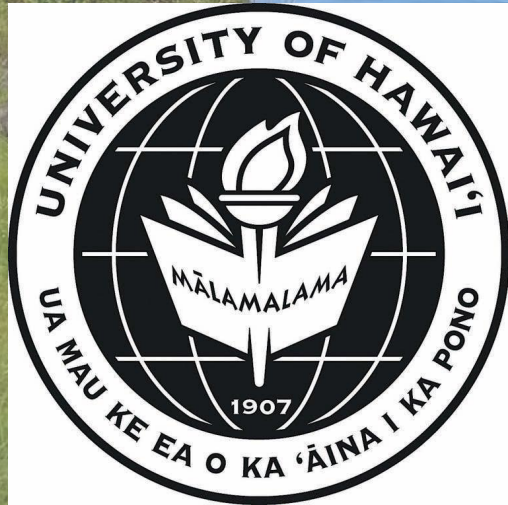


# Availability and Nutritional Composition of Forage Plants for Green Turtle (*Chelonia mydas*) in the Wailoa Estuary, Hilo, Hawai'i



Kara Smith  
University of Hawaii at Hilo

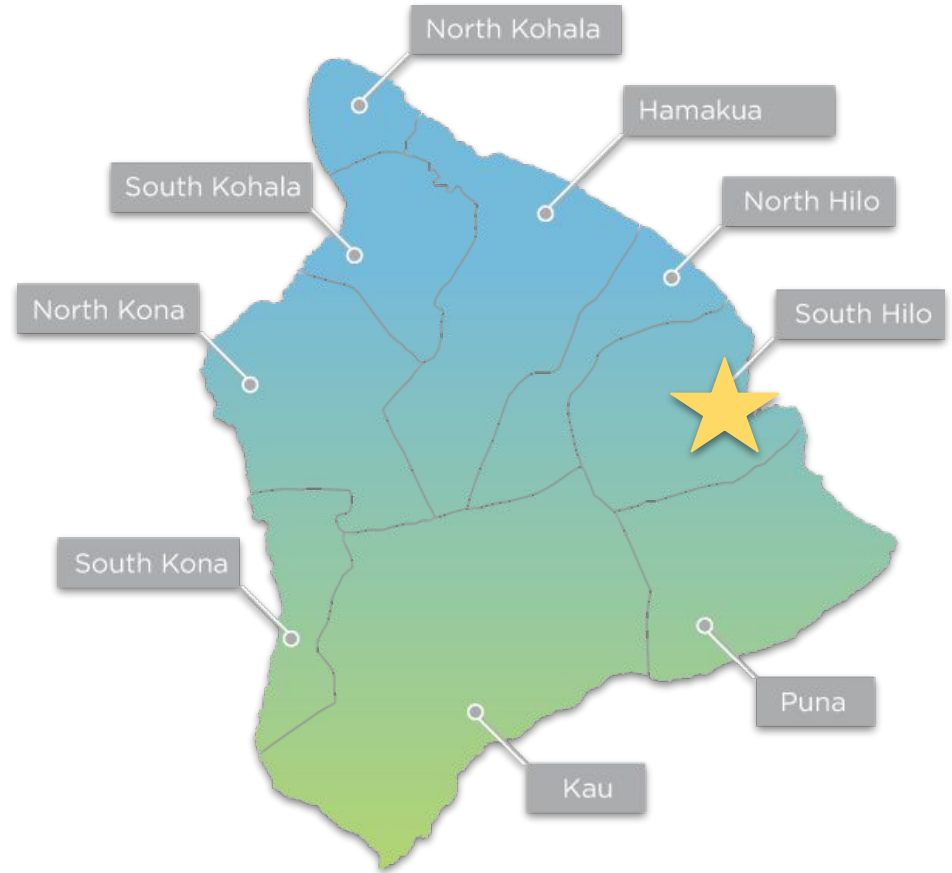
# Background

- **Hawaiian Green Turtles are herbivores - (opportunist)**
  - Reports of local turtles of foraging in the estuary



