**Conservation Dogs of Hawaii**
**Oahu Downed Seabird Detection Trial Report**

**TABLE OF CONTENTS**

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

## BACKGROUND

Conservation Dogs of Hawaii conducted a trial on Oahu to compare the efficacy/efficiency of detection dog teams (dog and handler) and human visual searchers in finding downed seabirds in cover. This report provides details of the trial design and trial results.

## LOCATION

Turtle Bay Resort at 57-091 Kamehameha Hwy, Kahuku, HI 96731

## TRIAL DATES

September 19, 20, and 21 (Mon, Tues, Wed), 2022

** Since this was a trial, we did not take into account the moon phase.

## PARTICIPANTS

Trial Administrator; Sheldon Plentovich of US Fish & Wildlife Service
Sheldon was responsible for co-designing the trial, including selecting search areas and perimeters, and for generating random points at which to hide the seabird carcasses.

Trial Coordinator: Kyoko Johnson of Conservation Dogs of Hawaii
Kyoko was responsible for co-designing the trial, coordinating the trial logistics, and for collecting and compiling search data from all searchers.

Dog Team Searchers (Dog Handler / Dog)

1) Kyoko J. / Zephyr (9 month old Labrador Retriever)
2) Lisa K. / Eddie (6 yr old Labrador Retriever)
3) Debra G. / Guinness (4 yr old Dutch Shepherd mix)

Visual Searchers

1) Jackie L.
2) Angela M.
3) Dawn B.
4) Alika K. (he filled in for Dawn when she was not available)

Helpers

Michelle S., Alyssa P., Brianna L., Alika K., Sheila C.

Dog handlers also assisted when they were not scheduled to search during a given session.

**Conservation Dogs of Hawaii**
**Oahu Downed Seabird Detection Trial Report**

## SEARCH AREAS

Search Area 1: Point – This area included naupaka bushes and other vegetation on the east side of the point near the hotel building.

Search Area 2: Parking Lot – This area included the valet parking area and additional parking area east of and adjacent to Kuilima Drive.

The Point was split into two sections, A and B, and the Parking Lot was split into two sections, C and D. Splitting each search area into two sections allowed a dog team to search one section while a visual searcher searched another section, without the ability to observe each other, thus allowing the searches to be blind. The dog team and visual searcher swapped sections after their first search so that the entire search area (two sections) had been covered after the second search was completed.

## DAILY TRIAL SCHEDULE

In this report, a "search session" is defined as a single morning or evening time period, during which 1 dog team and 1 visual searcher searched the Parking Lot, and 1 dog team and 1 visual searcher searched the Point.

Each of the three trial days consisted of two search sessions – one in the morning, and one in the evening. The daily schedule was as follows:

7:30-8:15am - Carcass Setup
8:30-9:30am - Searches
9:45-10:15am - Carcass Retrieval

6:30-7:15pm - Carcass Setup
7:30-8:30pm - Searches
8:45-9:15pm - Carcass Retrieval

## TRIAL DESIGN

For sample size, we included 3 dog teams and 3 visual searchers over the course of 3 days, which consisted of 6 search sessions, 3 in the morning and 3 in the evening. Each search session included 2 dog teams and 2 visual searchers.

It was determined that 10 targets (WTSH carcasses) would be placed across 2 search areas (4 search area sections) for each search session. Searchers did not know how many targets would be in their assigned search area or in each of the search area sections.

Ten random points were generated along all pre-determined walking transects in both search areas. The walking transect went along all vegetation, vehicles and other objects in the search areas in which, or under which, live seabirds could potentially hide. Each target was placed 1-2 feet deep in the vegetation or under a vehicle. It was decided that a random point on a walking transect would be a better method to determine a random location than using a random GPS point within the entire search areas, because the latter would generate points in the open, e.g. on a road or lawn. The trial focused on birds in cover, and we did not plan to place targets in the open. For the random points generated for this trial, we did not place additional emphasis on realistic fallout locations, e.g. locations near artificial lights or locations that are historically associated with fallout.

During fallout season, visual searchers typically do the evening search a few hours after dusk in order to find birds that fall after dark. The morning search is started early enough that the search may be completed before dawn, with the thought that once the sun rises, the birds will hide in cover and be more difficult for visual searchers to find.

**Conservation Dogs of Hawaii**
**Oahu Downed Seabird Detection Trial Report**

Since we conducted our trial prior to the fallout season, we did not anticipate finding live seabirds. Therefore we conducted the evening trial soon after dusk, rather than waiting a few hours after dusk, which simulated the dark conditions of a search later in the evening, but did not require trial participants (all volunteers) to stay out and drive home late at night.

The morning searches were conducted after dawn however. Since dogs are using olfaction and not vision to find birds, their searches should not be negatively impacted if the birds are in cover. It may even be more advantageous for the dog team to search after dawn so that there is more light available, and it is safer for the dog teams to navigate the potentially uneven ground. This was the reason we chose to conduct the morning searches after dawn rather than before dawn.

*Photos (top row, L to R): Lisa and Eddie searching Parking Lot Section C; Lisa and Eddie searching Point Section A.*

*Photos (bottom row, L to R): Angela searching Point Section B; Angela searching Point section B.*

**Conservation Dogs of Hawaii
Oahu Downed Seabird Detection Trial Report**

## SEABIRD CARCASSES (aka TARGETS)

A total of 10 wedge-tailed shearwater (WTSH) carcasses were used for the trial. One WTSH carcass was replaced with a Newell's shearwater (NESH) in the Day 3 Evening search session due to a WTSH being taken by what was suspected to be a mongoose during the Day 3 Morning session.

Each carcass was labeled with a number (1 to 10) using a small waterproof label attached to the bird's leg with a twist tie.

The backside of each label also had the following note taped to it to avoid passersby moving the birds:

*"If you find this bird please leave it where you found it. It's part of a detection trial that we're conducting right now. Thank you!"*

Carcasses were placed on top of black foam core boards on the ground to prevent residual seabird odor from remaining on the ground, since we reused the search areas during the 3 day trial. Residual seabird odor would not affect visual searchers, but it could cause the dogs to re-find locations of carcasses from a previous search, thus taking time/energy away from finding carcasses in the current search.

The bird carcasses were stored in coolers with ice after each search session to prevent further decomposition.

*Photos (L to R): Wedge-tailed shearwater carcass on black foam core board; Helpers record carcass location information as Sheldon places the carcass in the naupaka bush.*

## SEARCHER LOGISTICS

A site visit was conducted prior to the trial so that all searchers (dog handlers and visual) may familiarize themselves with the search areas, including the perimeters. One of the dog handlers, Debra G., was the only searcher who was not able to participate in this site visit because she lives on Kauai.

