

# HOWLAND, BAKER, AND JARVIS ISLANDS FACT SHEET

## Natural resources

### Physical Setting

- Depth range: 7 m elevation above sea level to 4,000 m below sea level.
- Currents: The Equatorial Undercurrent (EUC) moves from west to east along the Equator, creating localized nutrient rich upwelling in shallows next to the islands. These are 3 of only 6 islands in the entire Pacific where this phenomenon is possible.
- Relative location: From Honolulu, Howland is 3,123 km southwest, Baker is 3,164 km southwest, and Jarvis is 2,465 km south.

### Geologic Structure

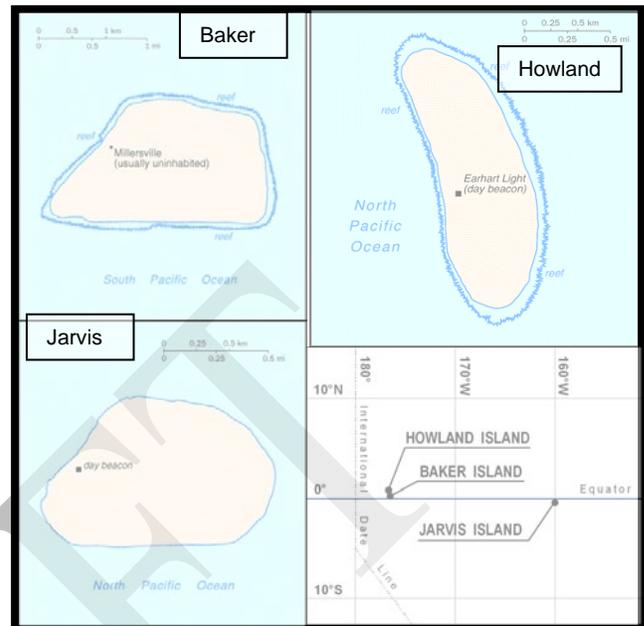
- All three first formed as fringing reefs around islands formed by Cretaceous (~120-65 million years ago) volcanoes. As the volcanoes subsided, the coral reefs grew upward, maintaining proximity to the sea surface.

### Ecosystem description

- Low coral islands consist of coral rock, shells, and sand that support trees, shrubs, and grasses adapted to the arid climate at the Equator.
- All three are surrounded by shallow coral reefs to depths of 100 m, below which the reef slope descends steeply to great depths.
- Deep coral forests occur below photic zones of all three at depths below 200 m, and especially at Jarvis where surveys in 2005 revealed living colonies of precious and ancient gold coral up to 5,000 years old.

### Biological characteristics

- Islands have fish biomass double that of the Papahānaomokuākea Marine National Monument and 10 times that of main Hawaiian Islands - due to current noted above
- Islands are high in coral cover and biodiversity (compared with Hawaii and



Florida), and are predator dominated systems; biomass of top predators exceeds Great Barrier Reef or Kenyan MPAs.

- The islands now host 11-15 nesting bird species; several nesting and migratory bird species are of conservation significance.
- Jarvis alone has nearly 3 million pairs of Sooty Terns.
- There are 284-342 fish species found off the islands. Giant clams (*Tridacna*) are common, and sharks of many species are especially abundant and larger at Jarvis.
- Endangered hawksbill turtle and threatened green turtles forage in nearshore waters.
- All three islands afford unique opportunities to conduct climate change research at the Equator, far from population centers; coral skeletons there have recorded the earth's climatic history for many millions of years.

### Mineral Resources

- Aggregate, insular phosphorite, and precious coral could have an immediate economic impact if significant deposits and markets are found.
- In the EEZ, iron-manganese nodules offer an intermediate-term resource potential,

*Information provided in this fact sheet is a summary of data collected through the interagency assessment process as of October 1, 2008*

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whereas the other deposit types represent long-term or unknown resource potentials.

## **Historic**

- First visited by Europeans in early 1820s; claimed by the U.S. in 1856 under the Guano Act; guano mined until about 1890.
- In 1935, U.S. government sent colonists – including Native Hawaiians from Kamehameha Schools – to protect American claims; established Itascatown on Howland, Meyerton on Baker, and Millerville on Jarvis;
- The islands were attacked in late 1941 and early 1942, with several colonists killed the settlements were abandoned in 1942.
- Baker served as an air base during WWII.
- Howland Island is best known as the destination for Amelia Earhart and Fred Noonan when they disappeared on their famous around-the-world flight in 1937;

## **Human use & current management**

- Islands have been uninhabited since World War II, except for periodic FWS field camps to conduct biological studies.
- Inventory and monitoring of associated coral reefs occurs every 2 years as a collaborative effort between FWS and NOAA.

## **Current management**

- All 3 areas were designated as National Wildlife Refuges in 1974.
- Marine fishery resources in the EEZ are managed by the Department of Commerce based on fishery management plans developed and recommended by the Western Pacific Fishery Management Council in accordance with the Magnuson-Stevens Act (MSA).
- Under the MSA, NOAA has designated “Essential Fish Habitat” or EFH around the islands to protect habitats needed for fish stocks.

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