteria Consideration G, "Properties that Have Achieved Significance within the Past Fifty Years," for its contribution to the development of American history, global science and engineering. Since 1973, EROS has continuously received, archived, researched, and distributed remotely sensed satellite data and images. The significance of the EROS mission within the world of science and recordation technology over the past 40 years has been through the gathering of raw data, development of remote sensing technology, satellite management and mapping of the surface of the entire earth to document changes in the surface of the Earth. The National Aeronautics and Space Administration and USGS mapping services collaborated to map the surface of the moon in the 1960s. From this collaboration, the USGS ultimately developed the EROS program to continue the unique and unprecedented evaluation of the Earth from space. Through remote sensing designed to identify specific changes in the surface of the Earth, EROS has produced accurate global mapping of agricultural conditions, water resources, ecological patterns and natural disasters. EROS completed the first Greenness Map of the United States in 1990 for the U.S. Forest Service as part of their Fire Danger Assessment Program. The techniques developed for greenness mapping were subsequently applied to other global land-cover characterization programs. EROS continues to lead in the development of the science and technology necessary to understand how we use our Earth.

Question: Describe the procedures your agency has established to ensure protection of historic properties to include compliance with Section 106.

The USGS has developed a Survey Manual (SM) policy that augments enacted cultural resource management policy. Executive Order (E.O.) 13007 was signed by President William J. Clinton in May of 1996. E.O. 13007, "Indian Sacred Sites" (61 FR 26771-26772 (1996)), directs Federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. The USGS has written policy that builds upon E.O. 13007. The Survey Manual (SM) Chapter 500.6 adds "Tribal lands" to those lands controlled by Federal agencies where Federal agency projects can occur. The USGS is not a land managing agency, though at times, our projects take place on Federal and Tribal lands. SM 500.6 reminds USGS project managers that the land on which their project takes place must not impede a Tribe's access to the Tribal land. It also advocates coordinated communication between Tribal liaisons of both the USGS and its partnered Federal agencies in the event an issue should arise between the Tribe and the USGS acting upon the land during its project. Because Indian sacred sites can be determined to be historic during consultations, those locations would need to be revealed to the USGS in order to help the USGS make a determination if its project would have an effect on historic sites which is lawfully required by Section 106 review. The SM 500.6 policy requires the USGS stewardship to return all locational information of the sacred sites to the Tribes. The policy requires that the USGS remove inadvertent information revealing sacred sites on USGS maps in order to protect these



sacred sites. SM 500.6 internalizes the value of E.O. 13007 for USGS project management and science research cultures.

Another example of policy that promotes the protection of historic properties is the Programmatic Agreement (PA) that is currently being written to cover the maintenance of all USGS buildings that are over 50 years of age and evaluated as either eligible for listing or listed on the NRHP. The PA is being written to allow Section 106 pre-reviewed routine and repetitive maintenance tasks to be carried out without Section 106 each time the task needs to be performed. The Section 106 pre-reviewed tasks will be approved by the National Council of State Historic Preservation Officers (NCSHPO) as well as the National Trust on Historic Preservation. After the execution of the agreement, a more localized PA review of the repetitive and routine maintenance tasks will be developed between the USGS and the individual State Historic Preservation Officers (SHPO) of the State where the USGS site is located. The PA will provide for adding or removing routine and repetitive maintenance tasks to or from the PA for tasks that can be site specific to the local science center. The agreement will contain a monitoring provision for annual reporting to the NCSHPO of repetitive tasks exercised yearly through the national PA.

Question: Describe your agency policies that promote and/or influence the protection of historic properties.

The USGS has an Asset Management Plan. A section of the plan provides guidance relating to cultural resource management. It affirms stewardship of historic assets in the USGS inventory and control. These assets will be inventoried and evaluated, as they have been with the CCAP in the past. The USGS Asset Management Plan strengthens the integration of historic preservation into our asset management processes. The USGS has seven properties that are considered eligible for listing on the NRHP. These properties are being actively used, and in some locations, they sit next to contemporary buildings. Because the USGS is always looking for ways to repurpose its existing facilities, the older assets still serve a purpose based on a USGS mission need they can fill.

As an example, our remote facility called Marrowstone in Nordland, Washington sits on the tip of a peninsula jutting out into the Puget Sound. The main house which functioned as a light house as well as a light keeper's residence is now a temporary residence for visiting scientists. The main house sits next to a massing of new buildings, each painted white and covered by a red standing seam metal roof that is similar to the main house's aesthetics.