Each searcher was instructed to install the GaiaGPS app on their mobile phone prior to the trial. Instructions were given on how to record tracks, waypoints and notes.

A searcher was given 25 minutes to search each section of a search area, e.g. 25 mins for Parking Lot Section C, another 25 mins for Parking Lot Section D.

Paper maps and pens were provided as backup to all searchers as a visual reference and as a backup data recording tool in case their GaiaGPS app failed. Flashlights and headlamps were provided for night searches.

The following are instructions provided to the searchers at the trial:
- Please bring a flashlight or headlamp for night searches. If you forget or don't have one, we can provide one.
- Please be gentle with vegetation.
- Each searcher will search 2 sections of a search area during a given morning or evening search session. Searcher will be given 25 minutes to search the first section, 5 minutes to return to base camp, then another 25 minutes to search the second section.
- Searcher should record: 1) time and location of found targets (mark a waypoint in GaiaGPS), 2) bird carcass number (add note in waypoint in GaiaGPS), and 3) search start time and search end time (via track start and end time in GaiaGPS).
- Searchers will submit GaiaGPS data to Kyoko at the end of both searches.
- Up to 10 carcasses will be placed at random points across the 4 search area sections. This means there could be between zero and 10 carcasses in any given area. Carcasses will be within 2 feet of the edge of the vegetation, vehicle or other object.

## SEARCH AREA / SEARCHER ASSIGNMENTS AND SCHEDULE

*Please see screenshot of the trial schedule and searcher assignments below.*

|  | SEARCHER | TIME | SEARCH AREA |
|---|---|---|---|
| **DAY 1 AM** | Kyoko / Zephyr | 8:30-9:00am | Point Section A |
| **MONDAY** | Kyoko / Zephyr | 9:00-9:30am | Point Section B |
|  | Jackie L. | 8:30-9:00am | Point Section B |
|  | Jackie L. | 9:00-9:30am | Point Section A |
|  | Lisa / Eddie | 8:30-9:00am | Parking Lot SectionC |
|  | Lisa / Eddie | 9:00-9:30am | Parking Lot Section D |
|  | Angela M. | 8:30-9:00am | Parking Lot Section D |
|  | Angela M. | 9:00-9:30am | Parking Lot Section C |
| **DAY 1 PM** | Lisa / Eddie | 7:30-8:00pm | Point Section A |
|  | Lisa / Eddie | 8:00-8:30pm | Point Section B |
|  | Angela M. | 7:30-8:00pm | Point Section B |
|  | Angela M. | 8:00-8:30pm | Point Section A |
|  | Debra / Guinness | 7:30-8:00pm | Parking Lot Section C |
|  | Debra / Guinness | 8:00-8:30pm | Parking Lot Section D |
|  | Dawn B. | 7:30-8:00pm | Parking Lot Section D |
|  | Dawn B. | 8:00-8:30pm | Parking Lot Section C |
|  |  |  |  |
| **DAY 2 AM** | Debra / Guinness | 8:30-9:00am | Point Section A |
| **TUESDAY** | Debra / Guinness | 9:00-9:30am | Point Section B |
|  | Dawn B. | 8:30-9:00am | Point Section B |
|  | Dawn B. | 9:00-9:30am | Point Section A |
|  | Kyoko / Zephyr | 8:30-9:00am | Parking Lot Section C |
|  | Kyoko / Zephyr | 9:00-9:30am | Parking Lot Section D |
|  | Jackie L. | 8:30-9:00am | Parking Lot Section D |
|  | Jackie L. | 9:00-9:30am | Parking Lot Section C |
| **DAY 2 PM** | Kyoko / Zephyr | 7:30-8:00pm | Point Section A |
|  | Kyoko / Zephyr | 8:00-8:30pm | Point Section B |
|  | Jackie L. | 7:30-8:00pm | Point Section B |
|  | Jackie L. | 8:00-8:30pm | Point Section A |
|  | Lisa / Eddie | 7:30-8:00pm | Parking Lot Section C |
|  | Lisa / Eddie | 8:00-8:30pm | Parking Lot Section D |
|  | Angela M. | 7:30-8:00pm | Parking Lot Section D |
|  | Angela M. | 8:00-8:30pm | Parking Lot Section C |
|  |  |  |  |
| **DAY 3 AM** | Lisa / Eddie | 8:30-9:00am | Point Section A |
| **WEDNESDAY** | Lisa / Eddie | 9:00-9:30am | Point Section B |
|  | Angela M. | 8:30-9:00am | Point Section B |
|  | Angela M. | 9:00-9:30am | Point Section A |
|  | Debra / Guinness | 8:30-9:00am | Parking Lot Section C |
|  | Debra / Guinness | 9:00-9:30am | Parking Lot Section D |
|  | Alika K. | 8:30-9:00am | Parking Lot Section D |
|  | Alika K. | 9:00-9:30am | Parking Lot Section C |
| **DAY 3 PM** | Debra / Guinness | 7:30-8:00pm | Point Section A |
|  | Debra / Guinness | 8:00-8:30pm | Point Section B |
|  | Alika K. | 7:30-8:00pm | Point Section B |
|  | Alika K. | 8:00-8:30pm | Point Section A |
|  | Kyoko / Zephyr | 7:30-8:00pm | Parking Lot Section C |
|  | Kyoko / Zephyr | 8:00-8:30pm | Parking Lot Section D |
|  | Jackie L. | 7:30-8:00pm | Parking Lot Section D |
|  | Jackie L. | 8:00-8:30pm | Parking Lot Section C |

The searches were assigned in such a way that over the course of the 3 day trial, each pair of searchers (dog team and visual) would have a chance to search each area (Parking Lot, Point) twice, once in the morning, and once at night.

**RESULTS and CONCLUSION**

Overall, the dog teams found 90% of the targets, and visual searchers found 56.67%. Two of the dog teams (Zephyr and Eddie) found 100% of the targets, and one dog team (Guinness) found 73.91%. Two visual searchers (Alika and Jackie) found 50%; one visual searcher (Dawn) found 40%; and one visual searcher (Angela) found 78.95% of the targets.

We compared results from the morning searches to results from the evening searches, and the detection rates (aka discovery rates) were the same as the overall results (90% for dog teams; 56.67% for visual searchers). We also compared results from the Parking Lot to those from the Point, and there was no significant difference in the detection rates.

