

NOAA
STEWARDSHIP INFORMATION
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NOTE 23. STEWARDSHIP PROPERTY, PLANT, AND EQUIPMENT

This note provides information on certain resources entrusted to the Department and certain stewardship responsibilities assumed by the Department. The physical properties of stewardship property, plant, and equipment (Stewardship PP&E) resemble those of the General PP&E that is capitalized traditionally in the financial statements of federal entities. Due to the nature of these assets, however, valuation would be difficult and matching costs with specific periods would not be meaningful. Therefore, federal accounting standards require the disclosure of the nature and quantity of these assets. NOAA, NIST, and the Census Bureau are the only entities within the Department that have Stewardship PP&E.

Stewardship Marine Sanctuaries, National Marine Monuments, and Conservation Area:

NOAA maintains the following Stewardship PP&E, which are similar in nature to stewardship land:

National Marine Sanctuaries: In 1972, Congress passed the Marine Protection, Research, and Sanctuaries Act (Act) in response to a growing awareness of the intrinsic environmental and cultural value of coastal waters. The Act authorized the Secretary of Commerce to designate discrete areas as National Marine Sanctuaries. These protected waters provide a secure habitat for species close to extinction, and also protect historically significant shipwrecks and prehistoric artifacts. The sanctuaries are also used for recreational diving and sport fishing, and support valuable commercial industries such as fishing and kelp harvesting. As of June 30, 2009, 13 National Marine Sanctuaries, which include near-shore coral reefs and open ocean, have been designated, covering a total area of 19,000 square miles. Each individual sanctuary site (Monterey Bay, the Florida Keys, the Olympic Coast, and Channel Island are the largest four) conducts research and monitoring activities to characterize existing resources and document changes.

Papahānaumokuākea Marine National Monument: The majority of all coral reef habitats located in U.S. waters surround the Northwestern Hawaiian Islands (NWHI). The NWHI Coral Reef Ecosystem Reserve is the nation's largest marine protected area, and was established by Executive Orders in December 2000 and January 2001, in accordance with the National Marine Sanctuaries Amendments Act of 2000. On June 15, 2006, the President created the world's second largest marine conservation area off the coast of the northern Hawaiian Islands. This conservation area, designated the Northwestern Papahānaumokuākea Marine National Monument, encompasses nearly 140,000 square miles of U.S. waters, including 5,178 square miles of relatively undisturbed coral reef habitat that is home to more than 7,000 species. The Monument will be managed by NOAA, with the Department of the Interior, and the State of Hawaii.

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Rose Atoll Marine National Monument: On January 6, 2009, President Bush designated Rose Atoll in American Samoa a Marine National Monument. The atoll includes the Rose Atoll National Wildlife Refuge. It also includes about 20 acres of land and 1,600 acres of lagoon and is one of the most pristine atolls in the world. The areas around the atoll support a dynamic reef ecosystem that is home to many land and marine species, many of which are threatened or endangered. The Department of the Interior has primary management responsibility of the atoll while NOAA has primary management responsibility for the marine areas of the monument seaward of mean low water, with respect to fishery-related activities regulated pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.) and any other applicable authorities. Management strategies will be developed in coming years.

Marianas Trench Marine National Monument: On January 6, 2009, President Bush designated the Marianas Trench Marine National Monument. The Monument consists of approximately 95,216 square miles of submerged lands and waters of the Mariana Archipelago. It includes three units: the Islands Unit, the waters and submerged lands of the three northernmost Mariana Islands; the Volcanic Unit, the submerged lands within 1 nautical mile of 21 designated volcanic sites; and the Trench Unit, the submerged lands extending from the northern limit of the Exclusive Economic Zone of the United States in the Commonwealth of the Northern Mariana Islands (CNMI) to the southern limit of the Exclusive Economic Zone of the United States in the Territory of Guam. No waters are included in the Volcanic and Trench Units, and CNMI maintains all authority for managing the three islands within the Islands Unit (Farallon de Pajaros or Uracas, Maug, and Asuncion) above the mean low water line. The Department of the Interior has primary management responsibility for the Monument while NOAA has primary management responsibility with respect to fishery-regulated activities regulated pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and any other applicable authorities. NOAA will develop a management plan, and, with the Department of the Interior, establish an advisory council for the Monument. These actions will require the preparation of associated National Environmental Policy Act documentation.

Pacific Remote Islands Marine National Monument: On January 6, 2009, President Bush designated the Pacific Remote Islands Marine National Monument. The Pacific Remote Islands area consists of Wake, Baker, Howland, and Jarvis Islands, Johnston Atoll, Kingman Reef, and Palmyra Atoll, which lie to the south and west of Hawaii. With the exception of Wake Island, these islands are administered as National Wildlife Refuges by the United States Fish and Wildlife Service of the Department of the Interior. They sustain many endemic species including corals, fish, shellfish, marine mammals, seabirds, water birds, land birds, insects, and vegetation not found elsewhere. NOAA has primary responsibility for management of the monument seaward of the area 12 nautical miles of the mean low water lines of Wake, Baker, Howland, and Jarvis Islands, Johnston Atoll, Kingman Reef, and Palmyra Atoll, with respect to fishery-related activities regulated pursuant to the Magnuson-Stevens Fishery Conservation and Management Act

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and any other applicable legal authorities. Management strategies will be developed in coming years.