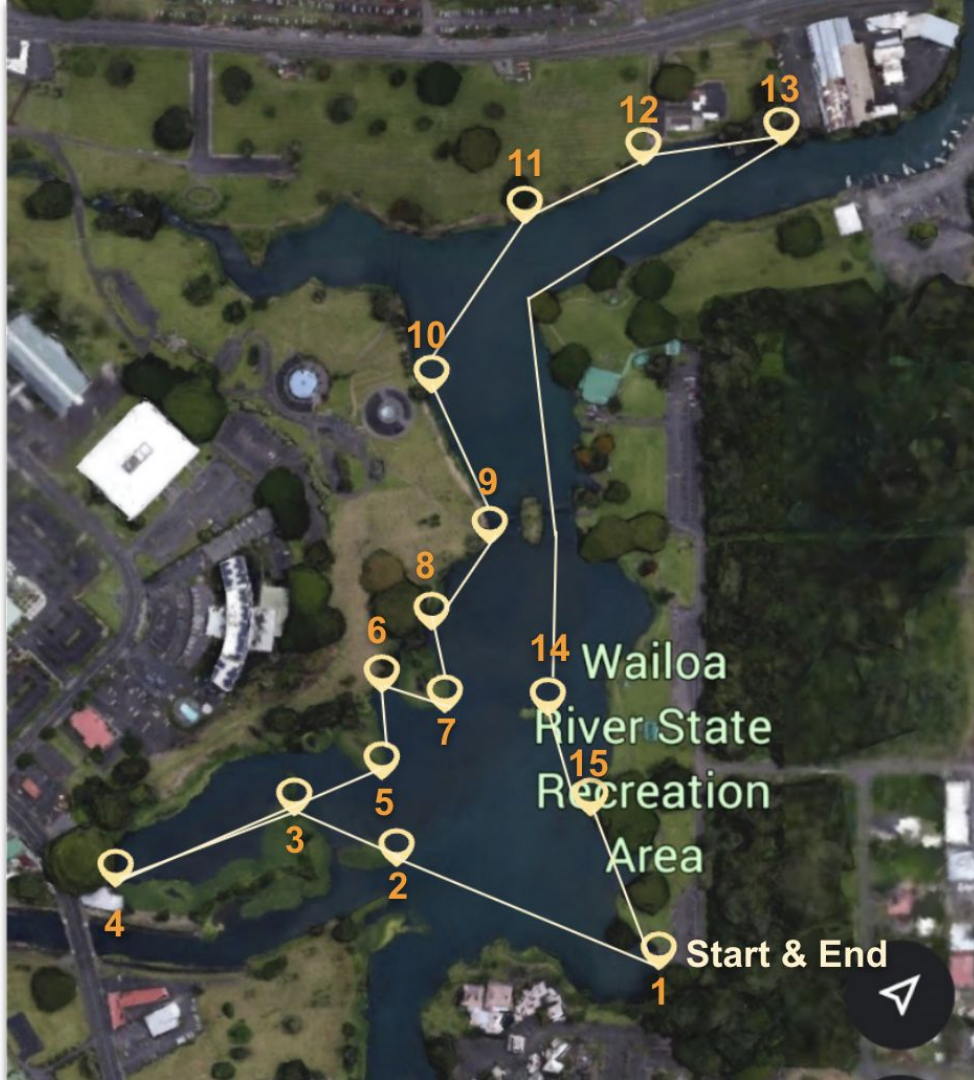
# Study Location

- **Wailoa River State Recreation Area**
- Investigating the foraging habits of Hawaiian Green Turtles (*Chelonia mydas*) on the Big Island of HI



# Charted Course

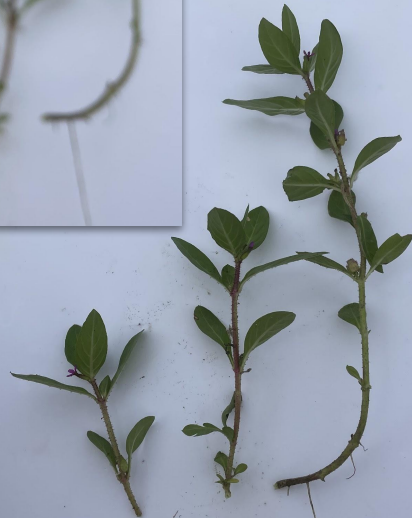
- 15 different locations
- All study sites accessible by water
  - 6 study sites accessible by land
- Collect plant samples accessible by land/water to turtles
  - Walk, Kayak or DAR Boat
- Store samples in a freezer
- Record GPS points
- Record Salinity and Temperature data
- Take photos of turtles
- Note turtle behavior