The time/efficiency-related data have not been fully analyzed yet, however the search data show that the dog teams found the targets significantly faster than the visual searchers did. The dog teams were also able to cover a given search area 2-3 times during the allotted time limit, whereas the visual searchers were able to cover it 1-2 times.

Of the targets that were found, the dog teams took an average of 2 minutes 15 seconds to find each of 54 targets, and visual searchers took 4 minutes 5 seconds to find each of 33 targets.

Our conclusion is that dog teams are more effective and efficient in finding downed seabirds in cover.

*Tables of details and results are on pages 11-24 of this report as well as in the spreadsheet "Downed Seabird Detection Trial Results and Statistics.xlsx." The terms "finds" and "detections" are used interchangeably.*

NOTE ON VISUAL SEARCHERS: Two of the visual searchers (Alika, Jackie) had detection rates close to the overall average of all visual searchers (50% versus 56.67%).

One searcher (Dawn) had a detection rate significantly lower than the overall average (40% versus 56.67%). It is unclear if this result was by chance, although we know the following: Dawn conducted her first search (Day 1 PM Parking Lot) wearing knee pads so that she could kneel on the ground and look under as many vehicles as possible. To provide an idea of what this involved, there were approximately 85 parking stalls in Parking Lot Section C, with vehicles parked in approximately 75% of the stalls. Her detection rate for that search and search area was 62.5%, which is higher than the overall average for visual searchers. When Dawn arrived at Turtle Bay Resort for her second search (Day 2 AM Point), she stated that she was sore from kneeling down and looking under vehicles the previous evening. Her detection for this second search was 14.28%, which is significantly lower than her previous search and lower than the overall average for visual searchers.

One searcher (Angela) had a detection rate that was significantly higher than the overall average (78.95% versus 56.67%). The reason for her high result is unknown. Possible reasons include search methods and skills.

NOTE ON DOG TEAMS: All three dogs were trained with the same method to detect and alert on seabirds. Dog handler Kyoko was paired with her own dog Zephyr, whom she trained herself. Dog handler Lisa was paired with Eddie, a dog that belongs to another person, but that Lisa had trained and handled before. Dog handler Debra flew into Oahu from Kauai to participate as a 3rd dog handler because other Oahu-based dog handlers were not available on the trial dates. Debra had never trained or handled Guinness before these trials. She also did not have an opportunity to visit the Turtle Bay site and familiarize herself with the search areas prior to the trials.

The search results show that Debra and Guinness found approximately 60% of the targets in the first 2 search sessions of the trial. The detection rate increased to 100% in their last 2 search sessions. This may be due to Debra becoming more familiar with the search areas and with the dog Guinness. The study below determined that detection dogs' performances were significantly reduced when handled by an unfamiliar handler, than with their familiar handler:

"*You Are Not My Handler! Impact of Changing Handlers on Dogs' Behaviours and Detection Performance*" - https://pubmed.ncbi.nlm.nih.gov/30304841/ - by La Toya Jamieson et al

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**OVERALL**

| OVERALL | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| **DAY 1 AM** | POINT A | 2 | 1 | 2 | Zephyr | Jackie |
| **DAY 1 AM** | POINT B | 4 | 4 | 4 | Zephyr | Jackie |
| **DAY 1 AM** | PARKING C | 3 | 2 | 3 | Eddie | Angela |
| **DAY 1 AM** | PARKING D | 1 | 1 | 1 | Eddie | Angela |
| **DAY 1 PM** | POINT A | 1 | 1 | 1 | Eddie | Angela |
| **DAY 1 PM** | POINT B | 1 | 1 | 1 | Eddie | Angela |
| **DAY 1 PM** | PARKING C | 5 | 4 | 4 | Guinness | Dawn |
| **DAY 1 PM** | PARKING D | 3 | 1 | 1 | Guinness | Dawn |
| **DAY 2 AM** | POINT A | 6 | 1 | 3 | Guinness | Dawn |
| **DAY 2 AM** | POINT B | 1 | 0 | 1 | Guinness | Dawn |
| **DAY 2 AM** | PARKING C | 2 | 0 | 2 | Zephyr | Jackie |
| **DAY 2 AM** | PARKING D | 1 | 0 | 1 | Zephyr | Jackie |
| **DAY 2 PM** | POINT A | 0 | 0 | 0 | Zephyr | Jackie |
| **DAY 2 PM** | POINT B | 3 | 1 | 3 | Zephyr | Jackie |
| **DAY 2 PM** | PARKING C | 1 | 1 | 1 | Eddie | Angela |
| **DAY 2 PM** | PARKING D | 6 | 4 | 6 | Eddie | Angela |
| **DAY 3 AM** | POINT A | 1 | 1 | 1 | Eddie | Angela |
| **DAY 3 AM** | POINT B | 5 | 4 | 5 | Eddie | Angela |
| **DAY 3 AM** | PARKING C | 3 | 2 | 3 | Guinness | Alika |
| **DAY 3 AM** | PARKING D | 1 | 1 | 1 | Guinness | Alika |
| **DAY 3 PM** | POINT A | 3 | 1 | 3 | Guinness | Alika |
| **DAY 3 PM** | POINT B | 1 | 0 | 1 | Guinness | Alika |
| **DAY 3 PM** | PARKING C | 6 | 3 | 6 | Zephyr | Jackie |
| **DAY 3 PM** | PARKING D | 0 | 0 | 0 | Zephyr | Jackie |
| | **TOTAL** | 60 | 34 | 54 | | |
| | **PERCENTAGE** | 100.00% | 56.67% | 90.00% | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**MORNING VS EVENING**

| MORNING ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| DAY 1 AM | POINT A | 2 | 1 | 2 | Zephyr | Jackie |
| DAY 1 AM | POINT B | 4 | 4 | 4 | Zephyr | Jackie |
| DAY 1 AM | PARKING C | 3 | 2 | 3 | Eddie | Angela |
| DAY 1 AM | PARKING D | 1 | 1 | 1 | Eddie | Angela |
| DAY 2 AM | POINT A | 6 | 1 | 3 | Guinness | Dawn |
| DAY 2 AM | POINT B | 1 | 0 | 1 | Guinness | Dawn |
| DAY 2 AM | PARKING C | 2 | 0 | 2 | Zephyr | Jackie |
| DAY 2 AM | PARKING D | 1 | 0 | 1 | Zephyr | Jackie |
| DAY 3 AM | POINT A | 1 | 1 | 1 | Eddie | Angela |
| DAY 3 AM | POINT B | 5 | 4 | 5 | Eddie | Angela |
| DAY 3 AM | PARKING C | 3 | 2 | 3 | Guinness | Alika |
| DAY 3 AM | PARKING D | 1 | 1 | 1 | Guinness | Alika |
| | **TOTAL** | 30 | 17 | 27 | | |
| | **PERCENTAGE** | 100.00% | 56.67% | 90.00% | | |