NOAA will have primary responsibility for management of the monument seaward of the area 12 nautical miles of the mean low water lines of Wake, Baker, Howland, and Jarvis Islands, Johnston Atoll, Kingman Reef, and Palmyra Atoll, with respect to fishery-related activities regulated pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and other applicable legal authorities.

Aleutian Islands Habitat Conservation Area: On July 28, 2006, NOAA Fisheries Service formally established the Aleutian Islands Habitat Conservation Area in Alaska, which covers 279,114 square nautical miles and may harbor among the highest diversity of deep-water corals in the world. The conservation area established a network of fishing closures in the Aleutian Islands and Gulf of Alaska, and protects habitat for deep water corals and other sensitive features that are slow to recover once disturbed by fishing gear or other activities. Six small areas that include fragile coral gardens discovered by NOAA Fisheries Service scientists will be closed to all bottom-contact fishing gear. This effort is part of a network of new marine protected areas in Alaskan waters designed to protect essential fish habitat and prevent any further damage of the area.

Written policy statements or permit guidelines for the National Marine Sanctuaries and Monuments have been developed for the areas of acoustic impacts, artificial reefs, climate change, invasive species, marine debris, and submarine cables. The Office of Marine National Sanctuaries answers the most frequently asked questions related to alternative energy and oil and gas policy decisions in national marine sanctuaries.

Heritage Assets:

Heritage assets are unique for their historical or natural significance, for their cultural, educational, or artistic importance, or for their significant architectural characteristics. The Department generally expects that these assets will be preserved indefinitely.

In cases where a heritage asset also has a practical and predominant use for general government operations, the asset is considered a multi-use heritage asset. The cost of a multi-use heritage asset is capitalized as General PP&E and is depreciated over the useful life of the asset.

Historical artifacts are designated heritage assets if they help illustrate the social, educational, and cultural heritage of NOAA and its predecessor agencies (U.S. Coast and Geodetic Survey, U.S. Fish Commission, the Weather Bureau, the Institutes for Environmental Research, the Environmental Science Services Administration, etc.). These include, but are not limited to, bells, gyro compasses, brass citations, flags, pennants, chronometers, ship's seals, clocks, compasses, fittings, miscellaneous ship

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fragments, lithographic plates, barometers, rain gauges, and any items which represent the uniqueness of the mission of NOAA and its predecessor agencies.

NOAA has established policies for heritage assets to ensure the proper care and handling of these assets under its control or jurisdiction. The Deputy Under Secretary of NOAA has established the Heritage Assets Working Committee to administer NOAA's stewardship policies and procedures. In carrying out these policies and procedures, the NOAA Heritage Assets Working Committee:

- Maintains a nationwide inventory of heritage assets, ensuring that they are identified and recorded in the Personal Property Heritage Asset Accountability System,
- Establishes nationwide NOAA policies, procedures, and standards for the preservation, security, handling, storage, and display of NOAA heritage assets,
- Tracks and updates each loan of NOAA heritage assets, including assigning current values and inventory numbers, and reporting the current condition of heritage assets,
- Determines the feasibility of new asset loans, such as meters, standard tide gauges, portraits, and books for exhibit loans, and
- Collects heritage assets and properties of historic, cultural, artistic, or educational significance to NOAA.

NOAA maintains the following heritage assets:

Galveston Laboratory: Galveston Laboratory is comprised of seven buildings that were originally part of Fort Crockett, an Army coastal defense facility built shortly after 1900. These buildings are eligible for placement on the National Register. Due to their historic significance, exterior architectural features, and predominant use in government operations, the Galveston Laboratory is considered a multi-use heritage asset. This facility underwent renovation in three phases and was completed in September 2008. After the renovation was complete, two incidents have occurred to the laboratory requiring necessary repair work.

The first incident was a fire in building 303 due to a lightning strike. The overall fire repair of building 303 has been completed as of March 2009. The second incident resulted in damage due to Hurricane Ike and will be completed in two phases. The emergency repair work for the Galveston campus buildings is 70 percent complete as of June 2009. The estimated completion for this project is October 2009. In addition, the new turtle sick bay, lightning protection, surge suppression, fire alarm for small

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buildings, sea water tanks, walk in freezer and haz-mat building is 20 percent complete as of June 2009. This phase has an estimated completion of February 2010.

National Marine Fisheries Service (NMFS) St. George Sealing Plant: On St. George Island, in the Pribilof Islands group, Alaska is the only remaining northern fur seal pelt processing building in the world. In 1986, the building was listed on the National Register of Historic Properties, within the Seal Islands National Historic Landmark. The Pribilof Island commercial fur seal harvest was an extremely profitable business for the U.S. government, and, by the early 1900's, had covered the purchase price of Alaska. The building is the largest on the island, and is comprised of four distinct work areas from the seal pelt processing area. In 1950, the original wood-framed pelt processing plant was destroyed in a fire and rebuilt in 1951 with concrete walls on remnants of the original foundation. Harsh weather and a lack of maintenance funding after the expiration of the Northern Fur Seal Convention in 1985 resulted in significant deterioration of the building by the early 1990s.