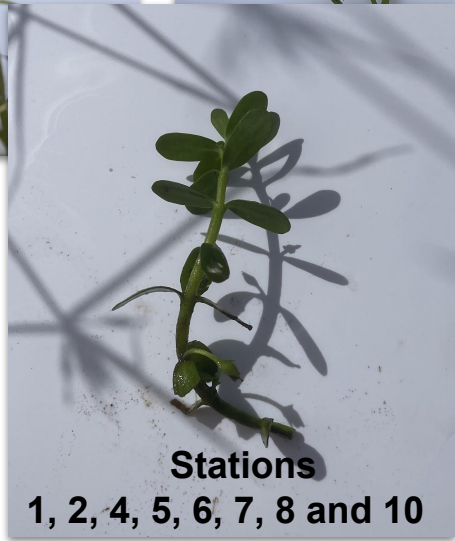
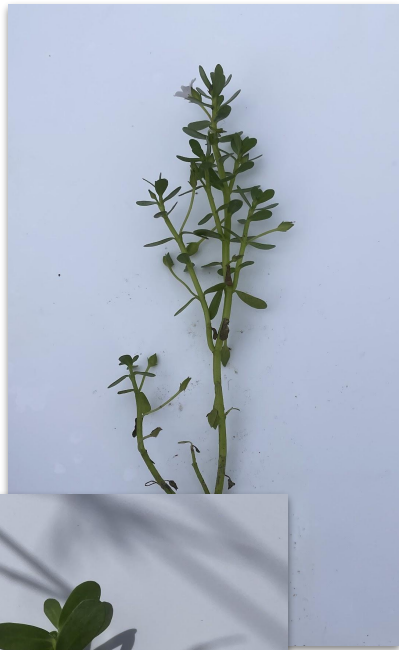
**Stations 2, 5 and 6**

**Stations 5 and 8**



**Stations 8, 10, 11 and 13**





# Present at all Stations



**All Plants...**



# Turtles GPS Points

## \* Station 2 \*

19.7152 ° N  
-155.0774 ° W

## \* Station 3 \*

19.7158 ° N  
-155.0762 ° W

## Station 4

19.7154 ° N  
-155.07478° W

## Station 5

19.7161° N  
-155.0760° W

## Station 6

19.7174° N  
-155.0753° W





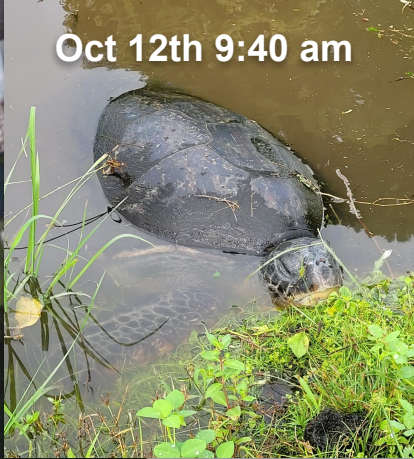
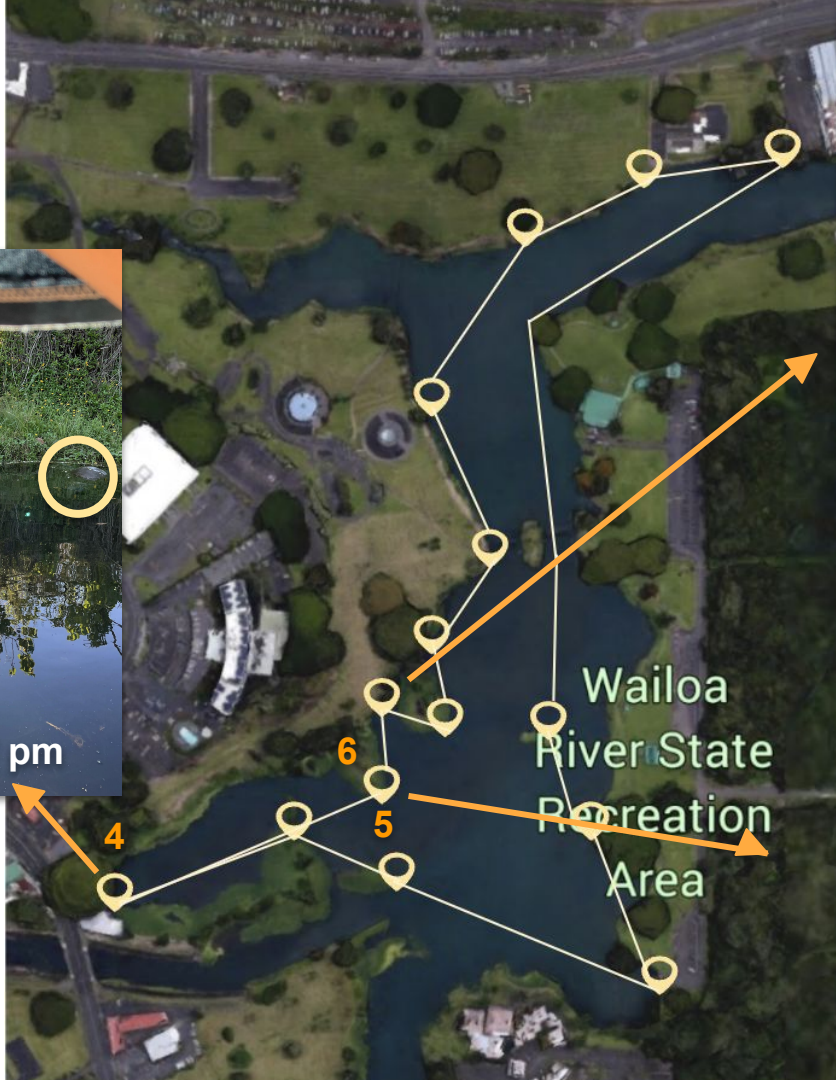
Oct 9th 10:30 am



