

Sea Life Park

Adaptation / Convergent Ecology:

seabirds vary in lifestyle, behaviour and physiology

exhibit striking convergent evolution

the same constraints resulted in similar adaptations



Makapuu Lookout

At-sea Identification and Behavior:

Size / Color

Group Sizes

Behavior

Direction

Environmental
Correlates:

Wind



The Plan: Seabird Surveys

We will split up into 3 x 4-people groups: A, B, C

We will rotate groups every 20 minutes

- Group 1: Seabird Counts
- Group 2: Seabird Behavior
- Group 3: Weather Observations

Seabird Observations

Seabird Counts / Behavior

- Use field guides
- Talk to other observers
- If you cannot identify, make mental note of bird characteristics (size / color / flight) ...

NOTE: doves / pigeons and myna are NOT seabirds



The Plan: Seabird Surveys

Group 1: Seabird Counts: Look at the ocean continuously and record all seabird observations

TIME	SPECIES	NUMBER	AGE CLASS	BEHAVIOR

Adult

Fly

Sit

Juvenile

Feed

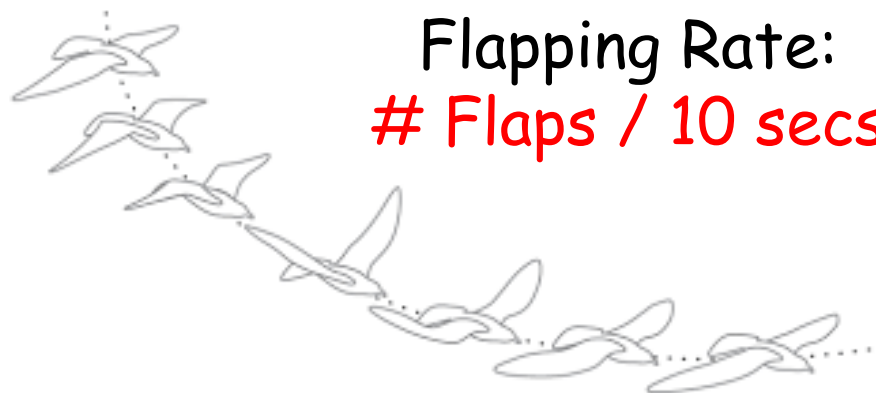
The Plan: Seabird Surveys

Group 2: Seabird Behavior

8) Record the number of wing flaps (once up and down) that the bird makes per unit time. Observe the bird for 10 seconds and record the number of flaps.

NOTE: Categorize FLIGHT HEIGHT using three categories:
- on sea surface below observers above observers

TIME	SPECIES	FLAPPING RATE (# / 10 secs)	FLIGHT HEIGHT



Flapping Rate:
Flaps / 10 secs

Flight Height:

Above Observers
Below Observers
Sea Surface

The Plan: Seabird Surveys














Group 3: Weather Observations: 5 minutes

Wind Speed:

Instantaneous
Measurements
vs.

Longer-term
Measurements

(Mean /
Maximum)

Mode	Hint	Icon	Units of Measure
Clock	---	---	12-hr, 24-hr
Wind Speed	SPd		m/s, ft/min, km/h, mph, kt, B
Max Gust	SPd	MAX 	m/s, ft/min, km/h, mph, kt, B
Avg Speed	SPd	AVG 	m/s, ft/min, km/h, mph, ^{L+R}
Temperature	dEG		C, F
Wind Chill	chill	 	C, F
Humidity	r.h.	 %	%
Heat Stress Index	H.I.	 % 	C, F
Dewpoint	d.P.		C, F
Wet Bulb Temp	bulb	 	C, F
Barometric Pressure*	bAro		hPa, inHg







The Plan: Seabird Surveys

Group 3: Weather Observations: 5 minutes


1. Turn on. Record Time and Start Clock

Turn on. Press the center button () to turn on the unit.

2. At 5 minutes: HOLD measurements

Hold mode. While holding , press  to hold the time and all of the measured values. The word "HOLD" will blink to indicate the Hold Mode. Press  or  to view the other measurements in Hold Mode. While holding , press  to exit the Hold Mode. This mode can be useful for taking measurements when unable to view the display.

3. Turn off.

Turn off. Hold  for 2 seconds to manually turn off the unit. The unit will automatically turn off if no buttons have been pressed for 45 minutes.