In November 1999, after numerous site surveys and assessments, the building's crumbling foundation was stabilized and the building's exterior was painted. This effort allowed for NOAA's continued, but limited, use of the building by the NMFS Alaska Region and Alaska Fisheries Science Center to achieve NOAA's mission on St. George Island. In addition, the U.S. Fish and Wildlife Service (USFWS) Alaska Maritime National Wildlife Refuge has used the building as a bunkhouse until 2006 when NOAA's Safety Officer and the USFWS Safety Officer both determined the bunkhouse portion of the building lacked sufficient means of egress in the event of fire, and deemed it to be unsafe for habitation. It was determined by USFWS that the cost of making the necessary modifications to the space was not fiscally justifiable. NOAA's Preserve America program funded an interpretive display project in the Seal Plant to promote public outreach and education for the modest tourism program on St. George.

National Marine Fisheries Service (NMFS) Cottage M, St. George: The last remnants of the United States commercial harvest of northern fur seals can be found on St. George Island, in the Pribilof Islands group, Alaska. In 1986 Cottage M (locally known as Cottage C), was listed on the National Register of Historic Places within the Seal Islands National Historic Landmark. This building was constructed in the 1930s and was the residence of the island doctor and hospital through 1955 when the current clinic/hospital was built. Later, the construction of a health clinic on St. George Cottage M provided housing for government scientists and managers. In recent years, USFWS Alaska Maritime National Wildlife Refuge staff have also used the building. The NMFS Cottage M is considered a multi-use heritage asset because of the critical housing for NOAA's research and management staff along with USFWS staff.

National Marine Fisheries Service (NMFS) St. Paul Old Clinic/Hospital: On St. Paul Island, in the Pribilof Islands group, Alaska, fewer historic structures remain than on St. George Island. In 1986 the clinic/hospital, was listed on the National Register of Historic

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Places within the Seal Islands National Historic Landmark. The old clinic/hospital is the combination of three historic buildings (physician's house, 1929; dispensary, 1929; hospital, 1934) connected in 1974 with an addition. The building was used as a clinic/hospital under a Memorandum of Agreement between NMFS and the Department of Health, Education and Welfare and later the Indian Health Service/Bureau of Indian Affairs (IHS/BIA) through 2006. A new health center was constructed on St. Paul in 2006 and a closeout procedure and custody transfer between NMFS and IHS/BIA is still being negotiated. NMFS has not used the building to meet its mission for at least the past 20 years.

National Marine Fisheries Service (NMFS) Aquarium: In Woods Hole, Massachusetts, this aquarium was established in 1875 by Spencer Baird, the originator of NMFS. In addition to being part of the first laboratory of today's NMFS, this aquarium is the oldest marine research display aquarium in the world. It is used to educate the public, raise public awareness of NMFS activities, and accommodate in-house research for the Northeast Fisheries Science Center, part of NOAA's mission. The aquarium houses 16 permanent exhibition tanks and approximately 12 free standing aquaria and touch tanks holding more than 140 species of fish and invertebrates. The tanks range in size from 75 to 2,800 gallons. The aquarium's outdoor habitat for resident seals was completely replaced in 2008 and was re-opened to the public in July 2008. The general condition of the aquarium is good. The NMFS Aquarium is considered a multi-use heritage asset because it is also used for NOAA's scientific research, which is part of its mission.

Office of Atmospheric Research (OAR) Great Lakes Environmental Research Laboratory (GLERL), Lake Michigan Field Station (LMFS): In Muskegon, Michigan, the GLERL main building, constructed in 1904 by the U.S. Life Saving Service, is eligible for National Register designation and has been recognized by state and local historical societies for its maritime significance. With the creation of the U.S. Coast Guard in 1915, the facility was transferred and served as a base for search and rescue operations for 75 years. In 2004, a renovation project was completed that restored the exterior to its original architecture and color scheme - a style that is considered rare. Today, GLERL carries out research and provides scientific products, expertise, and services required for effective management and protection of Great Lakes and coastal ecosystems. GLERL/LMFS includes three buildings and a research vessel dockage. The function of the field station is to provide a base of operations for GLERL's primary research vessel, which is presently the Research Vessel Laurentian, and to provide a focal point for GLERL's research on Lake Michigan. Due to its historic significance, exterior architectural features, and predominant use in government operations, GLERL/LMFS is considered a multi-use heritage asset.