| EVENING ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| DAY 1 PM | POINT A | 1 | 1 | 1 | Eddie | Angela |
| DAY 1 PM | POINT B | 1 | 1 | 1 | Eddie | Angela |
| DAY 1 PM | PARKING C | 5 | 4 | 4 | Guinness | Dawn |
| DAY 1 PM | PARKING D | 3 | 1 | 1 | Guinness | Dawn |
| DAY 2 PM | POINT A | 0 | 0 | 0 | Zephyr | Jackie |
| DAY 2 PM | POINT B | 3 | 1 | 3 | Zephyr | Jackie |
| DAY 2 PM | PARKING C | 1 | 1 | 1 | Eddie | Angela |
| DAY 2 PM | PARKING D | 6 | 4 | 6 | Eddie | Angela |
| DAY 3 PM | POINT A | 3 | 1 | 3 | Guinness | Alika |
| DAY 3 PM | POINT B | 1 | 0 | 1 | Guinness | Alika |
| DAY 3 PM | PARKING C | 6 | 3 | 6 | Zephyr | Jackie |
| DAY 3 PM | PARKING D | 0 | 0 | 0 | Zephyr | Jackie |
| | **TOTAL** | 30 | 17 | 27 | | |
| | **PERCENTAGE** | 100.00% | 56.67% | 90.00% | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**POINT VS PARKING LOT**

| POINT ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| **DAY 1 AM** | POINT A | 2 | 1 | 2 | Zephyr | Jackie |
| **DAY 1 AM** | POINT B | 4 | 4 | 4 | Zephyr | Jackie |
| **DAY 1 PM** | POINT A | 1 | 1 | 1 | Eddie | Angela |
| **DAY 1 PM** | POINT B | 1 | 1 | 1 | Eddie | Angela |
| **DAY 2 AM** | POINT A | 6 | 1 | 3 | Guinness | Dawn |
| **DAY 2 AM** | POINT B | 1 | 0 | 1 | Guinness | Dawn |
| **DAY 2 PM** | POINT A | 0 | 0 | 0 | Zephyr | Jackie |
| **DAY 2 PM** | POINT B | 3 | 1 | 3 | Zephyr | Jackie |
| **DAY 3 AM** | POINT A | 1 | 1 | 1 | Eddie | Angela |
| **DAY 3 AM** | POINT B | 5 | 4 | 5 | Eddie | Angela |
| **DAY 3 PM** | POINT A | 3 | 1 | 3 | Guinness | Alika |
| **DAY 3 PM** | POINT B | 1 | 0 | 1 | Guinness | Alika |
| | **TOTAL** | 28 | 15 | 25 | | |
| | **PERCENTAGE** | 100.00% | 53.57% | 89.29% | | |

| PARKING ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| **DAY 1 AM** | PARKING C | 3 | 2 | 3 | Eddie | Angela |
| **DAY 1 AM** | PARKING D | 1 | 1 | 1 | Eddie | Angela |
| **DAY 1 PM** | PARKING C | 5 | 4 | 4 | Guinness | Dawn |
| **DAY 1 PM** | PARKING D | 3 | 1 | 1 | Guinness | Dawn |
| **DAY 2 AM** | PARKING C | 2 | 0 | 2 | Zephyr | Jackie |
| **DAY 2 AM** | PARKING D | 1 | 0 | 1 | Zephyr | Jackie |
| **DAY 2 PM** | PARKING C | 1 | 1 | 1 | Eddie | Angela |
| **DAY 2 PM** | PARKING D | 6 | 4 | 6 | Eddie | Angela |
| **DAY 3 AM** | PARKING C | 3 | 2 | 3 | Guinness | Alika |
| **DAY 3 AM** | PARKING D | 1 | 1 | 1 | Guinness | Alika |
| **DAY 3 PM** | PARKING C | 6 | 3 | 6 | Zephyr | Jackie |
| **DAY 3 PM** | PARKING D | 0 | 0 | 0 | Zephyr | Jackie |
| | **TOTAL** | 32 | 19 | 29 | | |
| | **PERCENTAGE** | 100.00% | 59.38% | 90.63% | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**BY SEARCH AREA SECTION**

| POINT A ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| **DAY 1 AM** | POINT A | 2 | 1 | 2 | Zephyr | Jackie |
| **DAY 1 PM** | POINT A | 1 | 1 | 1 | Eddie | Angela |
| **DAY 2 AM** | POINT A | 6 | 1 | 3 | Guinness | Dawn |
| **DAY 2 PM** | POINT A | 0 | 0 | 0 | Zephyr | Jackie |
| **DAY 3 AM** | POINT A | 1 | 1 | 1 | Eddie | Angela |
| **DAY 3 PM** | POINT A | 3 | 1 | 3 | Guinness | Alika |
| | **TOTAL** | 13 | 5 | 10 | | |
| | **PERCENTAGE** | 100.00% | 38.46% | 76.92% | | |

| POINT B ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| **DAY 1 AM** | POINT B | 4 | 4 | 4 | Zephyr | Jackie |
| **DAY 1 PM** | POINT B | 1 | 1 | 1 | Eddie | Angela |
| **DAY 2 AM** | POINT B | 1 | 0 | 1 | Guinness | Dawn |
| **DAY 2 PM** | POINT B | 3 | 1 | 3 | Zephyr | Jackie |
| **DAY 3 AM** | POINT B | 5 | 4 | 5 | Eddie | Angela |
| **DAY 3 PM** | POINT B | 1 | 0 | 1 | Guinness | Alika |
| | **TOTAL** | 15 | 10 | 15 | | |
| | **PERCENTAGE** | 100.00% | 66.67% | 100.00% | | |

| PARKING C ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| **DAY 1 AM** | PARKING C | 3 | 2 | 3 | Eddie | Angela |
| **DAY 1 PM** | PARKING C | 5 | 4 | 4 | Guinness | Dawn |
| **DAY 2 AM** | PARKING C | 2 | 0 | 2 | Zephyr | Jackie |
| **DAY 2 PM** | PARKING C | 1 | 1 | 1 | Eddie | Angela |
| **DAY 3 AM** | PARKING C | 3 | 2 | 3 | Guinness | Alika |
| **DAY 3 PM** | PARKING C | 6 | 3 | 6 | Zephyr | Jackie |
| | **TOTAL** | 20 | 12 | 19 | | |
| | **PERCENTAGE** | 100.00% | 60.00% | 95.00% | | |

