The Ocean Economies of Puerto Rico and the U.S. Virgin Islands
Economic data reveal the significant dependence of the U.S. economy on the resources of the oceans and Great Lakes, providing insights for managing the uses of these resources and promoting the long-term sustainability of ocean jobs.

To provide economic measures of ocean industries, NOAA’s Office for Coastal Management has developed a data set, Economics: National Ocean Watch (ENOW), based on national statistics from the Bureau of Labor Statistics and the Bureau of Economic Analysis.
The industrial and geographic scope of the U.S. ocean and Great Lakes economy (NOAA Office for Coastal Management)
National statistics show that ocean-dependent businesses support 7 percent (67,000 persons) of Puerto Rico’s total employment, three times more than the U.S. average of 2 percent.

While the island territory’s dependence on the ocean is not surprising, local data and knowledge reveal an even higher degree of ocean dependence in Puerto Rico.

By including additional ocean-dependent industries and some self-employed workers, the estimate of ocean jobs increases to 156,000.
Living Resources in Puerto Rico

Puerto Rico Ocean Jobs

- Marine Construction
- Living Resources
- Tourism and Recreation
- Marine Transportation

Living Resources, 4,093 (3%)
National employment statistics do not show any commercial fishermen in Puerto Rico. But Department of Natural and Environmental Resources reports about 1,000 commercial licenses. This is not surprising since nearly all fishermen are self-employed and data on self-employed workers is not available for the U.S. territories.

In addition, seafood is often sold through informal markets. A census in 2010, conducted by NOAA’s Southeast Fisheries Science Center, confirmed that fishermen use various avenues to sell their catch.
36% of fishermen sold their catch in informal markets, such as delivering to homes of regular clients, selling directly from their homes, setting up in strategic locations, or selling from the backs of their trucks.

28% of fishermen sold fish through fishing associations. Puerto Rico currently has at least 42 fishing co-ops that can offer security to members by buying most or all of their catch.

The rest sold their fish to wholesalers, fish stores, or local restaurants.
Furthermore, the Sea Grant Program and Department of Marine Sciences at the University of Puerto Rico play important roles in marine research, education, and conservation. Many other government agencies, non-profit organizations, and consulting companies in Puerto Rico are also dedicated to fisheries-related services.
Marine Transportation in Puerto Rico

Puerto Rico Ocean Jobs

- Marine Transportation, 11,961 (8%)
- Marine Construction
- Living Resources
- Tourism and Recreation
- Marine Transportation
It’s important to note that the local fish catch accounts for only a small percentage of the seafood sold in Puerto Rico. Most restaurants, grocery stores, and many seafood markets rely on imports as a reliable and cheap seafood source.

National statistics reveal about 123 marine transportation establishments, supporting 3,400 employees with $103 million in wages.
Many small operations are likely sole proprietorships, and some mis-register themselves as inland water transportation businesses. The Census Public Use Microdata Sample data for the territory report about 2,500 individuals working in waterborne transportation industries.
Marine Construction in Puerto Rico

Puerto Rico Ocean Jobs

- Marine Construction, 4,023 (2%)
- Living Resources
- Tourism and Recreation
- Marine Transportation

Data are derived from national statistics and local sources.
Most of the responsibility for building and maintaining Puerto Rico’s ports is split between the Puerto Rico Port Authority and private-sector businesses. Typically, they employ specialized contractors, including both local and non-local firms.

Compared with other ocean industries, these companies support a relatively small workforce, yet they usually pay higher wages.
Offshore Minerals in Puerto Rico

National statistics shows 26 limestone, sand, and gravel extraction operations in Puerto Rico, but these are likely not related to the ocean directly. According to the Department of Natural & Environmental Resources, offshore drilling is prohibited and only few mineral extraction activities are allowed in rivers and rock quarries.
Ship and Boat Building in Puerto Rico

National statistics show that there are five ship and boat building and repair establishments in Puerto Rico (employment figures are disclosed to protect the confidentiality of individual businesses). However, a quick internet search reveals several more boat manufacturing companies, as well as maintenance and repair shops.