Collection-type Heritage Assets: The NOAA's collection-type heritage assets are comprised primarily of books, publications, manuscripts, records, nautical chart plates, and artifacts. Many of these heritage assets are maintained by the NOAA Central Library (Library). The Library has an extensive collection of historical Coast and Geodetic

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Survey materials (from 1807) and Weather Bureau materials (from the 1830s), including foreign and historical meteorological data, information on instruments, and metadata. As evidenced by a search of international catalogs, 35 to 50 percent of the Library's collection is unique. Historically, 40 percent of the items catalogued are not found anywhere else. Many older books cannot be replaced. The works include 17th century works of Francis Bacon and Robert Boyle, 18th century works of Daniel Bernouilli, Daniel Defoe, and Pierre Bouguer, and 19th and 20th century works of Benjamin Franklin and George Washington Carver.

The NOAA's collection-type heritage assets also include items in the Thunder Bay Sanctuary Research Collection (Collection). In 2004, the Thunder Bay National Marine Sanctuary (jointly managed by NOAA and the State of Michigan to protect and interpret a nationally significant collection of shipwrecks and other maritime heritage resources) established an agreement with the Alpena County George N. Fletcher Public Library to jointly manage this Collection. Amassed over a period of more than 40 years by historian C. Patrick Labadie, the Collection includes information about such diverse subjects as Great Lakes ports and waterways, docks, cargoes, ships, shipbuilders, owners and fleets, machinery and rigging, notable maritime personalities, and shipwrecks. Special features of the Collection are extensive collections of a) data cards listing most of the ships on the Great Lakes before year 1900, a roster of some 15,000 vessels complete with descriptive data and highlights of the ships' careers and their ultimate losses; and b) ship photograph negatives of 19th and 20th century Great Lakes ships. Heritage assets also include copies of vessel ownership documents, contemporary ship photographs, books, and other items documenting the Great Lakes history.

The NOAA Logistics Office conducted a review of the NOAA Central Library during FY 2009 and concluded that many items do not qualify as collection-type heritage assets. This resulted in a significant decrease in heritage assets. NOAA's cataloged collection of 465,528 items was reclassified into one collection and NOAA's collection of 40,000 (estimated) black and white photographs was also reclassified into one collection. Until the NOAA Central Library follows the proper archival procedures as evidenced by the National Archives and Records Administration (NARA), many items cannot be arbitrarily classified as heritage assets.

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Collection-type Heritage Assets					
Entity	Description of Assets	Quantity of Items Held 9/30/08	FY 2009 Additions	FY 2009 Withdrawals	Quantity of Items Held 6/30/09
NOAA Central Library	Publications, books, manuscripts, photographs, and maps	602,498	0	592,013	10,485
National Ocean Service – Thunder Bay Sanctuary Research Collection	Data cards, photograph negatives, document copies, photographs, books, and other items	106,254	0	0	106,254
Others	Artifacts, artwork, books, films, instruments, maps, and records	3,824	372	463	3,733
Total		712,576	372	592,476	120,472

Additional information on the condition of the above Heritage Assets is presented in the Required Supplementary Information sectionI

REQUIRED SUPPLEMENTARY INFORMATION

Stewardship Marine Sanctuaries, Marine National Monument, and Conservation Area:

NOAA maintains the following sanctuaries, Marine National Monument, and conservation area, which are similar in nature to stewardship land and which are more fully described in Note 23, Stewardship Property, Plant, and Equipment, of the Notes to the Financial Statements.

National Marine Sanctuaries: These protected waters provide a secure habitat for species close to extinction, and also protect historically significant shipwrecks and prehistoric artifacts. Each of the 13 individual sanctuary sites, which include near-shore

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coral reefs and open ocean, conducts research and monitoring activities to characterize existing resources and document changes. The waters and resources of the National Marine Sanctuaries are generally in good condition, though some specific resources (e.g. certain coral reefs, some commercial and recreational fisheries, and some benthic habitats) are threatened.

Papahānaumokuākea Marine National Monument: The majority of all coral reef habitats located in U.S. waters surround the Northwestern Hawaiian Islands (NWHI). The Papahānaumokuākea Marine National Monument, located off the coast of the NWHI, encompasses nearly 140,000 square miles of U.S. waters, including 5,178 square miles of relatively undisturbed coral reef habitat that is home to more than 7,000 species. The Monument is managed by the NOAA National Marine Sanctuary, with the Department of the Interior, and the State of Hawaii. The condition of the Papahānaumokuākea Marine National Monument is good, but the Monument does face emerging threats.

Rose Atoll Marine National Monument: The atoll includes the Rose Atoll National Wildlife Refuge. It also includes about 20 acres of land and 1,600 acres of lagoon and is one of the most pristine atolls in the world. The areas around the atoll support a dynamic reef ecosystem that is home to many land and marine species, many of which are threatened or endangered. The condition of the Rose Atoll Marine National Monument is good.

Marianas Trench Marine National Monument: The Marianas Trench Marine National Monument consists of approximately 95,216 square miles of submerged lands and waters of the Mariana Archipelago. It includes three units: the Islands Unit, the waters and submerged lands of the three northernmost Mariana Islands; the Volcanic Unit, the submerged lands within 1 nautical mile of 21 designated volcanic sites; and the Trench Unit, the submerged lands extending from the northern limit of the Exclusive Economic Zone of the United States in the Commonwealth of the Northern Mariana Islands (CNMI) to the southern limit of the Exclusive Economic Zone of the United States in the Territory of Guam. No waters are included in the Volcanic and Trench Units, and CNMI maintains all authority for managing the three islands within the Islands Unit (Farallon de Pajaros or Uracas, Maug, and Asuncion) above the mean low water line. NOAA has primary management responsibility with respect to fishery-regulated activities regulated pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and any other applicable authorities. The condition of the Marianas Trench Marine National Monument is good.