Oct 22nd 4:34 pm



Oct 21st 4:37 pm

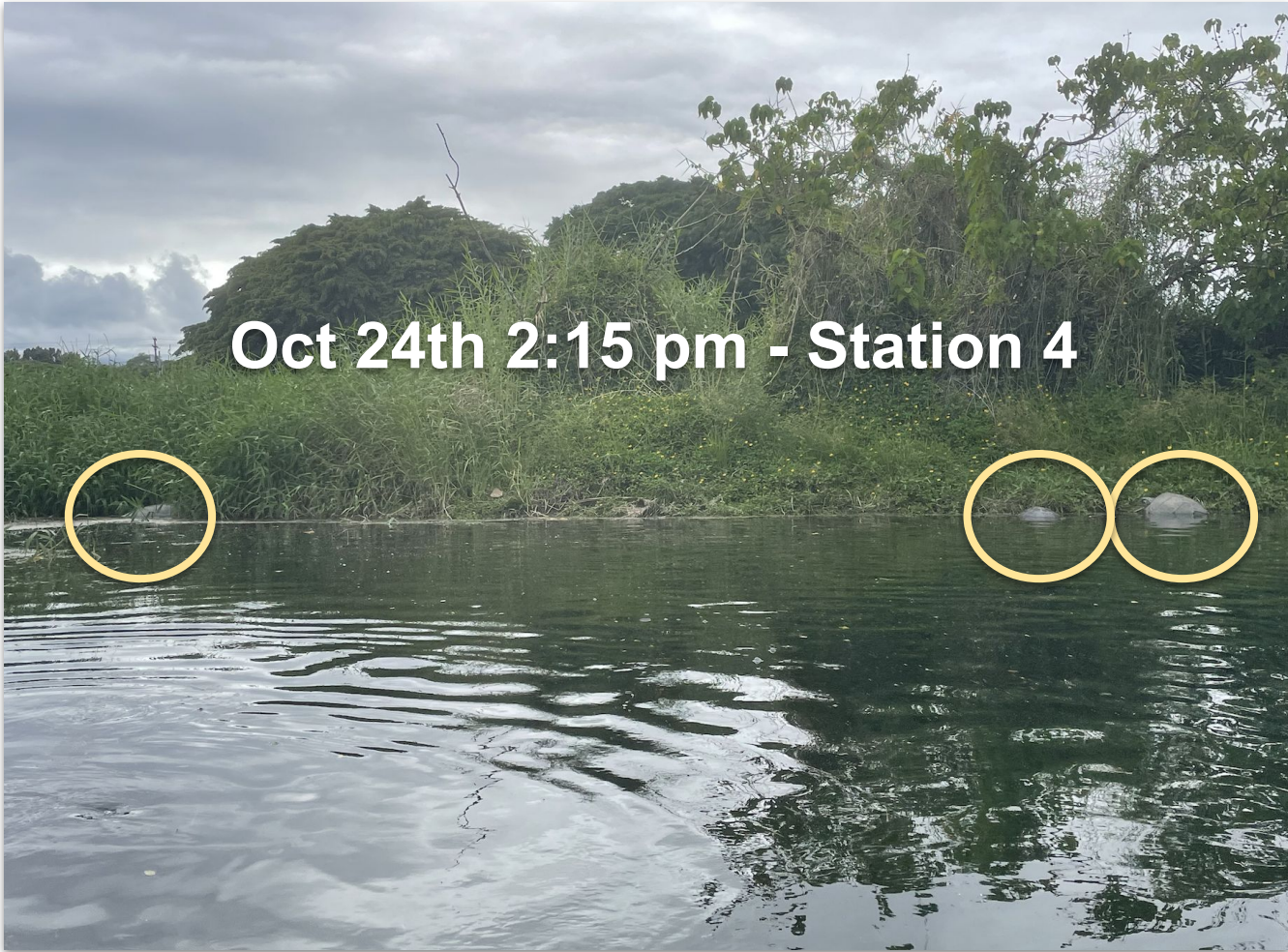


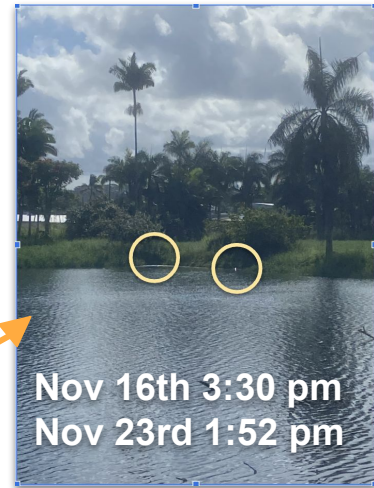
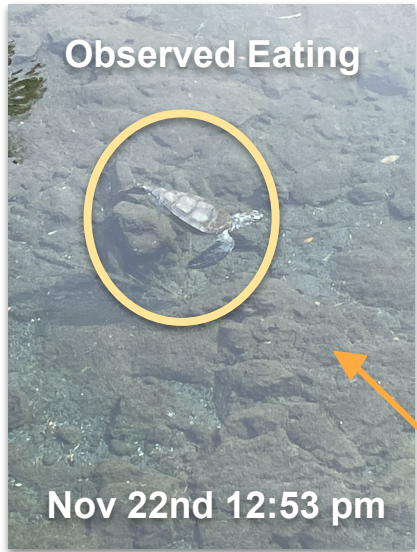
Oct 12th 9:40 am



