



HAWAII OCEAN INDEX REPORT 2018

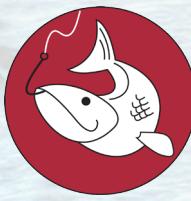
Tracking the sustainability of
our ocean resources now and
into the future

WHAT IS THE OCEAN HEALTH INDEX?

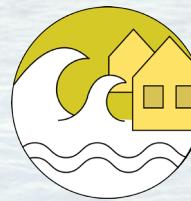
The Hawai'i Ocean Health Index (OHI) tracks the benefits our oceans provide Hawai'i now and into the future by measuring the status of 7 goals:



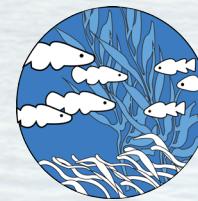
FOOD PROVISION



ARTISANAL FISHING



COASTAL PROTECTION



BIODIVERSITY



LIVELIHOODS & ECONOMIES



SUSTAINABLE TOURISM



SENSE OF PLACE

Using the best available science, these goals are scored on a 0-100 scale, reflecting how close a coastal region is to reaching their targets for a healthy ocean.

The Hawai'i OHI was developed by local stakeholders and integrates Hawaii's policy initiatives to support sustainable ocean management.

The OHI framework allows for repeatable assessments of the index goals overtime to measure progress towards a common vision for a healthy ocean and sustainable ocean management for Hawai'i.

WHY TRACK OCEAN HEALTH?

Hawaiians have a long history of sustainable management and resource use. They recognized that their well-being and health relied on the status or availability of the resource.

Today, the same is true; the health of our communities and our environment is intertwined. This strong sense of place or connection to place we have drives conservation and sustainability in Hawai‘i and is a model for the rest of the world.

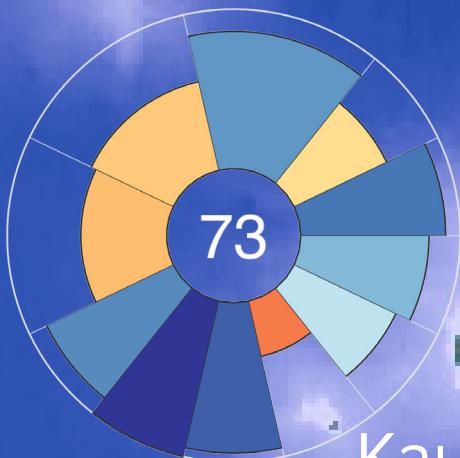
Hawaii’s unique social and cultural practices and values are at the foundation of the Hawai‘i Ocean Health Index and can be found within every goal.

ALOHA+ CHALLENGE

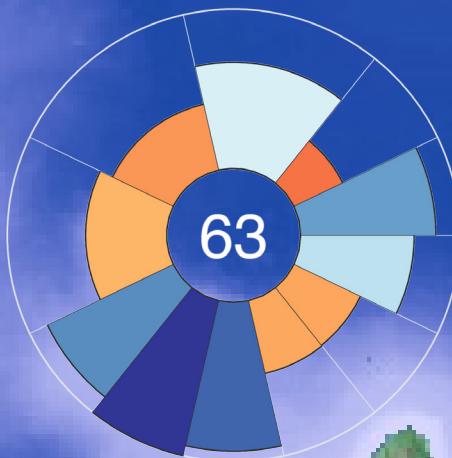
Hawai‘i is leading by example through local policies and initiatives such those set through the Aloha+ Challenge, a joint leadership commitment to sustainability for the State of Hawai‘i.

The Aloha+ Challenge sets statewide sustainability targets to be achieved by 2030 – in clean energy transformation, local food production, natural resource management, solid waste reduction, smart sustainable communities, climate resilience, green job creation, and education.

These initiatives are integrated into the Hawai‘i Ocean Health Index to track our progress toward achieving those targets and overall ocean sustainability.