Pacific Remote Islands Marine National Monument: The Pacific Remote Islands area consists of Wake, Baker, Howland, and Jarvis Islands, Johnston Atoll, Kingman Reef, and Palmyra Atoll, which lie to the south and west of Hawaii. With the exception of Wake Island, these islands are administered as National Wildlife Refuges by the United States Fish and Wildlife Service of the Department of the Interior. They sustain many endemic species including corals, fish, shellfish, marine mammals, seabirds, water birds,

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land birds, insects, and vegetation not found elsewhere. NOAA has primary responsibility for management of the monument seaward of the area 12 nautical miles of the mean low water lines of Wake, Baker, Howland, and Jarvis Islands, Johnston Atoll, Kingman Reef, and Palmyra Atoll, with respect to fishery-related activities regulated pursuant to the Magnuson-Stevens Fishery Conservation and Management Act and any other applicable legal authorities. The condition of the Pacific Remote Islands Marine National Monument is good.

Aleutian Islands Habitat Conservation Area: This conservation area in Alaska, which covers 279,114 square nautical miles, may harbor among the highest diversity of deep-water corals in the world, and protects habitat for deep water corals and other sensitive features that are slow to recover once disturbed by fishing gear or other activities. The condition of the Aleutian Islands Habitat Conservation Area is generally good, although some specific resources are threatened. For example, the conservation area contains six small areas of fragile coral gardens.

Collection-type Heritage Assets

NOAA's collection-type heritage assets are comprised primarily of books, publications, manuscripts, records, nautical chart plates, and artifacts. Many of these heritage assets are maintained by the NOAA Central Library (Library). The Library's Regular Collection consists of over 144, 000 journal items (pre-1970 and current) and approximately 140,700 books, plus its historical Weather Bureau (M collections), Coast and Geodetic Survey collection, and Rare Book Collection. A re-count of the library inventory was completed during FY 2008, which provided a new base number of the collection containing heritage assets. The NOAA Logistics Office conducted a review of the NOAA Central Library during FY 2009 and concluded that, at least for now, many items previously classified as collection-type heritage assets do not qualify for this classification. This resulted in a significant decrease in heritage assets from FY 2008. NOAA's catalogued collection was reclassified into one collection and NOAA's collection of black and white photographs was also reclassified into one collection.

NOAA's collection-type heritage assets also include items in the Thunder Bay Sanctuary Research Collection, composed primarily of a) data cards listing most of the ships on the Great Lakes before 1900, a roster of some 15,000 vessels complete with descriptive data and highlights of the ships' careers and their ultimate losses; and b) ship photograph negatives of 19th and 20th century Great Lakes ships.

NOAA uses the Condition Assessment Survey (CAS) method to describe the condition of its assets. The CAS method is based on a five-point scale with 1 representing excellent condition; 2 – good condition; 3 – fair condition; 4 – poor condition; and 5 – very poor condition. Assets with the condition assessment level between 1 through 3 are defined as being suitable for public display. The books, publications, and manuscripts, that make up the majority of the NOAA collection-type heritage assets, are in 4 – poor condition, and 5

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– very poor condition. The heritage assets of the Thunder Bay Sanctuary Research Collection are in 2 – good condition.

REQUIRED SUPPLEMENTARY STEWARDSHIP INFORMATION

Stewardship Investments

Stewardship investments are substantial investments made by the federal government for the benefit of the nation, but are not physical assets owned by the federal government. Though treated as expenses when incurred to determine the Department's Net Cost of Operations, these items merit special treatment so that users of federal financial reports know the extent of investments that are made for the long-term benefit of the nation.

Investments in Non-federal Physical Property:

Non-federal physical property investments are expenses included in the Department's Net Cost of Operations for the purchase, construction, or major renovation of physical property owned by state and local governments. Based on a review of the Department's programs, NOAA and EDA have significant investments in non-federal physical property.

National Estuarine Research Reserves (NERR): The NERR system consists of 27 estuarine reserves protected by federal, state, and local partnerships that work to preserve and protect the nation's estuaries. The NERR system helps to fulfill NOAA's stewardship mission to sustain healthy coasts by improving the nation's understanding and stewardship of estuaries. Estuarine reserves are the areas where freshwater from rivers meet the ocean. These areas are known as bays, swamps, sloughs, and sounds. These important coastal habitats are used as spawning grounds and nurseries for the nation's commercial fish and shellfish. Estuaries filter much of the polluted runoff from rivers and streams that would otherwise contaminate oceans. The reserves were created with the passage of the Coastal Zone Management Act of 1972, and, as of June 30, 2009, encompassed approximately 1.3 million acres of estuarine waters, wetlands, and uplands. The newest reserve, Mission-Aransas, Texas, was designated on May 3, 2006. The NERRs are state-operated and managed in cooperation with NOAA. The NOAA's investments in non-federal physical property are for the acquisition of lands and development or construction of facilities, auxiliary structures, and public access routes for any NERR site.