Oct 14th 4:40 pm

**Oct 24th 2:15 pm - Station 4**





**Oct 9th 2021 10:30 am - Station 4**

**Low tide 11:40 am**



**Oct 12th 2021 9:40 am - Station 6**

**High tide 8:59 am**



**Oct 14th 2021 4:40 pm - Station 5**

**Low tide 6:38 pm**



**Oct 21st 2021 4:37 pm - Station 4**  
**High tide 3:03 pm**





**Oct 22nd 2021 4:34 pm - Station 4**  
**High tide 3:26 pm**





**Oct 24th 2021 2:15 pm -  
Station 4  
High tide 4:08 pm**



### **Station 3**

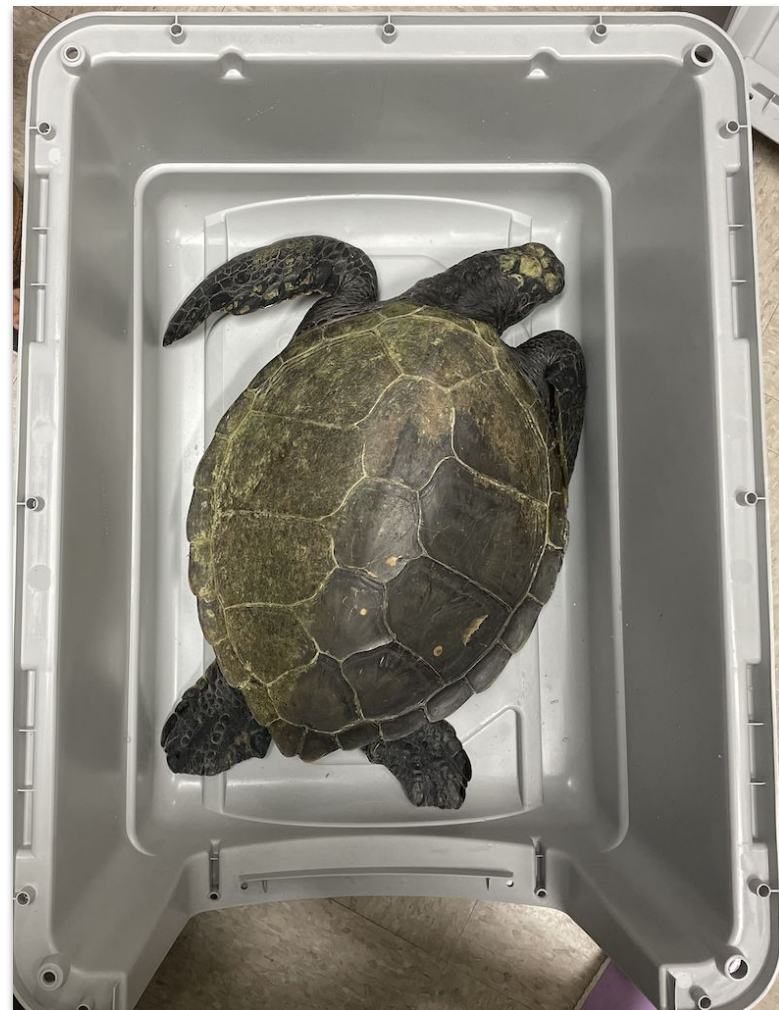
**Nov 16th 3:30 pm**

**High tide 2:17 pm**

**Nov 23rd 1:52 pm**

**High tide 4:21 pm**

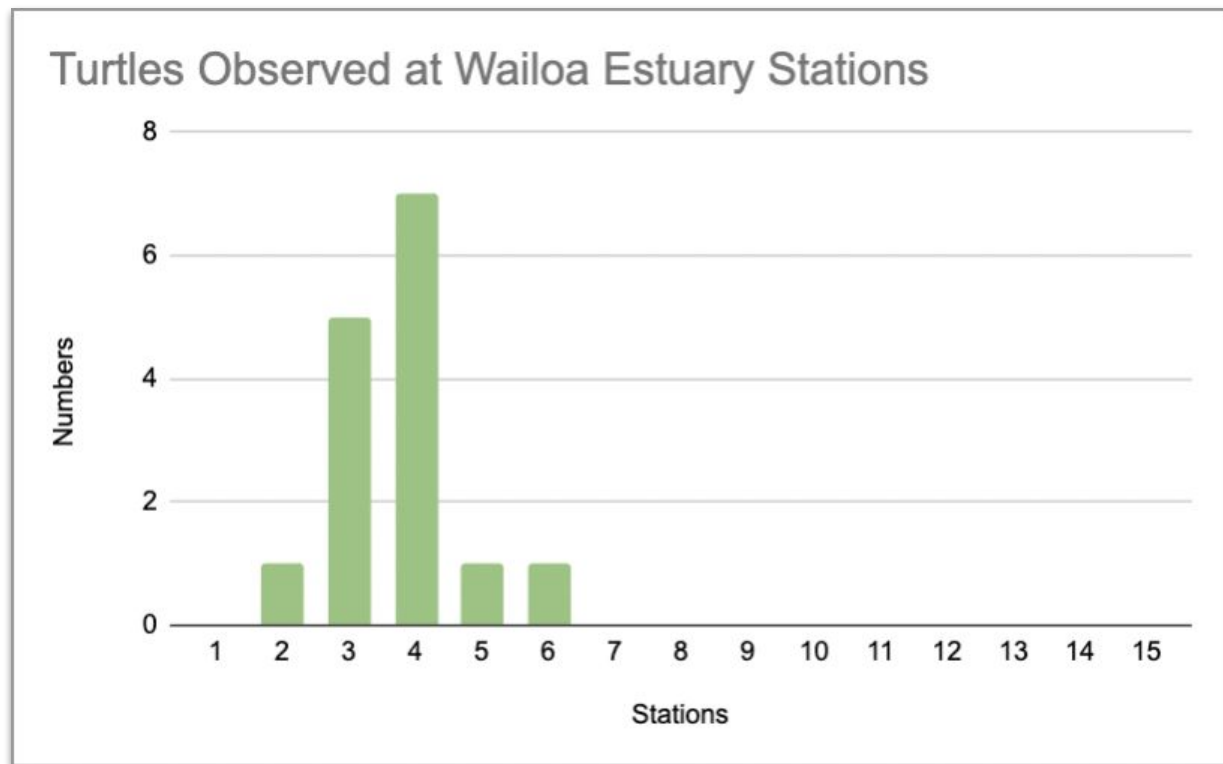
**Nov 22nd 12:53 pm - 2 Station**  
**Low tide 12:01 pm**