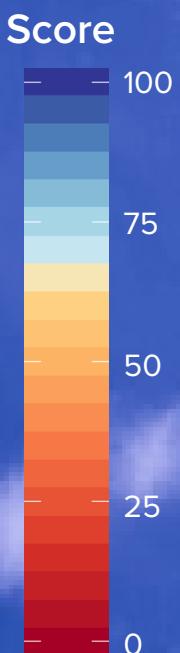
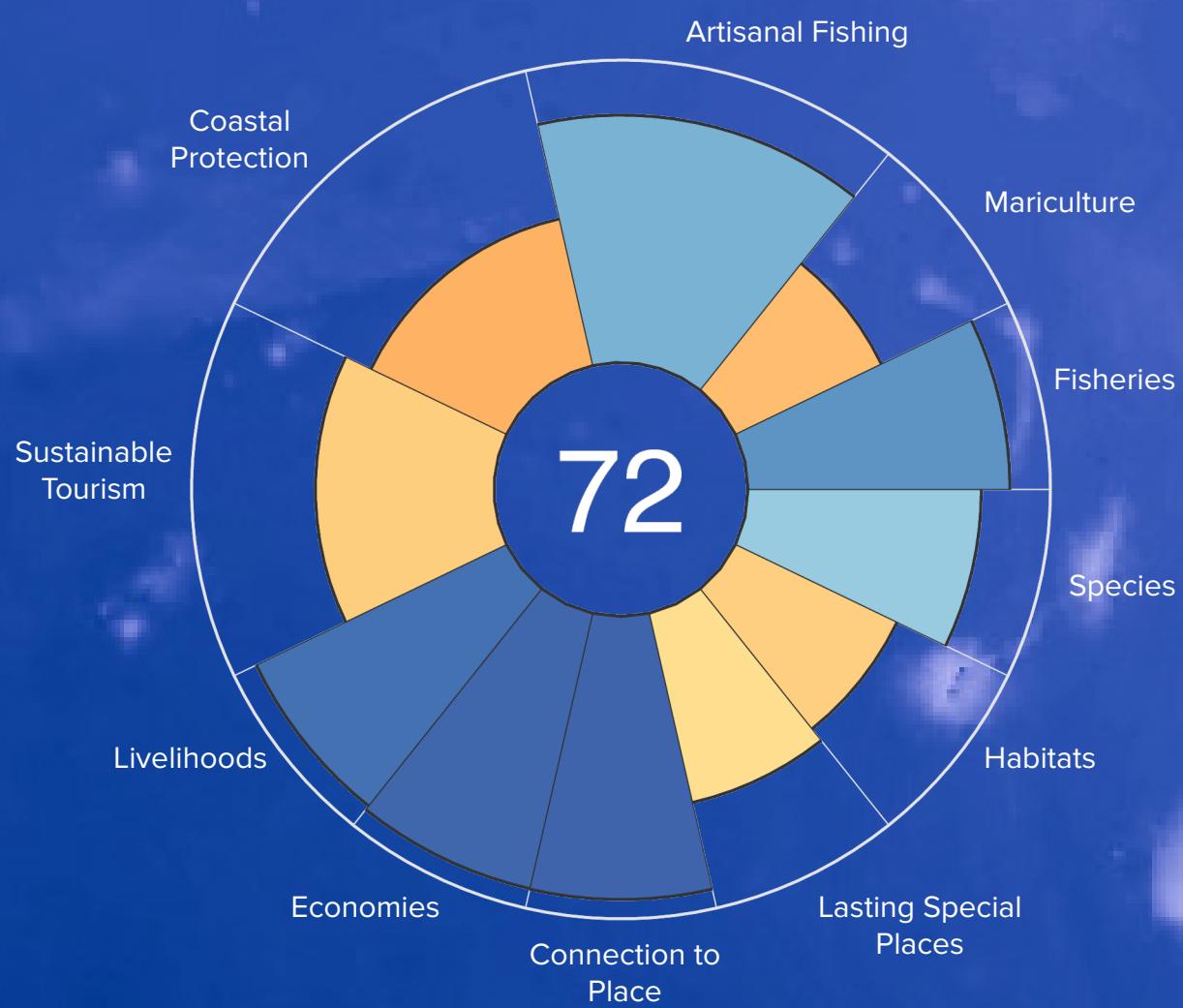