Like any other Federal agency balancing its finite sources for maintenance funding, some repair requirements need to be deferred to a future time. The USGS Deferred Maintenance and Capital Improvement (DMCI) Plan is based on a 5-year cycle, each project in the DMCI plan is prioritized using DOI's rating system as described in the DOI's Attachment "G" budget guidance. The guidance also allows Bureau discretion in prioritizing funding for maintenance. This allows the USGS to allocate funds to repair and maintain its most critical assets that support its science mission. Historic as well as contemporary structures that pose a serious health risk to the public or employees rise to a high level of priority, especially if there are hazardous materials present or signs of structural failure. Ironically, most of our historically eligible structures were built well, with some buildings in superior structural shape when compared to those built at a later time. A safe and healthy work environment is the highest order for all buildings despite their ages, with all buildings being treated equally.

Question: Describe your agency's sustainability goals and climate change adaptation planning and how stewardship of historic properties is being addressed.

In addressing the goals of the DOI Climate Change Adaptation Plan, USGS is working with DOI to develop Facilities and Infrastructure Climate Change Vulnerability Assessment Guidance. The guidance maps a strategy to assess the vulnerability of our real property portfolio to the impacts of climate change. The USGS must understand and adapt to the impacts of climate change that may alter our operations, efficiency, and safety of equipment and infrastructure in order to meet our mission. The vulnerability assessment will help quantify the risk of damage to each building and structure resulting from extreme weather and incremental climate change. All USGS historic properties will be included in the initial vulnerability assessment. One of the primary objectives of the DOI Climate Change Adaptation Plan underwrites the importance to complete on-going cultural resource identification efforts, which is legislatively required by Section 110 of the NHPA. The USGS is progressing on this mandate through its condition assessment program.

The USGS observes the Office of Management and Budget Memorandum M-12-12 Section 3: "Freeze the Footprint." While reducing our space holdings, we have saved energy with less space to heat and light, and we have saved land from being developed, which are both sustainability goals. At Hammond Bay Biological Station, we are demolishing years of additions added to the original U.S. Lifesaving Service Station built in 1876 thereby improving its historic integrity. A new laboratory will be built on the site to modernize the lab space demolished from the original Lifesaving Service Station with a zero net gain in square footage. Because the new laboratory is greater than 5,000 square feet, the building is being designed to meet the Sustainable Building Guiding Principles.

Question: Provide specific examples of major challenges, successes, and/or opportunities your agency has encountered in protecting historic properties over the past three years.

Example #1: Hammond Bay Biological Station

The USGS inherited a number of science centers operated by the U.S. Fish and Wildlife Service (FWS) when the National Biological Service merged with the USGS as the Biological Resources Division in 1996. One of the FWS sites transferred to the USGS is called Hammond Bay Biological Station. It is located on the remote northeastern shore of the lower peninsula of Michigan on Lake Huron. This USGS site is turning into a success story for historical context. One of its buildings physically appears as it did when newly built 137 years ago.

It was a great location for the U.S. Life Saving Service (USLSS) to build a lifesaving station in 1876. The 19-foot by 43-foot lifesaving station building was the first building erected at the site and became the nucleus of the lifesaving operation as other buildings were added soon after. The entire lifesaving station was handed over to the U.S. Coast Guard which operated the installation until 1947. It was then transferred to the U.S. Bureau of Fisheries which was a part of FWS at the time. Under new ownership starting in 1950, the station was used to develop science to diminish the prolific growth of the invasive sea lamprey in the Great Lakes. Over 60 years of research at Hammond Bay has produced successful strategies in reversing the sea lamprey's domination of the lakes, but also produced an accumulation of laboratory space that lacks a cohesive design to support state-of-the-art science research.

Today, the science center at Hammond Bay has reached the end of its capacity for effective scientific research, and if the center is to continue its mission into the 21st century, a new laboratory will be needed. A Business Case Analysis (BCA) was performed by the Great Lakes Science Center Director which advocated the building of a new laboratory at Hammond Bay. It emphasized the need for a central and modernized laboratory space that would keep the station viable for USGS invasive species research.