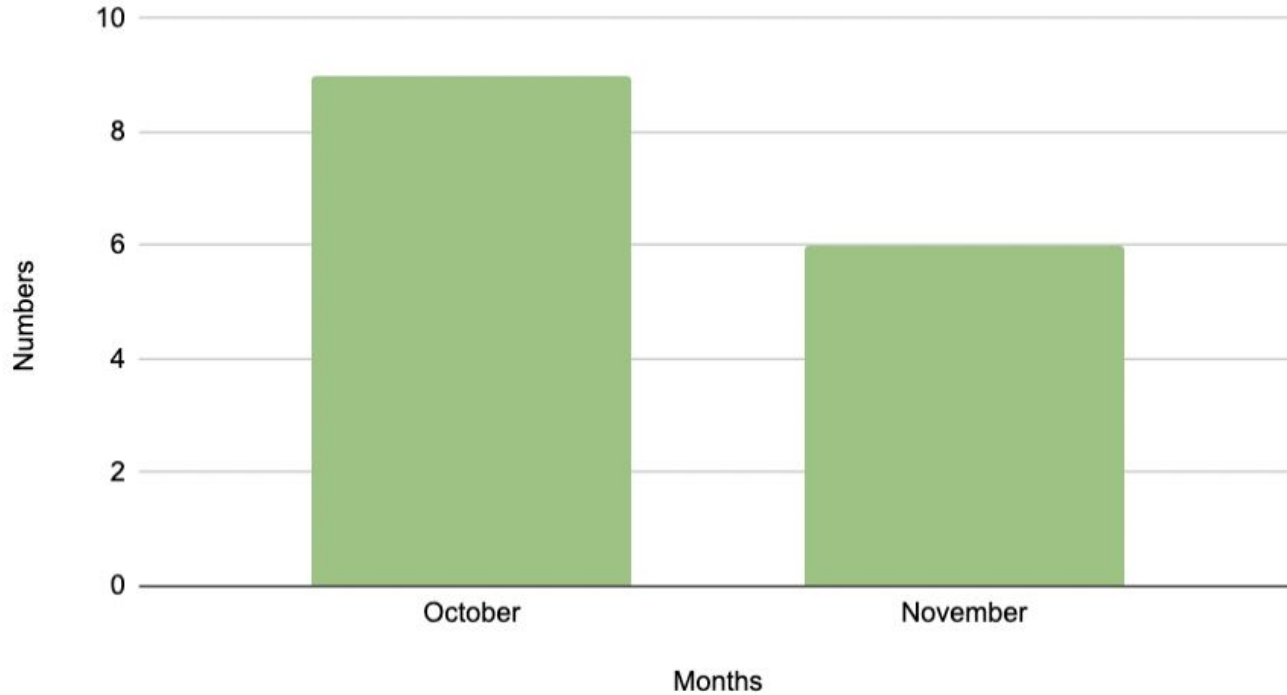
**Nov 30th 3:27 pm - Station 3**  
**Low tide 6:22 pm**



Stations	Turtles
1	0
2	1
3	5
4	7
5	1
6	1
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0