| PARKING D ONLY | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| **DAY 1 AM** | PARKING D | 1 | 1 | 1 | Eddie | Angela |
| **DAY 1 PM** | PARKING D | 3 | 1 | 1 | Guinness | Dawn |
| **DAY 2 AM** | PARKING D | 1 | 0 | 1 | Zephyr | Jackie |
| **DAY 2 PM** | PARKING D | 6 | 4 | 6 | Eddie | Angela |
| **DAY 3 AM** | PARKING D | 1 | 1 | 1 | Guinness | Alika |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

| | | | | | | |
|---|---|---|---|---|---|---|
| **DAY 3 PM** | PARKING D | 0 | 0 | 0 | Zephyr | Jackie |
| | **TOTAL** | 12 | 7 | 10 | | |
| | **PERCENTAGE** | 100.00% | 58.33% | 83.33% | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**BY SEARCHER and SEARCHER COMBINATION**

| TEAM ZEPHYR vs JACKIE | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| DAY 1 AM | POINT A | 2 | 1 | 2 | Zephyr | Jackie |
| DAY 1 AM | POINT B | 4 | 4 | 4 | Zephyr | Jackie |
| DAY 2 AM | PARKING C | 2 | 0 | 2 | Zephyr | Jackie |
| DAY 2 AM | PARKING D | 1 | 0 | 1 | Zephyr | Jackie |
| DAY 2 PM | POINT A | 0 | 0 | 0 | Zephyr | Jackie |
| DAY 2 PM | POINT B | 3 | 1 | 3 | Zephyr | Jackie |
| DAY 3 PM | PARKING C | 6 | 3 | 6 | Zephyr | Jackie |
| DAY 3 PM | PARKING D | 0 | 0 | 0 | Zephyr | Jackie |
| | **TOTAL** | 18 | 9 | 18 | | |
| | **PERCENTAGE** | 100.00% | 50.00% | 100.00% | | |

| TEAM EDDIE vs ANGELA | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| DAY 1 AM | PARKING C | 3 | 2 | 3 | Eddie | Angela |
| DAY 1 AM | PARKING D | 1 | 1 | 1 | Eddie | Angela |
| DAY 1 PM | POINT A | 1 | 1 | 1 | Eddie | Angela |
| DAY 1 PM | POINT B | 1 | 1 | 1 | Eddie | Angela |
| DAY 2 PM | PARKING C | 1 | 1 | 1 | Eddie | Angela |
| DAY 2 PM | PARKING D | 6 | 4 | 6 | Eddie | Angela |
| DAY 3 AM | POINT A | 1 | 1 | 1 | Eddie | Angela |
| DAY 3 AM | POINT B | 5 | 4 | 5 | Eddie | Angela |
| | **TOTAL** | 19 | 15 | 19 | | |
| | **PERCENTAGE** | 100.00% | 78.95% | 100.00% | | |

| TEAM GUINNESS vs DAWN / ALIKA | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| DAY 1 PM | PARKING C | 5 | 4 | 4 | Guinness | Dawn |
| DAY 1 PM | PARKING D | 3 | 1 | 1 | Guinness | Dawn |
| DAY 2 AM | POINT A | 6 | 1 | 3 | Guinness | Dawn |
| DAY 2 AM | POINT B | 1 | 0 | 1 | Guinness | Dawn |
| DAY 3 AM | PARKING C | 3 | 2 | 3 | Guinness | Alika |
| DAY 3 AM | PARKING D | 1 | 1 | 1 | Guinness | Alika |
| DAY 3 PM | POINT A | 3 | 1 | 3 | Guinness | Alika |
| DAY 3 PM | POINT B | 1 | 0 | 1 | Guinness | Alika |
| | **TOTAL** | 23 | 10 | 17 | | |
| | **PERCENTAGE** | 100.00% | 43.48% | 73.91% | | |

*Below is a breakdown of the above grid by visual searcher*

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

| TEAM GUINNESS vs DAWN | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| DAY 1 PM | PARKING C | 5 | 4 | 4 | Guinness | Dawn |
| DAY 1 PM | PARKING D | 3 | 1 | 1 | Guinness | Dawn |
| DAY 2 AM | POINT A | 6 | 1 | 3 | Guinness | Dawn |
| DAY 2 AM | POINT B | 1 | 0 | 1 | Guinness | Dawn |
| | TOTAL | 15 | 6 | 9 | | |
| | PERCENTAGE | 100.00% | 40.00% | 60.00% | | |

| TEAM GUINNESS vs ALIKA | LOCATION | CARCASS COUNT | VISUAL SEARCHER FINDS | DOG TEAM FINDS | DOG TEAM NAME | VISUAL SEARCHER NAME |
|---|---|---|---|---|---|---|
| DAY 3 AM | PARKING C | 3 | 2 | 3 | Guinness | Alika |
| DAY 3 AM | PARKING D | 1 | 1 | 1 | Guinness | Alika |
| DAY 3 PM | POINT A | 3 | 1 | 3 | Guinness | Alika |
| DAY 3 PM | POINT B | 1 | 0 | 1 | Guinness | Alika |
| | TOTAL | 8 | 4 | 8 | | |
| | PERCENTAGE | 100.00% | 50.00% | 100.00% | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**DAY 1 AM DETECTION TIMES**

| | Kyoko / K9 Zephyr | Elapsed Time from Start | Carcass ID | Visual Searcher Jackie | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Point A Start Time** | 08:53:00 | | | 09:21:30 | | |
| Find 1 | 08:56:17 | 00:03:17 | 3 | 09:39:09 | 00:17:39 | 3 |
| Find 2 | 09:01:38 | 00:05:21 | 5 | NOT FOUND | NOT FOUND | 5 |
| **Point A End Time** | 09:20:00 | | | 09:45:44 | | |
| | | | | | | |
| **Point B Start Time** | 09:21:30 | | | 08:53:00 | | |
| Find 1 | 09:22:43 | 00:01:13 | 4 | 09:01:35 | 00:08:35 | 4 |
| Find 2 | 09:25:35 | 00:04:05 | 7 | 09:04:53 | 00:11:53 | 7 |
| Find 3 | 09:30:04 | 00:08:34 | 2 | 09:05:54 | 00:12:54 | 2 |
| Find 4 | 09:33:35 | 00:12:05 | 6 | 09:10:40 | 00:17:40 | 6 |
| **Point B End Time** | 09:40:00 | | | 09:20:00 | | |

