

NATURAL HISTORY

GEOLOGY

Pearl Harbor is made up of the submerged mouths of several river valleys that were drowned when sea levels rose after the last ice age. West Loch, the western-most section of Pearl Harbor, was formed by the Hāmouliuli, Waikēle, and Kapakahi streams.

NATIVE PLANTS AND ANIMALS

Native plants and animals are those whose ancestors arrived by waves or wind, or were carried by birds. These organisms changed over time to adapt to their new environment and many became unique (endemic) to Hawai'i.

NATIVE PLANTS ALONG THE SHORELINE PATH

Nena (seaside heliotrope), naupaka kahakai (bach nau-paka), hau, pā'ū-o-hi'iaka, hala (pandanus), 'ākūlūlū.

NATIVE BIRDS IN THE AREA

Āe'o (black-necked stilt), 'ālae ke'oke'o (Hawaiian coot), koloa maoli (Hawaiian duck), 'auku'u (black-crowned night heron). All but the 'auku'u are Federally endangered.



Hawaiian Coot

MIGRATORY BIRDS (WINTER VISITORS)

Kōlea (golden plover), 'ūlūlū (wandering tattler), akekeke (ruddy turnstone), hunakai (sanderling), mallard.

MARINE AND POND LIFE

Hammerhead shark, oyster, crab, 'o'opu nākea (goby), 'ōpae (prawn), pūhi (eel), 'anae (mullet), pāpio, mako, awa, āholehole, anchovy.

INTRODUCED PLANTS AND ANIMALS

When people came to the area, they brought with them introduced plants and animals. Some of these were more aggressive than the native species, and could more easily spread and dominate the environment. Most of the plants and animals you see today are introduced species.

Polynesian settlers brought with them plants that were useful for survival. The Polynesian introductions you'll see along the path include coconut, banana, taro, milo, and kukui.



Migrating Kōlea (golden plover)

TREKKING TIPS

SAFETY REMINDERS

- Wear a helmet when bicycling.
- Wear appropriate shoes.
- Sunscreen is essential.
- Keep to the right of the path so others can pass.
- Be sure pedestrians hear you coming.
- Always be in control of your bike.
- Use caution on bridges and piers.
- Don't eat fish, crabs or oysters from Pearl Harbor.
- All water activities, like swimming and boating, are restricted.
- Stay out of fresh water in streams and ponds. Leptospirosis, a potentially dangerous bacteria, is in most streams and muddy areas in Hawai'i.

MĀLAMA ĀINA

- Be extra careful not to run over plants while biking.
- Be sure to remove all your litter.
- Keep pets leashed so as not to scare the birds.
- Lend an extra hand by picking up some of the rubbish that others have carelessly left behind.

EXERCISE TIPS

- Warm up with gentle stretches and bends for 5-10 minutes before any exercise routine.
- Drink plenty of water.
- Do the talk test: Make sure you can still carry on a conversation while exercising.
- Cool down gradually. Spend 5-10 minutes doing gentle stretches at the end of your bike ride.

