



Activity #3

Marine Life Scrapbooks

● ● ● In Advance *Assembling Research Resources*

You may want to pull together a reference collection for your classroom or to place on reserve in the library, prior to beginning this activity. See the “Resources for Further Research and Reading” list in the unit overview (p. 4) for suggested books and articles.

● ● ● Class Period One *Beginning the Scrapbooks*

Materials & Setup

For each student

- Student Page “Marine Life Scrapbooks” (pp. 40-41)

Instructions

- 1) Hand out the Student Page “Marine Life Scrapbooks.” Explain to students that this is a starting point for researching and assembling a scrapbook on the natural history and cultural significance and use of Hawaiian marine plant and animal species.
- 2) You may have students work individually or allow small groups to work together.
- 3) Determine how long you will allow for students to complete this assignment, and let students know the due date. One week is a suitable length of time.
- 4) Allow students the rest of the class period to work on their scrapbook ideas. Have groups of students brainstorm ideas, and/or allow students to begin library and Internet research.

Journal Ideas

- Think of a marine plant or animal that is important to you or your family. Describe the significance of this organism to you.
- What kinds of information can you learn by listening to people’s stories that you cannot learn from library or Internet research?

Assessment Tools

- Student scrapbooks
 - Use guidelines and rules on the Student Page “Marine Life Scrapbooks” as pointers for assessment.
 - Another assessment aid is the Teacher Background “Importance of Some Marine Species in Hawaiian Culture” (pp. 38-39) which includes brief notes about Hawaiian cultural significance from the sources recommended in the unit overview (p. 4).



Teacher Background

Importance of Some Marine Species in Hawaiian Culture

Since Hawaiian cultural significance of marine species was not covered in other activities in this unit, students may need more guidance in their research. This information is not as readily available in written form as information about biology and natural history. This list contains brief notes about a selection of marine species that are significant in traditional Hawaiian culture. The notes are taken from the books in the resource list on the Student Page “Marine Life Scrapbooks.” You may use this list to help guide student species selection, as well as to help assess cultural information in student scrapbooks.

Limu (Seaweeds)

Limu kala (*Sargassum echinocarpum*)

- ‘Loosens’ evil spirits causing illness
- Used in the ho’oponopono process and in the purification ceremony after the death of a relative
- Used for food

Limu kohu (*Asparagopsis taxiformis*)

- Used for food
- The subject of a legend
- Tended in gardens

Invertebrates

Kūpe‘e (Polished nerite, *Nerita polita*)

- Meat used for food
- Shell used for body ornaments

Leho ahi (Humpback cowry, *Cypraea mauritiana*)

- Meat used for food
- Shell used for food scrapers and octopus lures

‘*Opihi* (Hawaiian limpet, *Cellana* spp.)

- Meat used for food and medicine
- Shell used for scooping, peeling, scraping

He‘e (Octopus, *Octopus* spp.)

- Used for food

Wana (Long-spined sea urchin, *Echinothrix calamaris* and *diadema*)

- Used for food

Vertebrates

Manō (Sharks)

(Tiger shark *Galeocerdo cuvier*, Whitetip reef shark *Triaenodon obesus*, Gray reef shark *Carcharhinus amblyrhynchus*, and others)

- Found in Hawaiian proverbs
- Teeth used as the cutting edge on weapons
- Skin used for drumheads
- Various Hawaiian gods associated with sharks

‘*Ahi* (Yellowfin tuna, *Thunnus albacares*)

- Sportfishing for chiefs
- Used for food, often dried for later use

‘*Aholehole* (Hawaiian flagtail, *Kuhlia sandvicensis*)

- A favored food of chiefs
- Used in ceremonies

Akule (Bigeye scad, *Selar crumenophthalmus*)

- Used for food, a favorite for drying

‘*Ama‘ama* (Striped mullet, *Mugil cephalus*)

- Used for food
- Featured in legends



‘Āweoweo (Hawaiian bigeye, *Priacanthus meeki*)

- Used for food
- Found in stories

Kūmū (Whitesaddle goatfish, *Parupeneus porphyreus*)

- Used for food
- Offered to the gods

Manini (Convict tang, *Acanthurus triostegus*)

- Used for food

Moi (Six-fingered threadfin, *Polydactylus sexfilis*)

- Used for food

Mū (Bigeye emperor, *Monotaxis grandoculis*)

- Used for food
- Check other uses of the name, *mū*, for an interesting connection.

Palani (Eyestripe surgeonfish, *Acanthurus dussumieri*)

- Used for food
- Featured in a legend

Pūhi (Moray eels, including Yellowmargin moray eel, *Gymnothorax flavimarginatus*, and others)

- Used for food
- Captured using a variety of fishing methods

Uhu (Parrotfishes, including Bullethead parrotfish, *Chlorurus sordidus*, Palenose parrotfish, *Scarus psittacus*, Spectacled parrotfish, *Scarus perspicillatus*, and others)

- Used for food
- Captured using a variety of fishing methods
- Appear in legends



Marine Life Scrapbooks

Your assignment is to make a scrapbook about Hawaiian marine plant and animal species. Your scrapbook will include a summary of what you have learned about these species as well as more information based on research.