Coastal and Estuarine Land Conservation Program: This program was established under the Commerce, Justice, and State Appropriations Act of 2002, "for the purpose of protecting important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values, or that are threatened by conversion from their natural or recreational state to other uses." The investments in non-federal physical property include matching grants awarded to state and local governments for

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land acquisition in coastal and estuarine areas. Since FY 2002, matching grants have been directed to 140 such projects.

Coastal Zone Management Fund: The Coastal Zone Management Program is authorized by the Coastal Zone Management Act of 1972, and administered at the federal level by NOAA's Office of Ocean and Coastal Resource Management. The investments in non-federal physical property include incidental expenses of land acquisition, and low-cost construction on behalf of various state and local governments, for the purpose of preservation or restoration of coastal resources and habitats. The NOAA's financing supports various coastal states in their redevelopment of deteriorating and urbanized waterfronts and ports, as well as providing for public access to beaches and coastal areas. The state and local governments receive funding for these investments through NOAA grant expenditures, and these grant expenditures also include funding for purposes other than the investments in non-federal physical property. There is currently not in place a mechanism for the state and local governments to determine and report to NOAA the amount of monies they expend for the investments in non-federal physical property. The Department, accordingly, cannot report the amount of investments in non-federal physical property for the Coastal Zone Management Fund.

The NOAA's investments in non-federal physical property for FY 2005 through FY 2009 were as follows:

(In Millions)

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total
National Estuarine Research Reserves	\$ 15.4	\$ 6.8	\$11.6	\$11.8	\$8.1	\$53.7
Coastal and Estuarine Land Conservation Program	15.5	18.5	34.7	28.1	15.2	\$112.0
Total	\$ 30.9	\$ 25.3	\$46.3	\$39.9	\$23.3	\$165.7

Investments in Human Capital:

Human capital investments are expenses, included in the Department's Net Cost of Operations, for education and training programs that are intended to increase or maintain national economic productive capacity and produce outputs and outcomes that provide evidence of the constant or increasing national productive capacity. These investments exclude education and training expenses for federal civilian and military personnel. Based on a review of the Department's programs, the most significant dollar investments in human capital are by NOAA.

National Sea Grant College Program: Sea Grant is a nationwide network, administered through NOAA, of 32 university-based programs that work with coastal communities. With the adoption in 1966 of the National Sea Grant College Act, Congress

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established an academic/industry/government partnership that would enhance the nation's education, economy, and environment into the 21st century. The program supports activities designed to increase public awareness of coastal, ocean, and Great Lakes issues, to provide information to improve management decisions in coastal, ocean, and Great Lakes policy, and to train graduate students in marine and Great Lakes science. The Knauss Fellowship Program offers qualified masters and doctoral students the opportunity to spend a year working on marine and Great Lakes policy issues with the Executive and Legislative branches of the Federal Government. There is also a Graduate Fellowship Program for Ph.D. candidates in the specialized areas of population dynamics and marine resource economics. Participants in this program can receive up to three years of funding.

National Estuarine Research Reserve Program: This program supports activities designed to increase public awareness of estuary issues, provide information to improve management decisions in estuarine areas, and train graduate students in estuarine science. The National Estuarine Research Reserve System's Graduate Research Fellowship (GRF) Program offers qualified masters and doctoral students the opportunity to address scientific questions of local, regional, and national significance. The result is high-quality research focused on improving coastal management issues. All GRF projects must be conducted in a National Estuarine Research Reserve and enhance the scientific understanding of the reserve's ecosystem. As of June 30, 2009, 53 Graduate Research Fellowships have been awarded.

Educational Partnership Program: The NOAA **Educational Partnership Program (EPP) with Minority Serving Institutions (MSI)** provides financial assistance through competitive processes to minority serving institutions that support research and training of students in NOAA-related sciences. The program's goal is to increase the number of educated, trained and graduated students from underrepresented communities in science and technology directly related to NOAA's mission. The EPP/MSI also seeks to increase collaborative research efforts between NOAA scientists and researchers at minority serving academic institutions. Financial assistance is provided through four competitive program components: the Cooperative Science Centers, the Environmental Entrepreneurship Program, the Graduate Sciences Program, and the Undergraduate Scholars Program.

NOAA provides funding to eligible MSIs on a competitive basis to educate, train and graduate students in NOAA sciences, particularly atmospheric, oceanic, environmental, living marine resources, remote sensing and scientific environmental technology. The NOAA EPP Cooperative Science Center goals are to:

- Educate, train and graduate students, particularly from underrepresented communities, in NOAA mission sciences;
- Develop expertise in a NOAA scientific area;
 - Strengthen and build capacity in a NOAA scientific and management area
 - Build research experience in a NOAA scientific and management area

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- Increase graduation rates of students from underrepresented communities in NOAA mission sciences;
- Impact NOAA workforce statistics by increasing representation from underrepresented communities in NOAA mission sciences; and,
- Leverage NOAA funds to build the education and research capacity at the MSI.