## Turtles Observed vs. Month



## Turtles Observed High vs Low

October	
High Tide	Low Tide
7	2

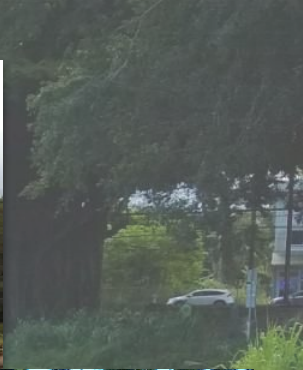
November	
High Tide	Low Tide
4	2

# Plans for next semester

- Collect Salinity and Temperature data
- Identify collected plants and analyze nutritional value
- Analyze collected Hawaiian Green Turtle fecal material
- Determine tidal lag in Wailoa
- Analyze and compare all data

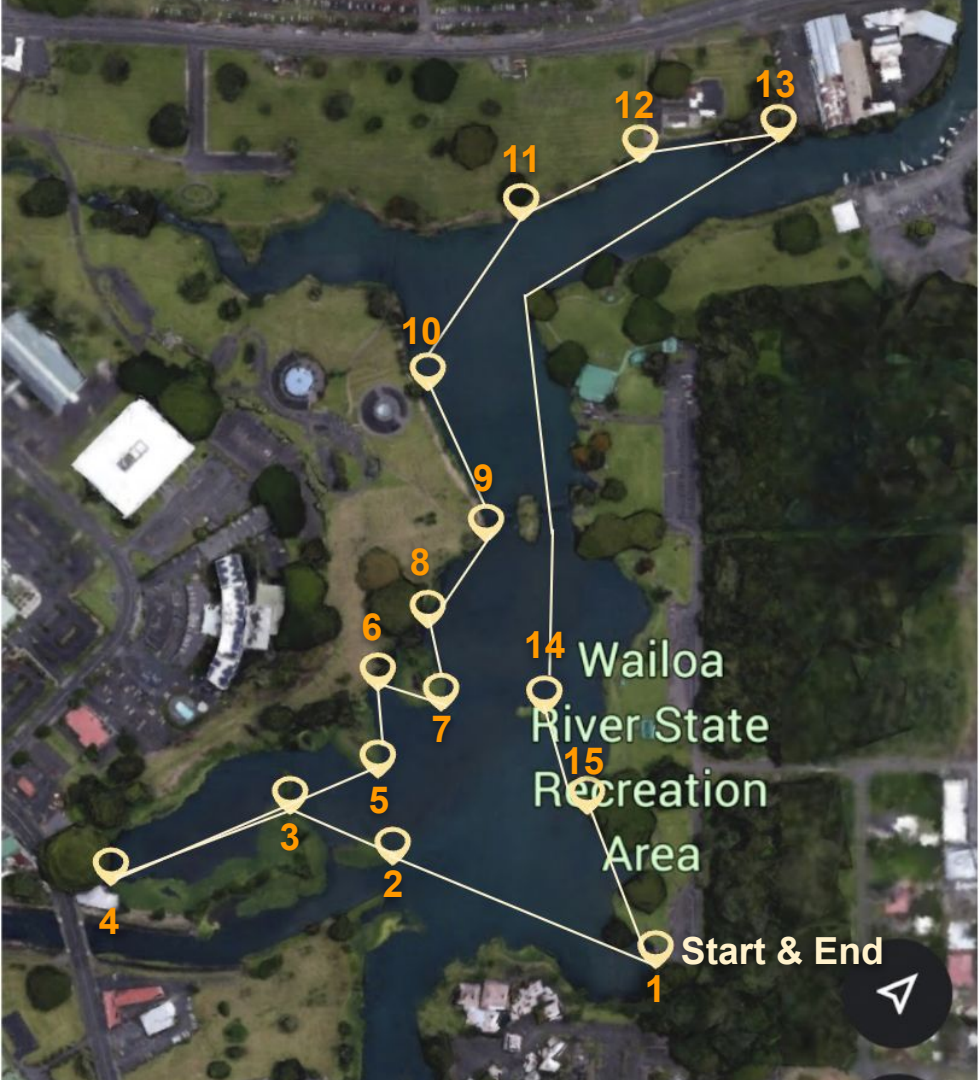






**Mahalo for Listening**





**\*\* Editable Map \*\***

**\*\* Editable Map \*\***



**\*\* Editable Map \*\***