| | Lisa / K9 Eddie | Elapsed Time from Start | Carcass ID | Visual Searcher Angela | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Parking C Start Time** | 08:50:30 | | | 09:20:00 | | |
| Find 1 | 08:54:28 | 00:03:58 | 10 | 09:28:14 | 00:08:14 | 10 |
| Find 2 | 08:57:01 | 00:06:31 | 9 | 09:43:10 | 00:23:10 | 8 |
| Find 3 | 09:01:40 | 00:11:10 | 8 | NOT FOUND | NOT FOUND | 9 |
| **Parking C End Time** | 09:09:44 | | | 09:44:20 | | |
| | | | | | | |
| **Parking D Start Time** | 09:20:00 | | | 08:50:30 | | |
| Find 1 | 09:26:17 | 00:06:17 | 1 | 09:14:45 | 00:24:15 | 1 |
| **Parking D End Time** | 09:44:00 | | | 09:15:52 | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**DAY 2 AM DETECTION TIMES**

| | Lisa / Eddie | Elapsed Time from Start | Carcass ID | Angela | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Point A Start Time** | 07:22:30 | | | 07:52:00 | | |
| Find 1 | 07:25:01 | 00:02:31 | 6 | 07:53:05 | 00:01:05 | 6 |
| **Point A End Time** | 07:47:00 | | | 08:17:25 | | |
| | | | | | | |
| **Point B Start Time** | 07:52:00 | | | 07:22:30 | | |
| Find 1 | 07:53:05 | 00:01:05 | 9 | 07:28:17 | 00:05:47 | 9 |
| **Point B End Time** | 08:04:24 | | | 07:47:00 | | |

| | Debra / Guinness | Elapsed Time from Start | Carcass ID | Dawn | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Parking C Start Time** | 07:21:30 | | | 07:53:30 | | |
| Find 1 | 07:27:02 | 00:05:32 | 3 | 07:55:16 | 00:01:46 | 3 |
| Find 2 | 07:30:50 | 00:09:20 | 8 | 08:00:03 | 00:06:33 | 8 |
| Find 3 | 07:34:00 | 00:12:30 | 5 | 08:04:09 | 00:10:39 | 5 |
| Find 4 | 07:38:29 | 00:16:59 | 7 | 08:12:57 | 00:19:27 | 7 |
| Find 5 | NOT FOUND | NOT FOUND | 1 or 4 ??? | NOT FOUND | NOT FOUND | 1 or 4 ??? |
| **Parking C End Time** | 07:46:30 | | | 08:18:30 | | |
| | | | | | | |
| **Parking D Start Time** | 07:53:30 | | | 07:21:30 | | |
| Find 1 | 08:04:21 | 00:10:51 | 10 | 07:28:35 | 00:07:05 | 2 |
| Find 2 | NOT FOUND | NOT FOUND | 2 | NOT FOUND | NOT FOUND | 10 |
| Find 3 | NOT FOUND | NOT FOUND | 1 or 4 ??? | NOT FOUND | NOT FOUND | 1 or 4 ??? |
| **Parking D End Time** | 08:18:30 | | | 07:46:30 | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**DAY 2 AM DETECTION TIMES**

Notes:

**\*** The fact that the carcass was not there anymore during Debra's earlier search means it wouldn't have been there for Dawn's later search. This would have changed the visual search image for Dawn, and could have been a disadvantage for her.

**\*\*** We don't know when this carcass was moved (before, during or after the two searches), but it was later discovered to have been moved by a mongoose.

**\*\*\*** This carcass was also outside the designated search area for Point A.

**\*\*\*\*** This carcass was moved by a mongoose. Debra and Guinness found the black board during their later search. It's uncertain whether the carcass was in the original location during Dawn's earlier search because she did not find either board or carcass.

| Name Box | Debra / Guinness | Elapsed Time from Start | Carcass ID | Dawn | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Point A Start Time** | 08:31:30 | | | 09:01:45 | | |
| Find 1 | 08:35:28 | 00:03:58 | 8 | 09:10:57 | 00:09:12 | 8 |
| Find 2 | 08:51:02 | 00:19:32 | Black board (10) | NOT FOUND | NOT FOUND | Black board (10) * |
| Find 3 | 08:54:36 | 00:23:06 | 6 | NOT FOUND | NOT FOUND | 6 |
| Find 4 | NOT FOUND | NOT FOUND | 9 | NOT FOUND | NOT FOUND | 9 ** |
| Find 5 | NOT FOUND | NOT FOUND | 7 | NOT FOUND | NOT FOUND | 7 *** |
| Find 6 | NOT FOUND | NOT FOUND | 4 | NOT FOUND | NOT FOUND | 4 |
| **Point A End Time** | 08:56:30 | | | 09:26:45 | | |
| **Point B Start Time** | 09:01:45 | | | 08:31:30 | | |
| Find 1 | 09:13:16 | 00:11:31 | Black board (1) | NOT FOUND | NOT FOUND | 1 **** |
| **Point B End Time** | 09:26:45 | | | 08:56:30 | | |

| | Kyoko / Zephyr | Elapsed Time from Start | Carcass ID | Jackie | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Parking C Start Time** | 08:28:40 | | | 08:57:00 | | |
| Find 1 | 08:35:12 | 00:06:32 | 2 | NOT FOUND | NOT FOUND | 2 |
| Find 2 | 08:44:54 | 00:16:14 | 5 | NOT FOUND | NOT FOUND | 5 |
| **Parking C End Time** | 08:49:11 | | | 09:22:00 | | |
| **Parking D Start Time** | 08:57:00 | | | 08:28:40 | | |
| Find 1 | 08:58:54 | 00:01:54 | 3 | NOT FOUND | NOT FOUND | 3 |
| **Parking D End Time** | 09:22:00 | | | 08:53:40 | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**DAY 2 PM DETECTION TIMES**

| | Kyoko / Zephyr | Elapsed Time from Start | Carcass ID | Jackie | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Point A Start Time** | 07:25:00 | | | 07:52:00 | | |
| **Point A End Time** | 07:41:02 | | | 08:17:00 | | |
| | | | | | | |
| **Point B Start Time** | 07:52:00 | | | 07:25:00 | | |
| Find 1 | 07:52:42 | 00:00:42 | 7 | NOT FOUND | NOT FOUND | 7 |
| Find 2 | 07:54:19 | 00:02:19 | 10 | NOT FOUND | NOT FOUND | 10 |
| Find 3 | 07:55:58 | 00:03:58 | 1 | NOT FOUND | NOT FOUND | 1 |
| **Point B End Time** | 08:10:33 | | | 07:50:00 | | |