The EPP/MSI Environmental Entrepreneurship Program (EEP) provides funding to eligible minority serving institutions on a competitive basis to engage students to pursue advanced academic study and entrepreneurship opportunities in the NOAA-related sciences. NOAA's EEP supports student training and experiential learning opportunities for the purpose of stimulating job-creation, business development, and revitalizing local communities. EEP's objective is to increase the number of students at MSIs proficient in environmental business enterprises.

The Undergraduate Scholarship Program (USP) is designed to increase the number of students who undertake course work and graduate with degrees in the targeted areas integral to NOAA's mission. Appointments are for two years, and are made to students who have recently declared or are about to declare a major in atmospheric, oceanic, or environmental science. The students participate in research, training, and development activities at NOAA offices and facilities during two summer internships. 11 students started the program in FY 2009.

The Graduate Sciences Program (GSP) is aimed primarily at increasing opportunities for students in NOAA-related fields to pursue research and educational training in atmospheric, environmental, remote sensing and oceanic sciences at minority serving institutions (MSI) when possible. The GSP offers between two years (master's candidates) to four years (doctoral students) of NOAA-related research and training opportunities. The GSP provides college graduates entry-level employment and hands-on research and work experience at NOAA. Nine students were selected to participate in the GSP program in FY 2009. The program plans to add five students in FY 2010.

Ernest F. Hollings Undergraduate Scholarship Program: This program was established in 2005 to 1) increase undergraduate training in oceanic and atmospheric science, research, technology, and education, and foster multidisciplinary training opportunities; 2) increase public understanding and support for stewardship of the ocean and atmosphere and improve environmental literacy; 3) recruit and prepare students for public service careers with NOAA and other agencies at the federal, state, and local levels of government; and 4) recruit and prepare students for careers as teachers and educators in oceanic and atmospheric science and to improve scientific and environmental education in the U.S. There were 112 students that started the program in 2008. 122 students started the program in FY 2009.

Southeast Fisheries Science Center's (SEFSC) Recruiting Training Research (RTR) Program: This is a joint program between NMFS and Virginia Tech to: (1) recruit top

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undergraduates into the field of fisheries population dynamics and careers with NMFS; (2) train graduate students; and (3) conduct population dynamics and stock assessment research in support of the NMFS mission. The program also offers graduate courses and workshops in computer programming, simulation modeling, and fish population dynamics. In 2009, 15 undergraduate students from across the country participated in a week-long undergraduate workshop, eight students participated in a six-week summer program, and three M.S. students were supported by the program at Virginia Tech. In 2010, the program is expected to operate at a similar scale.

The following table summarizes NOAA's investments in human capital for FY 2005 through FY 2009:

(In Millions)

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total
National Sea Grant College Program	\$0.7	\$0.7	\$0.5	\$0.5	\$.5	\$2.9
National Estuarine Research Reserve Program	0.9	0.9	0.8	0.8	.7	\$4.1
Educational Partnership Program	7.0	13.9	14.2	12.8	15.0	\$62.9
Ernest F. Hollings Undergraduate Scholarship Program	0.3	3.8	4.1	3.6	4.0	\$15.8
Southeast Fisheries Science Center's (SEFSC) Recruiting Training Research (RTR) Program					.4	\$.4
Total	\$8.9	\$ 19.3	\$19.6	\$ 17.7	\$20.6	\$86.1
N/A = Not Applicable						

The following table further summarizes NOAA's human capital investments for FY 2005 to FY 2009 by performance goal:

(In Millions)

Performance Goal	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management	\$8.9	\$19.3	\$19.6	\$17.7	\$20.6

Investments in Research and Development (R&D):

Investments in R&D are expenses that are included in the Department's Net Cost of Operations. The investments are divided into three categories: 1) basic research, the

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systematic study to gain knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind; 2) applied research, the systematic study to gain knowledge or understanding necessary for determining the means by which a recognized and specific need may be met; and 3) development, the systematic use of the knowledge and understanding gained from research for the production of useful materials, devices, systems, or methods, including the design and development of prototypes and processes. The investments are made with the expectation of maintaining or increasing national economic productive capacity, or yielding other future economic and societal benefits. Based on a review of the Department's programs, the only significant investments in R&D are by NIST and NOAA.

NOAA conducts a substantial program of environmental R&D in support of its mission, much of which is performed to improve the U.S.'s understanding of and ability to predict environmental phenomena. The scope of research includes:

- Improving predictions and warnings associated with the weather, on time scales ranging from minutes to weeks,
- Improving predictions of climate, on time scales ranging from months to centuries, and
- Improving understanding of natural relationships to better predict and manage renewable marine resources and coastal and ocean ecosystems.

NOAA also conducts research that is intended to provide a solid scientific basis for environmental policy-making in government. Examples of this research include determining the stratospheric ozone-depleting potential of proposed substitutes for chlorofluorocarbons (CFCs), and identifying the causes of the episodic high rural ozone levels that significantly damage crops and forests.