Many businesses that are generally not considered to be marine-related provide services directly for ships and boats. For instance, Puerto del Rey, a prominent marina in Puerto Rico, listed 18 different local businesses on its website that offer boat and ship related services. These services include air conditioning, refrigeration, welding, and woodworking.
Some self-employed individuals are very likely also providing boat repair, maintenance, and cleaning services.
Most recreation and tourism establishments are well distributed across Puerto Rico, except for concentrations in San Juan, which serves as the island’s tourism “hub,” and more remote places like Rincón, which are almost entirely reliant on tourism and recreation for economic stability.

The World Travel and Tourism Council estimated that about 2.4% ($2.4 billion) of Puerto Rico's gross domestic product is directly related to tourism, with the total impact amounting to 7.3% ($7.4 billion).
National statistics show 200 hotels and lodging places in Puerto Rico, supporting 5,582 employees and $112 million in wages. However, actual lodging places go well beyond these figures.

The Puerto Rico Tourism Company alone endorses more than 250 different lodging establishments in the territory, including hotels, bed and breakfasts, villas, and condo hotels.

Over 2,700 properties are listed on the Vacation Rentals By Owner website. Many owners rent their properties independently.

The Puerto Rico Tourism Company also confirmed that access and proximity to the beach are the most important features for visitors when booking a hotel, regardless of whether it has a casino on the premises. The national statistics show an additional 25 casino hotels in Puerto Rico, supporting about 8,000 employees and $201 million in wages.
Other activities are also driven by ocean tourism. The Puerto Rico Tourism Company alone endorsed 135 adventure and nautical tour operators.

According to Public Use Microdata Sample data, 3,200 individuals work for scenic and sightseeing transportation companies, or in nature parks and historical landmarks.
The Department of Natural and Environmental Resources estimated the number of recreational fishermen in Puerto Rico to be approximately 100,000. The National Marine Fisheries Service estimated the anglers’ expenditures on marine recreational fishing to be $72 million in Puerto Rico.
National statistics show that ocean-dependent businesses support 19 percent (6,700 persons) of the islands’ total employment, nine times more than the U.S. average of 2 percent.

While the island territory’s dependence on the ocean is not surprising, local data and knowledge reveal an even higher degree of ocean dependence in the U.S. Virgin Islands.

By including additional ocean-dependent industries and some self-employed workers, the estimate of ocean jobs increases to 11,000.
Living Resources in the U.S. Virgin Islands

The U.S. Virgin Islands Ocean Jobs

- Marine Construction
- Living Resources
- Ship and Boat Building
- Tourism and Recreation
- Marine Transportation

Living Resources, 361 (3%)
National employment statistics only capture one fish market in St. Thomas for this sector, which is far undercounted.

The Division of Fish and Wildlife within the Department of Planning and Natural Resources estimated the number of registered commercial fishermen in the islands to be approximately 280. Local knowledge raises the number of seafood markets to at least 11.
This could be due to a lot of informal economic activities as fishermen sell their catch out of the back of their trucks or coolers and are not registered or classified as businesses.

The American Community Survey indicates that in 2014, approximately 128,300 of the employed population, or 12.3%, were self-employed; this compares to 9.7% for the United States as a whole.

There are three government-operated seafood markets and at least eight non-governmental fish markets across the territory. The Gustave Quetel Fish House, or Frenchtown Fish Market, is the largest one, containing 29 small rooms for fishermen to rent, and stainless steel tables for selling and cleaning fish.
National statistics reveal about 22 marine transportation establishments, supporting 214 employees and $11 million in wages.

However, these figures do not capture public administration organizations, which are also important contributors. For example, 13 seaports and 80 employees are managed by the U.S. Virgin Islands Port Authority. The territory's Water and Power Authority also operates its own terminals for fuel imports.
Many other transportation companies in the islands are also directly ocean-dependent. For example, some freight arrangement companies may deal primarily with truck freight, but the services are directly related to marine cargo. National statistics show 15 establishments in the freight transportation arrangement industry.
A significant number of small private operations also provide passenger transportation among the islands. Local sources confirmed two water taxis and many small charter boats. Many of these are likely sole proprietorships, and some mis-register themselves under inland water transportation.
Marine Construction in the U.S. Virgin Islands

The U.S. Virgin Islands Ocean Jobs

- Marine Construction, 63 (1%)

- Living Resources
- Ship and Boat Building
- Tourism and Recreation
- Marine Transportation
National statistics report two marine-related construction establishments in the U.S. Virgin Islands.