The BCA examined in depth three design alternatives for a new laboratory at the Hammond Bay site. The BCA treated the USLSS station building as a historic building in each design alternative. It also considered the lakefront construction set-back required by Michigan's portion of the Great Lakes, and acknowledged the USGS Acting Director Suzette Kimball's directive for all USGS employees to "comply and strive to surpass Federal, State, and local environmental laws and regulations." The two most expensive design alternatives refurbished the existing laboratories in the existing buildings of Hammond Bay and retained the building's footprint inside the lake front set-back. The least expensive design alternative proposed to build a new lab on the Hammond Bay site outside the lake front set-back, and abandon the complex of existing laboratories that are partly housed in the old USLSS building. Once vacated, the appended buildings surrounding the core USLSS building would be demolished. The ground floor of the lifesaving building would be gutted of the vacated lab space and re-purposed as a visitor's center. The lifesaving building will be restored to its original appearance as a lone structure as it was designed and constructed in 1876. The lead paint used over the years in the building will be removed and the wood details contributing to the vernacular of the building saved. Its new function as a visitor's center will dovetail with the spirit of Section 110 of the NHPA which emphasizes the active use of the historic structures owned by all Federal agencies.

The historic evaluation performed at Hammond Bay in 2013 found the original building not eligible for listing on the NRHP because the basic structure of the lifesaving station's historic integrity was compromised by the years of additions attached to it. The USGS is improving the historic condition of the lifesaving station by peeling away the years of additions through the removal of the ad-hoc extensions attached to the original station. Ironically, the condition assessment performed at Hammond Bay Biological Station by an engineer in 2012 determined the original lifesaving station to be structurally sound.

The original structural system at the Hammond Bay Coast Guard building is intact and solidly constructed. The walls are framed 2 x 4 wood studs which are fully 2 inches by 4 inches in cross-section. The 3 x 5 floor joists are precisely 3 inches wide by 5 inches deep. The wood flooring members are tongue and groove interlocked with a full dimension of 1 inch thick by 3 inches wide. All structural wood elements are rough sawn, indicating the lumber came to the site directly from a saw mill which could have been located nearby. There are original wood brackets located on the exterior of the building that structurally support the roof decking above. The engineer concluded in his report, "The structural system at the original Coast Guard building appears to be in good condition."

It seems the original lifesaving station built in 1876 is in good condition due to its robust construction. The outpost was crafted to withstand extreme weather, enabling it to continue its original service to protect human life and unwittingly to advance the research needed to save native fisheries in the Great Lakes as well as other parts of the world from the sea lamprey.

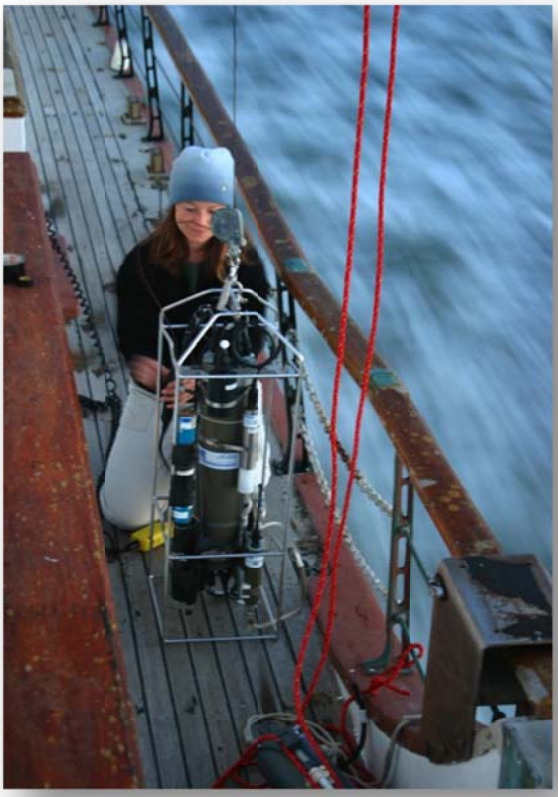
Example #2: Research Vessel Polaris

As the science research at the USGS is tasked to find solutions to evolving challenges in understanding our environment, the USGS facility or structure where the science research is performed must be sufficiently provisioned and outfitted to meet the new trials of the future. The instruments used to prove a hypothesis yesterday may not be adequate in solving tomorrow's assertions. One structure which has reached the limit of its usefulness has served the USGS for 50 years, the Research Vessel (R/V) Polaris. Her story has been a challenge. She has the extraordinary qualifications to be placed on the NRHP for the USGS as its first listing, but ownership may be transferred to another Federal agency.

The R/V Polaris is one of eight research vessels in the USGS inventory used to collect water borne biological and geologic samples for study and processing. This ship is our oldest marine vessel and was built in 1927 for a person named Lee Phillips. The R/V Polaris was second in the line of two ships built for him. Both were similar in style and shared the same name: Pasado Mañana. The first Pasado Mañana served two purposes: it was a work boat from which Phillips would plan his land reclamation projects in the San Francisco Bay, and as a floating platform to show his ideas to speculating investors in land development surrounding the Bay. Phillips sold the first Pasado Mañana and had a second yacht built. The boats looked similar but the second Pasado Mañana was 31 feet longer and had more accoutrements of a luxury yacht. Lee Phillips entertained notable guests on the deck of the ship. Winston Churchill was treated to an outing of sail fishing near Catalina Island. Herbert Hoover was also onboard the Lee Phillips yacht in 1933.