HOLOHOLO SUGGESTIONS

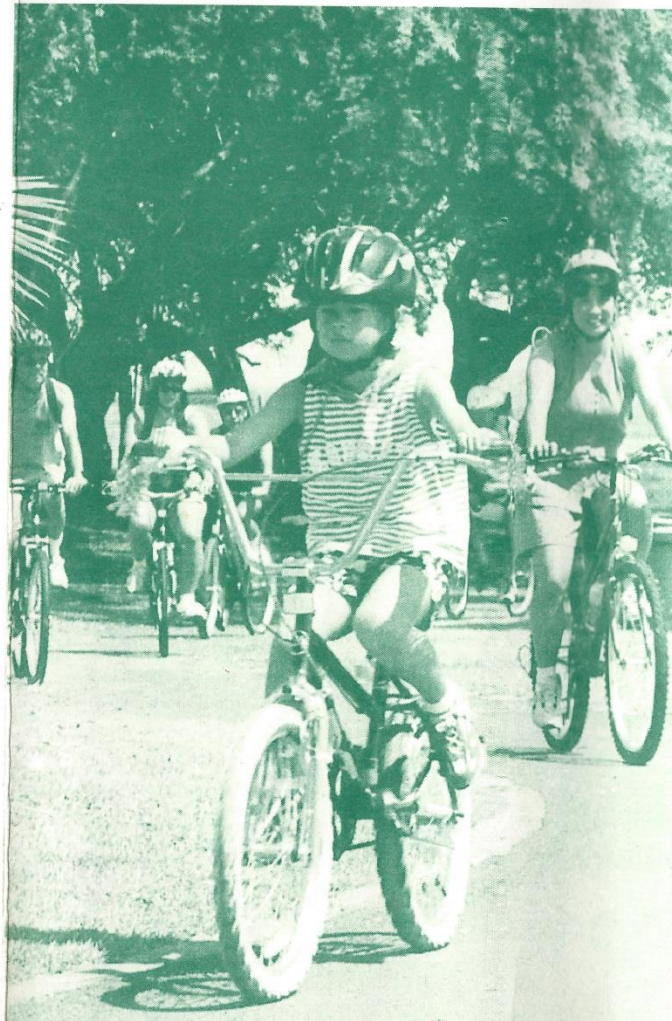
- Bring binoculars; they'll get you up close and personal with the birds!
- Take a net and jar to explore the pond life. Please return animals to their homes afterwards.
- Low tide is the best bird-watching time.

Hawai'i Nature Center is a private, non-profit organization founded in 1981 to foster awareness, appreciation and understanding of the environment and encourage wise stewardship of the Islands. This is accomplished through hands-on, heart-touching environmental education field experiences for school children, families and the public on O'ahu and Maui. For more information, call 955-0100.

The creation of this physical activity map was made possible through a grant from the Healthy Hawai'i Initiative, Hawai'i Department of Health. This resource guide may not be sold.

Participation in physical activity can be harmful and includes inherent risks. Participants undertake activity at their own risk and are responsible for making sound judgements regarding what activity is appropriate. The activities listed in this map are not meant to replace medical advice or recommendations. All participants are encouraged to seek medical clearance before beginning an exercise program.

WEST LOCH SHORELINE PARK FAMILY BIKE TREK



HAWAII NATURE CENTER

The Health Stills
HAWAII DEPARTMENT OF HEALTH

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HUMAN HISTORY

When the early Hawaiian settlers came to Pu'uloa (Pearl Harbor) at least 1000 years ago, they found an area overflowing with resources. The natural freshwater and brackish marshes surrounding Pu'uloa were home to āholehole, 'o'opu (gobies) and 'ōpae (prawns), and wetland birds fed in the shallow waters.

Over time, the Hawaiians modified the marshes to create their own fishponds and taro fields, thus enlarging the waterbird habitat. They also planted gardens with banana, sweet potato, yam and sugar cane. Eventually most of the shoreline was covered with ponds and cultivated fields.

The marine environment hosted an abundance of fish, oysters and crabs. Hammerhead sharks were so numerous that Pu'uloa was considered the home of the shark goddess, Ka'ahupāhau. She was said to live in a cave in the harbor. Also inhabiting these waters was a famous mo'o, or water spirit, Kanekua'ana. She was the guardian spirit of 'Ewa, and heiau were built to her and offerings made to ask for blessings.

By the 1400s, the 'Ewa district was the ruling center of the island. The ali'i (royalty) especially favored 'Ewa. Great effort was spent ensuring new chiefs would be born in this region.

By the mid-1800s conditions had changed greatly. Honolulu was the governing center, people had moved away, and imported diseases were common. The smallpox epidemic of 1853 decimated the population around Pu'uloa, leaving fields and ponds in disrepair.

In the late 1800s, the abandoned taro fields were converted to rice and watercress by new immigrants. James Campbell acquired much of 'Ewa, and drilled the first artesian well at Honouliuli. The Ewa Sugar Plantation was started, and the O'ahu railroad began operations.

By the turn of the century, 24 of about 43 fishponds were still in operation. Families earned their livelihood by fishing, crabbing, and digging for clams and oysters. Houses were spaced along the shoreline, most having their own pier. The train would stop in front of each house.