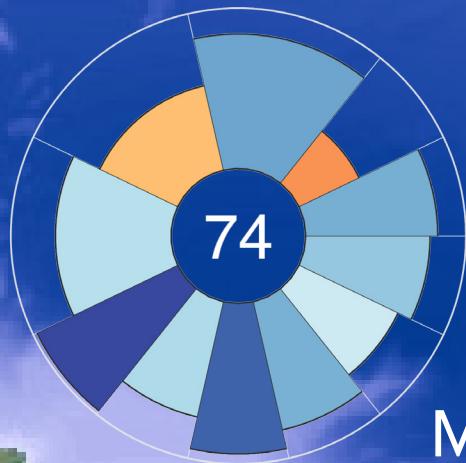
Kaua‘i & Ni‘ihau



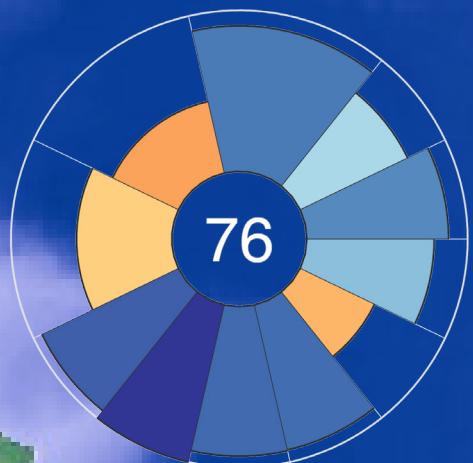
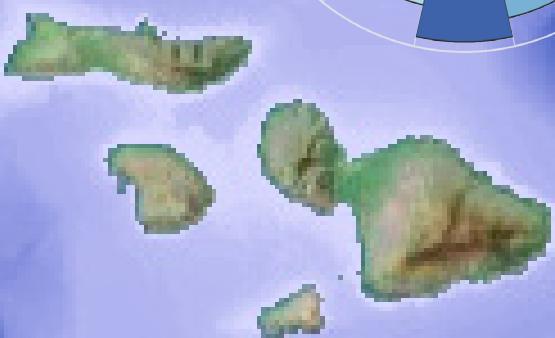
O‘ahu

Main Hawaiian Islands

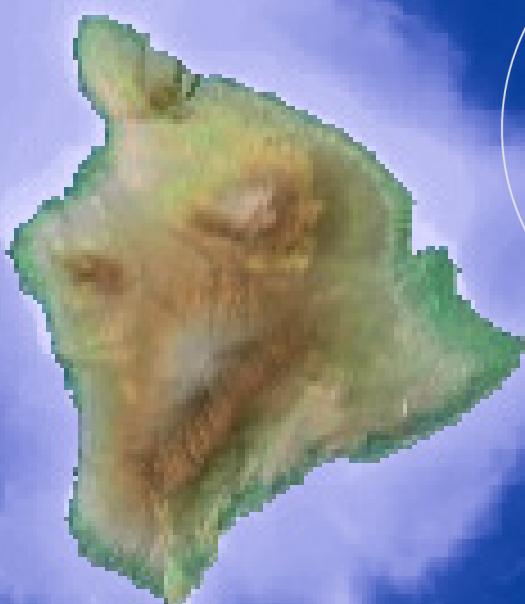




Maui Nui (Maui,
Moloka'i, & Lāna'i)



Hawai'i





FOOD PROVISION

The food provision goal is divided into two subgoals: wild caught fisheries and mariculture. Annually, nearly 34 million pounds (99%) come from wild caught fisheries and 0.4 million pounds (1%) come from mariculture.

Wild caught fisheries received a score of 87, reflecting that most of the catch comes from sustainable fisheries. The majority of catch is from the pelagic fishery, followed by the reef fishery (commercial & non-commercial catch), bottom fishery, and coastal pelagic fishery.

Mariculture production in Hawai'i comes from contemporary mariculture production (aquaculture) and traditional Hawaiian fishponds, known locally as loko i'a. Mariculture scored a 53, reflecting the sustainability of production from contemporary mariculture systems and the current progress to increase seafood production by restoring 30% of Hawaiian fishponds.

Future projections show that local seafood production will meet only 45% of the local seafood demand by 2040. Therefore, mariculture may play a larger role in future seafood production in the future.

In the early 1900s, traditional Hawaiian fishponds produced **400-600 pounds** of seafood per acre. Today, 44 out of the estimated 99 fishponds remain, and many are being restored to return them to viable seafood production systems

55%

of available seafood in Hawai'i is locally sourced, providing 140 million meals

20%

projected rise in seafood demand by 2040. With many of our fisheries fully exploited, we will need to look to mariculture to meet the growing seafood demand

Score
70



ARTISANAL FISHING

33%

of locally caught seafood is estimated to come from the non-commercial or artisanal fishery, with 5% from the nearshore and coral reef fishery

Artisanal fishing is part of Hawaii's unique culture, providing local communities with subsistence through local seafood. Artisanal fishing opportunities measures fisher access to the resource and the status of the nearshore and coral reef fishery resources.

While fisher access to resources is high, the availability of the resource is average to poor across Hawai'i. Nearshore fishery resources scored low, with the lowest scores on O'ahu (54) and the highest scores on Kaua'i & Ni'ihau (72). Access to the resource is lowest on O'ahu due to the larger military zones and no-take marine protected areas on the island.



Score
82



COASTAL PROTECTION

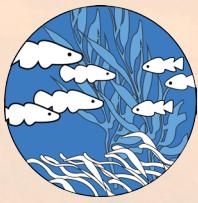
72%

of beaches are
actively eroding
across Hawai'i

25,800 acres and
550 cultural sites are
projected to be
flooded by 2030 with
\$19 billion in
economic loss

Coral reefs, wetlands, and beaches protect Hawaii's coastline from flooding and inundation. The protective ability of these habitats depends on their extent and condition. Coastal Protection received a score of 50. A score of 100 would indicate that these habitats are all still intact or have been restored to their reference conditions.