NOAA conducts most R&D in-house; however, contractors to NOAA undertake most systems R&D. External R&D work supported by NOAA includes that undertaken through federal-academic partnerships such as the National Sea Grant College Program, the Cooperative Institutes of the Environmental Research Laboratories, the Climate and Global Change Program, and the Coastal Ocean Program.

Here is a brief description of the major R&D programs of NOAA:

Environmental and Climate: The Office of Oceanic and Atmospheric Research is NOAA's primary research and development office. This office conducts research in three major areas: climate research, weather and air quality research, and ocean, coastal, and Great Lakes research. The NOAA's research laboratories, Climate Program Office, and research partners conduct a wide range of research into complex climate systems,

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including the exploration and investigation of ocean habitats and resources. The NOAA's research organizations conduct applied research on the upper and lower atmosphere as well as the space environment.

Fisheries: The NOAA's NMFS is responsible for the management and stewardship of living marine resources and their habitat within the Nation's Exclusive Economic Zone. The NMFS manages these resources through science-based conservation and management, and the protection and restoration of healthy ecosystems to ensure their continuation as functioning components of ecosystems, while also affording economic opportunities and enhancing the quality of life for the American public. Fishery stocks and protected species are surveyed, catch data are collected, and research is conducted to better understand the variables affecting the abundance and variety of marine fishes and protected species. Protection of endangered species, restoration of coastal and estuarine fishery habitats, and enforcement of fishery regulations are primary bureau activities. The research and management of living marine resources is conducted in partnership with states, universities, other countries, and international organizations.

Marine Operations and Maintenance and Aircraft Services: These expenditures support NOAA's programs requiring operating days and flight hours to collect data at sea and in the air. The NOAA's Marine and Aviation Operations manage a wide variety of specialized aircraft and ships to complete NOAA's environmental and scientific missions. The aircraft collect the environmental and geographic data essential to NOAA hurricane and other weather and atmospheric research, conduct aerial surveys for hydrologic research to help predict flooding potential from snowmelt, and provide support to NOAA's fishery research and marine mammal assessment programs. The NOAA's ship fleet provides oceanographic and atmospheric research and fisheries research vessels to support NOAA's strategic plan elements and mission.

Weather Service: The National Weather Service conducts applied research and development, building upon research conducted by NOAA laboratories and the academic community. Applied meteorological and hydrological research is integral to providing more timely and accurate weather, water, and climate services to the public.

Other Programs: As a national lead for coastal stewardship, National Ocean Service promotes a wide range of research activities to create the strong science foundation required to advance the sustainable use of our precious coastal systems. Understanding of the coastal environment is enhanced through coastal ocean activities that support science and resource management programs. The National Environmental Satellite Data and Information Service, through its Office of Research and Applications, conducts atmospheric, climatological, and oceanic research into the use of satellite data for monitoring environmental characteristics and their change. It also provides guidance for the development and evolution of spacecraft and sensors to meet future needs.

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NOAA's R&D investments by program for FY 2005 through FY 2009 were as follows:

(In Millions)

Program	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total
Environmental and Climate	\$ 307.8	\$ 324.2	\$289.3	\$331.2	\$248.2	\$1,500.7
Fisheries	53.5	56.3	49.3	53.6	39.0	\$251.7
Marine Operations and Maintenance and Aircraft Services	57.5	50.7	51.1	51.5	29.5	\$240.3
Weather Service	26.9	15.1	40.8	56.7	43.6	\$183.1
Other	124.9	124.1	120.2	111.1	72.5	\$552.8
Total	\$ 570.6	\$ 570.4	\$550.7	\$604.1	\$432.8	\$2,728.6

The following table summarizes NOAA's R&D investments for FY 2005 through FY 2009 by R&D category:

(In Millions)

R&D Category	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total
Applied Research	\$ 514.8	\$ 523.1	\$475.7	\$517.6	\$332.6	\$2,363.8
Development	55.8	47.3	75.0	86.5	100.2	\$364.8
Total	\$ 570.6	\$ 570.4	\$550.7	\$604.1	\$432.8	\$2,728.6

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The following tables further summarize NOAA's R&D investments for FY 2009 and FY 2008 by performance goal:

(In Millions)

FY 2009			
Performance Goal	Applied Research	Development	Total
Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem-based Management//	\$154.1	\$5.6	\$159.7
Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond	78.6	69.5	\$148.1
Serve Society's Needs for Weather and Water Information	99.6	25.0	\$124.6
Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation	0.3	0.1	\$0.4
Total	\$332.6	\$100.2	\$432.8

(In Millions)

FY 2008			
Performance Goal	Applied Research	Development	Total
Protect, Restore, and Manage the Use of Coastal and Ocean Resources Through an Ecosystem Approach to Management	\$229.8	\$11.4	\$241.2
Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond	145.9	35.7	\$181.6
Serve Society's Needs for Weather and Water Information	140.3	39.2	\$179.5
Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation	1.6	0.2	\$1.8
Total	\$517.6	\$86.5	\$604.1