In 1977, the Honouliuli National Wildlife Refuge was established on Navy lands given in exchange for Hawaiian stilt habitat lost when the airport reef runway was built. This area was previously used for salt evaporation ponds. The refuge is home to four endangered Hawaiian waterbirds, and hosts the Hawai'i Nature Center's wetland field program each fall.

WEST LOCH SHORELINE PARK

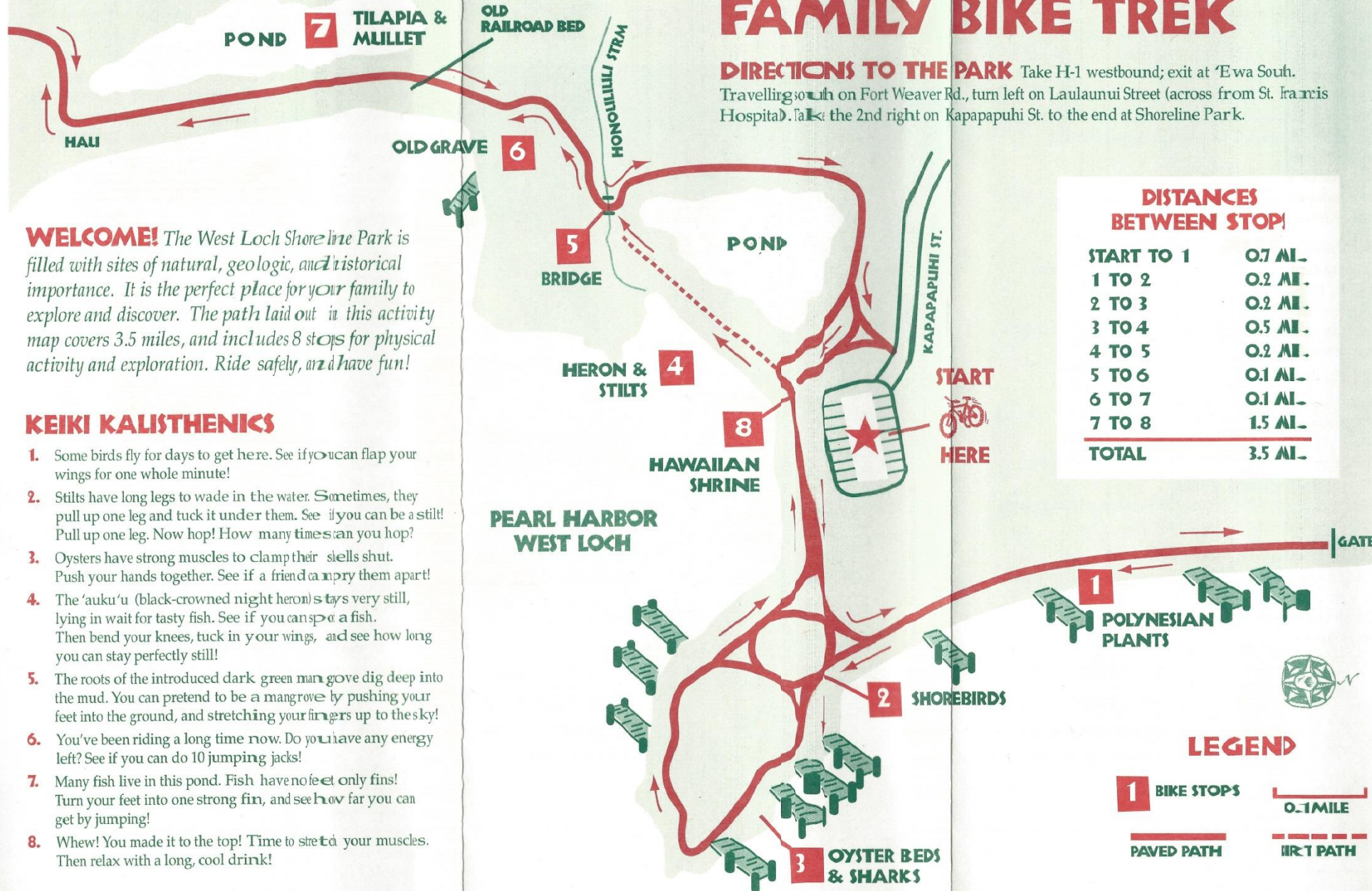
FAMILY BIKE TREK

DIRECTIONS TO THE PARK Take H-1 westbound; exit at 'Ewa South. Travelling south on Fort Weaver Rd., turn left on Laulaunui Street (across from St. Francis Hospital). Take the 2nd right on Kapapahu St. to the end at Shoreline Park.