However, given the wide range of services involved in marine construction, it is likely that additional companies performing construction planning, surveying, and mapping are also marine-related.

This small sector consists largely of government hiring of contractors to build mooring structures and docks, and to dredge berthing spaces. Government agencies that manage contracts and permits for marine construction activities are the Virgin Islands Port Authority, Water and Power Authority, and Coastal Zone Management Division.

Beachfront hotels in the area sometimes also get permission to contract out beach construction and nourishment projects.
Offshore mineral extraction is generally not permitted in the Virgin Islands. The only refinery and its oil storage facility have been closed since 2015.
Ship and Boat Building in the U.S. Virgin Islands

The U.S. Virgin Islands Ocean Jobs

- Ship and Boat Building, 140 (1%)
- Marine Construction
- Living Resources
- Ship and Boat Building
- Tourism and Recreation
- Marine Transportation
National employment statistics report only one ship and boat building company.

This company is believed to be Gold Coast Yachts, a world renowned yacht building company located on St. Croix, which employs about 40-45 people and pays $1.8 million in annual payroll according to company officials.
Tourism and Recreation in the U.S. Virgin Islands

The U.S. Virgin Islands
Ocean Jobs

- Marine Construction
- Living Resources
- Ship and Boat Building
- Tourism and Recreation
- Marine Transportation

Tourism and Recreation, 9,757 (91%)
Most economic sectors in the U.S. Virgin Islands appear to be linked, either directly or indirectly, to tourism. The Bureau of Economic Research estimates that tourism accounts for approximately 60% of total gross domestic product, which was $3.79 billion in 2013.

With a resident population of approximately 105,000, the U.S. Virgin Islands attracted about 2.1 million visitors via cruise ships and air travel.

In 2014, tourist and cruise ship passenger expenditures amounted to $851 million and $381 million, respectively.
National employment statistics report 44 hotels and lodging places, supporting 3,510 employees and $109 million in wages. However, actual lodging places go well beyond these figures.

The Hotel and Tourism Association alone endorses more than 63 hotels. An internet search finds 2,000 properties listed on the Vacation Rentals By Owner and Airbnb websites. Many owners rent their properties independently.
According to local sources, the number of charter yachts and other recreational boat operations greatly exceeds that reported in the national statistics.

The Charter Yacht League estimates that there are more than 150 charter yachts operating in the U.S. Virgin Islands, not including charter boats that run day trips from the island, all of which are registered businesses in the territory. The large majority of these operations are sole proprietorships.

According to the Game Fishing Club, during the peak fishing season (summer), there are typically 20 to 30 large boats docked at Red Hool Marina on St. Thomas alone.
Many other activities are also driven by ocean tourism.

Retail is one of the largest tourism-dependent industries, especially gift and jewelry stores. Statistics show that jewelry stores are 16.7 times more concentrated in the U.S. Virgin Islands than in the U.S. as a whole.
In the U.S. Virgin Islands, tour operators depend almost entirely on ocean-related tourism for their business. The U.S. Virgin Islands National Park indicates that there are at least 168 tourist-related businesses on St. John alone. Cruise ship passenger excursions, like kayaking and scuba-diving, are usually led by local experts.

The destination wedding-services industry relies heavily on ocean scenery, as well as venues, event planners, and photographers.

Other tourism-dependent activities includes air transportation, car rental, taxis, and luggage trucks.
Local data and knowledge confirm that national statistics and the basic ocean economy framework underestimate the territories’ ocean dependence for several reasons:

1) many ocean-related businesses are not registered under ocean industries in the territories;

2) the basic ocean economy framework excludes several industries that are specifically ocean-dependent for island territories; and

3) lack of statistics on self-employed workers and other informal businesses which have a relatively high share in