The second Pasado Mañana changed owners many times after the death of Lee Phillips and was acquired for war-time service with the U.S. Navy as Q-109. In her military service, she became a marine shuttle carrying soldiers and equipment to various military fortifications surrounding the Puget Sound in the State of Washington during WW II. The yacht was painted stem to stern in olive green covering her exterior and mahogany interior. After the war, she was again sailing as a yacht for private owners around Seattle, Washington. The ship was purchased by Alaska Charters Incorporated and was rechristened by the company as “Polaris.” The yacht was rented out for recreation and premiere pleasure cruises. Later, another owner named Ken Bechtel; the son of the founder of Bechtel Corporation, put her up for sale for $163,000, but failed to attract a new owner. The lack of sale prompted Mr. Bechtel to donate the vessel to the University of California at Berkley, CA. The university accepted the offer

and Polaris was returned to familiar waters home ported in the San Francisco Bay. The ship broke down constantly while in the hands of the university and was accumulating a back-log of deferred maintenance. Eventually, the university offered her up for sale. The USGS bought the Polaris for $4,000 in 1964 with intentions to transform her into a marine laboratory. The USGS replaced her original engine which was the last engine manufactured by Union Diesel of Oakland, California. The USGS donated the rare engine to the San Francisco Maritime Museum. Her communications, navigations, and safety equipment were updated to the latest marine safety standards. Some of the ship's interior spaces were refitted as laboratory space with additional berths added to support overnight cruises for the scientists. Today, she is still a research vessel and is one of the oldest ships operated by a Federal agency. She has cruised the San Francisco Bay to measure the condition of the Bay's vital signs (i.e., salinity, chlorophyll, dissolved oxygen, light penetration, total suspended solids, and temperature). This USGS internet website provides the great overview of its mission on the San Francisco Bay: http://sfbay.wr.usgs.gov/access/wqdata/overview/index.html.



Today in 2014, her life as a ship comes full circle across 88 years and many chapters back to where she plied the waters long ago again instrumental to the development of the San Francisco Bay. She has been outfitted by the USGS to sample geologic sediment in the Bay and most ironically, particulates deposited in the Bay partly by the land use and planning supervised by her original owner, Lee Phillips.

The USGS has plans to surplus the R/V Polaris and to further its mission on the Bay with a larger marine platform. Observing its obligations to Section 110 of the National Historic Preservation Act, USGS hopes to see the R/V Polaris nominated to the NRHP and conveyed to a suitable Federal agency which has an equal historic interest in her. At this time, the California State Historic Preservation Officer (SHPO) believes the ship is eligible for listing on the NRHP as a local icon of the San Francisco Bay and its heritage. Before any type of ship can be excessed in the United States, it must have its asbestos materials removed, since asbestos is a regulated hazardous material. The USGS science center has contracted an asbestos study which will be used to identify where the material is located on the ship along with its condition, and will help the USGS determine its cost of abatement. After the ship has its asbestos removed, and replaced with safe materials that function similarly, the USGS will resume the surplus of R/V Polaris through the General Service Administration (GSA) ship auction program, which will take ownership of the R/V Polaris. In the first round of auction, the ship will be offered to Federal and State government agencies to see if the vessel can fill a niche under continued government operation. If no offers are made, the ship will be put up for auction to the public. If the new owner accepts Polaris from this round of auction, a Memorandum of Agreement will need to be signed between GSA and the new owner ensuring her preservation in the future. If no parties express interest in Polaris, GSA should work with the California SHPO in the drafting of a Memorandum of Agreement that will outline all the steps the agency has taken to secure her continued operation, along with future steps in making sure her record and artifacts are safely in the hands of the SHPO and other historic entities who will display them for future generations.

The listing of the R/V Polaris on the National Register could prove to be a milestone event. Especially with a ship, there are many hurdles that must be overcome to reach the goal, which adds to the challenge to become a success story. The USGS has not had the opportunity to have a property listed on the National Register, and if the R/V Polaris is transferred to another agency, that agency may have the honor of placing her on the NRHP. The R/V Polaris is a prime candidate for listing with its colorful and circuitous history. The USGS's successful partnerships with other environmental groups monitoring the condition of the San Francisco Bay can be attributed to the USGS's faithful upkeep of the R/V Polaris.