WELCOME! The West Loch Shoreline Park is filled with sites of natural, geologic, and historical importance. It is the perfect place for your family to explore and discover. The path laid out in this activity map covers 3.5 miles, and includes 8 stops for physical activity and exploration. Ride safely, and have fun!

KEIKI KALISTHENICS

1. Some birds fly for days to get here. See if you can flap your wings for one whole minute!
2. Stilts have long legs to wade in the water. Sometimes, they pull up one leg and tuck it under them. See if you can be a stilt! Pull up one leg. Now hop! How many times can you hop?
3. Oysters have strong muscles to clamp their shells shut. Push your hands together. See if a friend can pry them apart!
4. The 'auku'u (black-crowned night heron) stays very still, lying in wait for tasty fish. See if you can spot a fish. Then bend your knees, tuck in your wings, and see how long you can stay perfectly still!
5. The roots of the introduced dark green mangrove dig deep into the mud. You can pretend to be a mangrove by pushing your feet into the ground, and stretching your fingers up to the sky!
6. You've been riding a long time now. Do you have any energy left? See if you can do 10 jumping jacks!
7. Many fish live in this pond. Fish have no feet only fins! Turn your feet into one strong fin, and see how far you can get by jumping!
8. Whew! You made it to the top! Time to stretch your muscles. Then relax with a long, cool drink!



DISTANCES BETWEEN STOP

START TO 1	0.7 MI.
1 TO 2	0.2 MI.
2 TO 3	0.2 MI.
3 TO 4	0.5 MI.
4 TO 5	0.2 MI.
5 TO 6	0.1 MI.
6 TO 7	0.1 MI.
7 TO 8	1.5 MI.
TOTAL	3.5 MI.

BIKE STOPS

START. From the parking lot, go left, and stay left at the fork. Turn around at the closed gate.

1 Notice the hala trees and naupaka near the second pier (on your left). Stop at the 3rd pier. Note the coconut, milo, taro, and banana trees, all Polynesian introductions. Continue down the path, taking the left fork at the rise.

2 Slow down in this area and look for native and migratory birds, including Hawaiian stilts, plovers, mallards and ruddy turnstones. The introduced cattle egret (all white) is usually present as well.

3 Stop at the 2nd shelter and look for oyster shells and crabs. To the left of the pier is the native plant 'ākulikuli, with small purple flowers, and the silvery native plant nena. From the pier, you might see hunting hammerhead sharks. This is their breeding ground and nursery. Continue on the path past the piers. Stay left at each junction. Pass the parking lot and take the dirt road to the left. (If it's muddy, follow the paved path instead.)

4 Stop and walk down the road, checking out the pond to the right and the mud flats to the left for stilts and black-crowned night herons.

5 Stop on the bridge. Herons often fish here. Look for introduced mangrove trees (in the water) and native milo, with their heart-shaped leaves.

6 At the ironwood trees look left for a pier going through the mangrove thicket. To the right is an old Japanese gravestone, from a time past when fishermen's shacks dotted the shoreline. Back on the path, continue across another bridge.

7 Stop at the pond on the right, and look for Cassiopeia jellyfish (yellowish blobs) and tilapia and mullet. Stilts and herons also feed here. As the path turns to the right, notice the native hau trees on the left. The bike path ends a short distance further on, where you can turn around. On your return, stick to the paved path.

8 At the junction, turn left and then immediately right, and go up to the top of the bluff. This shady, cool spot is a great place to end your holoholo and take in the terrific view (but watch out for kiawe thorns!). The modern Hawaiian shrine located here was built on top of a historic Hawaiian church and cemetery. Please be respectful. Below you is the parking lot. Hana Hou! Come back again!