Guidelines for Your Scrapbook

- 1) Include three or more different marine species, using at least one page for each species.
- 2) For each species, include the following information:
 - All of the names for this species you can find, including scientific, common, Hawaiian, and other languages
 - A summary of the biology and natural history of this species
(The summary for each species should include information about its trophic level, relationships with other marine organisms, habitat, and adaptations.)
 - Information about the cultural significance and uses of this species
(You do not need to limit this information to the traditional Hawaiian significance and uses of these species. Other cultures that have been important in creating the modern Hawaiian culture and society may also attach significance to these species and use them in different ways.)
 - Drawings or photographs of the species and other images that help convey what you have learned about this species

Ideas

- Use species you studied in this unit or species that are significant to you or members of your family, or start by looking at “Marine Species Important in Hawaiian Culture” below as a starting point. It lists many marine species that are important in traditional Hawaiian culture.
- Research the natural history and cultural significance of plants and animals by doing library or Internet research. As you find information, add it to your scrapbook. See the “Resources List” below for suggested starting points.
- Look for stories or legends having to do with marine species.
- Ask family members and friends (especially *kūpuna*) for information, stories, recipes, or any sort of personal experiences that they have with the species.
- Include your own personal experiences in the scrapbook.
- If you find a good “informant,” you may audio- or videotape that person, in addition to taking notes. This can become part of your scrapbook, too.



Marine Species Important in Hawaiian Culture

Limu (Seaweeds)

- *Limu kala* (*Sargassum echinocarpum*)
- *Limu kohu* (*Asparagopsis taxiformis*)

Invertebrates

- *Kūpe‘e* (Polished nerite, *Nerita polita*)
- *Leho ahi* (Humpback cowry, *Cypraea mauritiana*)
- ‘*Opihi* (Hawaiian limpet, *Cellana* spp.)
- *He‘e* (Octopus, *Octopus* spp.)
- *Wana* (Long-spined sea urchin, *Echinothrix calamaris* and *diadema*)

Vertebrates

- *Manō* (Sharks)
(Tiger shark *Galeocerdo cuvier*, Whitetip reef shark *Triaenodon obesus*, Gray reef shark *Carcharhinus amblyrhynchus*, and others)
- ‘*Ahi* (Yellowfin tuna, *Thunnus albacares*)
- *Āholehole* (Hawaiian flagtail, *Kuhlia sandvicensis*)
- *Akule* (Bigeye scad, *Selar crumenophthalmus*)
- ‘*Ama‘ama* (Striped mullet, *Mugil cephalus*)
- ‘*Āweoweo* (Hawaiian Bigeye, *Priacanthus meeki*)
- *Kūmū* (Whitesaddle goatfish, *Parupeneus porphyreus*)
- *Manini* (Convict tang, *Acanthurus triostegus*)
- *Moi* (Six-fingered threadfin, *Polydactylus sexfilis*)
- *Mū* (Bigeye emperor, *Monotaxis grandoculis*)
- *Palani* (Eyestripe surgeonfish, *Acanthurus dussumieri*)
- *Pūhi* (Moray eels, including Yellowmargin moray eel *Gymnothorax flavimarginatus* and others)
- *Uhu* (Parrotfishes, including Bullethead parrotfish *Chlorurus sordidus*, Palenose parrotfish *Scarus psittacus*, Spectacled parrotfish, *Scarus perspicillatus*, and others)

Resource List

Abbott, Isabella, and E. H. Williamson, *Limu — An Ethnobotanical Study of Some Edible Hawaiian Seaweeds* Pacific Tropical Botanical Garden, Lawai (Hawaii), 1974.

Fortner, Heather J., *The Limu Eater*, Sea Grant Misc. Report, UNIHI-SEAGRANT-MR-79-01, 1978.

Hobson, Edmund S. and E. H. Chave, *Hawaiian Reef Animals*, University of Hawai‘i Press, Honolulu, 1990.

Hoover, John P., *Hawaii’s Fishes, A Guide for Snorkelers, Divers and Aquarists* 3rd ed., Mutual Publishing, Honolulu, 1996.

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Kamakau, S. M., *The Works of the People of Old*, Bishop Museum Press, Honolulu, 1976.

Randall, John E., *Shore Fishes of Hawaii*, Natural World Press, Honolulu, 1996.

Taylor, Leighton, *Sharks of Hawai‘i, Their Biology and Cultural Significance*, University of Hawai‘i Press, Honolulu, 1993.

Titcomb, Margaret, *Native Use of Fish in Hawaii*, University of Hawai‘i Press, Honolulu, 1972.

_____, “Native Use of Marine Invertebrates in Old Hawaii,” *Pacific Science*, Vol. 32, No. 4., 1979, pp. 325 - 386.

Wyban, Carol Araki, *Tide and Current: Fishponds of Hawai‘i*, University of Hawai‘i Press, Honolulu, 1992.