Climate change poses a huge threat to coastal communities and Hawaii's economy. Sea level rise is projected to cause increased coastal erosion and inundation, furthering the importance of our coastal habitats to buffer against these changing ocean conditions.



BIODIVERSITY

39%

of Hawaii's marine mammals and turtles are listed on the Endangered Species List

Hawaii's ocean is home to over **565** endemic marine species, with over **20%** endemic marine fishes, found nowhere else on earth



Hawai'i has unique and diverse coastal habitats including anchialine ponds, fishponds, wetlands, beaches, and coral reefs. These habitats and the species that reside in them are the foundation of many of the benefits that we receive from the ocean including food provision, coastal protection, sustainable tourism, sense of place, and livelihoods and economy.

However, our ocean and coastal habitats surrounding the Main Hawaiian Islands are threatened and we are seeing the impacts of coastal pollution, unsustainable development, and climate change.

Hawaii's ocean habitats are in average to poor condition with 54% of historical coastal wetlands intact, coral reef condition declining drastically with recent coral bleaching events, and 72% of beaches actively eroding. Protecting and restoring these habitats are essential to sustaining our community and economy now and into the future.



LIVELIHOODS & ECONOMIES



Industries directly connected to the ocean contribute **\$6 billion** to Hawaii's economy annually

16%
of Hawaii's jobs
are in
ocean sectors

96%
ocean sector jobs
are in tourism &
recreation

Ocean sectors represented in the Hawai'i Ocean Health Index are marine construction, living resources, ship and boat building, tourism and recreation, and marine transportation.

Economies scored 93 and captures the economic value associated with marine industries using revenue from marine sectors. Hawaii's ocean economy has increased or remained stable for each county.

Livelihoods describes ocean job quantity and quality, receiving a score of 92. However, while the tourism and recreation sector provides 96% of ocean jobs, mean wage is lowest in this sector at \$20,919/year. This is 48% lower than the state mean wage and 36% below the state self-sufficiency standard.



SUSTAINABLE TOURISM

Tourism contributed **\$11.8 billion** in visitor generated revenue in 2015, contributing 14% to Hawaii's GDP from visitor spending alone

Resident's sentiment or acceptance of tourism received a score of 63 and has been steadily **declining** over the past 5 years.

Increased stewardship and protection is needed to balance the increased human use from visitors on ocean and coastal areas.

This goal measures the balance between economic growth through tourism with management and preservation of natural resources and Hawaiian culture.

The low score reflects the need to balance the economic gains with the preservation of Hawaii's unique cultural and natural environment. Protection of nearshore areas and watersheds are included in this goal to sustain coastal habitats and ensure that watersheds continue to provide the necessary freshwater for both residents and visitors alike.

Stakeholders have identified several areas to increase the preservation of social and cultural values and the natural environment. These include tourism education programs and increased proportion of the tax revenues allocated to cultural and environmental preservation.

**Score
59**



SENSE OF PLACE

89%

of Hawai‘i residents participate in ocean activities at least once a month

Coastal areas are important for **spiritual and physical wellbeing.**

Effectively managing and protecting coastal areas ensures that these activities can take place now and into the future.

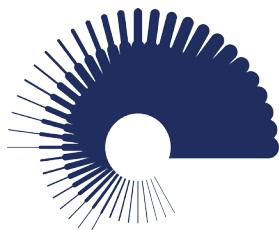
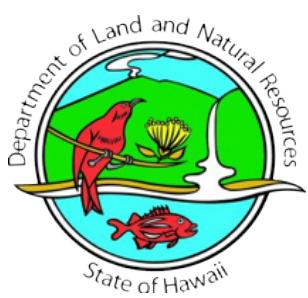
This goal stresses the importance of preserving ocean areas that people value and maintaining the connections between people to the ocean. This goal is composed of two subgoals: Lasting Special Places and Connection to Place.

Lasting special places tracks the protection of marine and coastal areas. Lasting special places received a score of 64, with 14.1% of nearshore areas protected and 28% of coastal areas protected. A score of 100 will be achieved when the State of Hawaii meets its Hawaii Sustainability Initiative of 30% of nearshore waters effectively managed by 2030 and 30% coastal areas protected within conservation districts.

Connection to place measures the connection that people have to coastal and marine environments measured through resident participation rates in ocean activities. Hawai‘i has a strong connection and relationship with the ocean, scoring 89.

MAHALO TO OUR PARTNERS

Thank you to all of our participants, community members, and agencies that collaborated and supported the Hawai'i Ocean Health Index.





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