| | Lisa / Eddie | Elapsed Time from Start | Carcass ID | Angela | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Parking C Start Time** | 07:19:20 | | | 07:52:00 | | |
| Find 1 | 07:24:56 | 00:05:36 | 8 | 08:12:26 | 00:20:26 | 8 |
| **Parking C End Time** | 07:44:20 | | | 08:17:00 | | |
| | | | | | | |
| **Parking D Start Time** | 07:52:00 | | | 07:19:20 | | |
| Find 1 | 07:53:48 | 00:01:48 | 9 | 07:20:06 | 00:00:46 | 9 |
| Find 2 | 07:56:16 | 00:04:16 | 6 | 07:21:07 | 00:01:47 | 6 |
| Find 3 | 07:58:55 | 00:06:55 | 2 | 07:24:22 | 00:05:02 | 4 |
| Find 4 | 08:00:16 | 00:08:16 | 3 | 07:33:15 | 00:13:55 | 3 |
| Find 5 | 08:03:53 | 00:11:53 | 4 | NOT FOUND | NOT FOUND | 2 |
| Find 6 | 08:04:52 | 00:12:52 | 5 | NOT FOUND | NOT FOUND | 5 |
| **Parking D End Time** | 08:17:00 | | | 07:44:20 | | |

**DAY 3 AM DETECTION TIMES**

| | Lisa / Eddie | Elapsed Time from Start | Carcass ID | Angela | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Point A Start Time** | 08:23:00 | | | 08:49:31 | | |
| Find 1 | 08:24:30 | 00:01:30 | 5 | 08:50:35 | 00:01:04 | 5 |
| **Point A End Time** | 08:41:00 | | | 09:14:31 | | |
| | | | | | | |
| **Point B Start Time** | 08:49:31 | | | 08:23:00 | | |
| Find 1 | 08:50:44 | 00:01:13 | 3 | 08:26:40 | 00:03:40 | Black board (4) |
| Find 2 | 08:51:42 | 00:02:11 | 6 | 08:34:39 | 00:11:39 | 3 |
| Find 3 | 08:54:02 | 00:04:31 | 8 | 08:39:59 | 00:16:59 | 8 |
| Find 4 | 08:55:18 | 00:05:47 | 2 | 08:43:23 | 00:20:23 | 2 |
| Find 5 | 08:57:43 | 00:08:12 | Black board (4) | NOT FOUND | NOT FOUND | 6 |
| **Point B End Time** | 09:02:00 | | | 08:48:00 | | |

| | Debra / Guinness | Elapsed Time from Start | Carcass ID | Alika | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Parking C Start Time** | 08:22:30 | | | 08:53:00 | | |
| Find 1 | 08:28:08 | 00:05:38 | 9 | 08:56:55 | 00:03:55 | 10 |
| Find 2 | 08:31:54 | 00:09:24 | 10 | 09:03:29 | 00:10:29 | 9 |
| Find 3 | 08:35:51 | 00:13:21 | 1 | NOT FOUND | NOT FOUND | 1 |
| **Parking C End Time** | 08:45:37 | | | 09:18:00 | | |
| | | | | | | |
| **Parking D Start Time** | 08:53:00 | | | 08:22:30 | | |
| Find 1 | 09:11:19 | 00:18:19 | 7 | 08:28:18 | 00:05:48 | 7 |
| **Parking D End Time** | 09:18:00 | | | 08:47:30 | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**DAY 3 PM DETECTION TIMES**

| | Debra / Guinness | Elapsed Time from Start | Carcass ID | Alika | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Point A Start Time** | 07:14:00 | | | 07:45:00 | | |
| Find 1 | 07:15:46 | 00:01:46 | 4 | 07:48:33 | 00:03:33 | 10 |
| Find 2 | 07:17:37 | 00:03:37 | 10 | NOT FOUND | NOT FOUND | 4 |
| Find 3 | 07:21:56 | 00:07:56 | 7 | NOT FOUND | NOT FOUND | 7 |
| **Point A End Time** | 07:39:00 | | | 08:10:00 | | |
| | | | | | | |
| **Point B Start Time** | 07:45:00 | | | 07:14:00 | | |
| Find 1 | 08:03:12 | 00:18:12 | 1 | NOT FOUND | NOT FOUND | 1 |
| **Point B End Time** | 08:10:00 | | | 07:39:00 | | |

| | Kyoko / Zephyr | Elapsed Time from Start | Carcass ID | Jackie | Elapsed Time from Start | Carcass ID |
|---|---|---|---|---|---|---|
| **Parking C Start Time** | 07:08:30 | | | 07:35:30 | | |
| Find 1 | 07:09:36 | 00:01:06 | 2 | 07:36:07 | 00:00:37 | 3 |
| Find 2 | 07:11:08 | 00:02:38 | 6 | 07:38:45 | 00:03:15 | 2 |
| Find 3 | 07:12:30 | 00:04:00 | 3 | 07:48:58 | 00:13:28 | 9 |
| Find 4 | 07:14:25 | 00:05:55 | 5 | NOT FOUND | NOT FOUND | 6 |
| Find 5 | 07:19:54 | 00:11:24 | 9 | NOT FOUND | NOT FOUND | 5 |
| Find 6 | 07:22:36 | 00:14:06 | 8 | NOT FOUND | NOT FOUND | 8 |
| **Parking C End Time** | 07:33:30 | | | 08:00:30 | | |
| | | | | | | |
| **Parking D Start Time** | 07:35:30 | | | 07:08:30 | | |
| **Parking D End Time** | 08:00:30 | | | 07:33:30 | | |

# Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

**AVERAGE DETECTION TIMES**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Not all carcasses found | | | | | | | |
| Zero carcasses found | | | | | | | |
| Zero carcasses in search area | | | | | | | |
| | | | | **OVERALL EFFICIENCY** | | | |
| Search Session | Total Number of Carcasses | Dog Team Elapsed Time of Last Find | Dog Team # of Carcasses Found | Dog Team Average Time to Find Each Carcass | Visual Searcher Time of Last Find | Visual Searcher # of Carcasses Found | Visual Searcher Average Time to Find Each Carcass |
| Day 1 AM | 2 | 00:05:21 | 2 | 00:02:40 | 00:17:39 | 1 | 00:17:39 |
| Day 1 AM | 4 | 00:12:05 | 4 | 00:03:01 | 00:17:40 | 4 | 00:04:25 |
| Day 1 AM | 3 | 00:11:10 | 3 | 00:03:43 | 00:23:10 | 2 | 00:11:35 |
| Day 1 AM | 1 | 00:06:17 | 1 | 00:06:17 | 00:24:15 | 1 | 00:24:15 |
| Day 1 PM | 1 | 00:02:31 | 1 | 00:02:31 | 00:01:05 | 1 | 00:01:05 |
| Day 1 PM | 1 | 00:01:05 | 1 | 00:01:05 | 00:05:47 | 1 | 00:05:47 |
| Day 1 PM | 5 | 00:16:59 | 4 | 00:04:14 | 00:19:27 | 4 | 00:04:51 |
| Day 1 PM | 3 | 00:10:51 | 1 | 00:10:51 | 00:07:05 | 1 | 00:07:05 |
| Day 2 AM | 6 | 00:23:06 | 3 | 00:07:42 | 00:09:12 | 1 | 00:09:12 |
| Day 2 AM | 1 | 00:11:31 | 1 | 00:11:31 | 00:25:00 | 0 | |
| Day 2 AM | 2 | 00:16:14 | 2 | 00:08:07 | 00:25:00 | 0 | |
| Day 2 AM | 1 | 00:01:54 | 1 | 00:01:54 | 00:25:00 | 0 | |
| Day 2 PM | 0 | | 0 | | | 0 | |
| Day 2 PM | 3 | 00:03:58 | 3 | 00:01:19 | 00:25:00 | 0 | |
| Day 2 PM | 1 | 00:05:36 | 1 | 00:05:36 | 00:20:26 | 1 | 00:20:26 |
| Day 2 PM | 6 | 00:12:52 | 6 | 00:02:08 | 00:13:55 | 4 | 00:03:28 |
| Day 3 AM | 1 | 00:01:30 | 1 | 00:01:30 | 00:01:04 | 1 | 00:01:04 |
| Day 3 AM | 5 | 00:08:12 | 5 | 00:01:38 | 00:20:23 | 4 | 00:05:05 |
| Day 3 AM | 3 | 00:13:21 | 3 | 00:04:27 | 00:10:29 | 2 | 00:05:14 |
| Day 3 AM | 1 | 00:18:19 | 1 | 00:18:19 | 00:05:48 | 1 | 00:05:48 |
| Day 3 PM | 3 | 00:07:56 | 3 | 00:02:38 | 00:03:33 | 1 | 00:03:33 |
| Day 3 PM | 1 | 00:18:12 | 1 | 00:18:12 | 00:25:00 | 0 | |
| Day 3 PM | 6 | 00:14:06 | 6 | 00:02:21 | 00:13:28 | 3 | 00:04:29 |
| Day 3 PM | 0 | | 0 | | | 0 | |
| **Grand Totals** | 60 | | 54 | 00:02:15 | | 33 | 00:04:05 |

## ADDENDUMS

*The following pages are not part of the report but provide additional details on: 1) trial supplies, 2) instructions given to trial volunteer helpers who assisted Sheldon with placing and retrieving bird carcasses, and 3) instructions given to volunteer helpers who assisted the searchers with data recording and timing searches.*

## TRIAL SUPPLIES

- Pink flags to mark search area perimeter (corners)
- Black foam core boards (to put carcasses on)
- WTSH carcasses with leg labels
- Ziploc or mylar bags to store carcasses
- Coolers with ice
- Nitrile gloves (for handling carcasses)
- Paper towels, wet wipes
- Garbage bags
- Notebook
- Walkie talkies
- Flashlights for night shifts (for Sheldon, helpers and searchers)
- Search area maps (printed out)
- Pens and sharpies
- Instruction sheet with trial participant phone numbers, procedures, etc
- Instruction sheet: What to do if live seabird is found

### For Searchers

- Headlamps (for dog handlers) or flashlights (for visual searchers)
- Phones with Gaia GPS
- Dog treats, toy, poop bags (for dog handlers)

## Conservation Dogs of Hawaii
## Oahu Downed Seabird Detection Trial Report

### INSTRUCTIONS FOR HELPERS WHEN SETTING UP CARCASSES

- Take a cooler of carcasses with you when you shadow Sheldon, along with the supplies below.
- Supplies you'll need:
  - Wedge-tailed shearwater carcasses - *make sure you have the right number of carcasses in each cooler, based on the random points that Sheldon generated (there are 2 coolers, one for the Point and another for the Parking Lot)*
  - Black foam core boards to place under carcasses. Make sure you place the side labeled BOTTOM against the ground. Make sure you have the right number of boards.
  - Paper maps of the current session's search area, pens/sharpies, to mark approximate carcass locations (as backup to GPS data).
  - Notepad for recording GPS data dictated by Sheldon.
  - Gloves
  - Walkie talkie on channel 2
  - Trial schedule and volunteer contact sheet
  - Pink flags to mark north and south ends of search area (???)
- Carcasses should be placed on top of a black board (bottom down) on the ground. If the bird cannot sit upright with head up, it should be placed with head visible. Sheldon might handle this part.
- After searches are over, retrieve all carcasses in your designated search area.
- Shake off ants from the carcasses as much as possible, but don't rub the carcass against anything in the environment, because the scent may contaminate the search area.
- Make sure the carcass labels are still attached to the bird legs.
- Place carcasses back in ziplocs or Mylar bags, and back in cooler. The carcasses don't have to go in specific bags since individual birds are labeled. We can sort them later.
- Place black boards into ziploc storage bag – *when stacking them, make sure the bottom sides are facing out, and top sides are facing each other.*
- If any carcasses are missing, make note of which one, as they may have been moved by cats or mongooses. If so, we will search for the carcass with the dogs.

## INSTRUCTIONS FOR HELPERS WHEN GUIDING THE SEARCHERS

1. Take visual searcher and dog team to search area base camp (should be between the 2 sections)
2. What to provide or inform searcher:
   - Provide paper map of search area and a pen to each searcher as backup to GPS.
   - For night search, make sure searcher has headlamp or flashlight.
   - Let searcher know that any waypoints recorded after the 25 min time limit will not be included in the results.
   - Let searcher know that they will receive a phone call 20 mins into the search as a 5 min warning but they do not need to answer the phone. Let searchers know they should return to base camp at the end of 25 min time or sooner.
   - Make sure each searcher starts their GaiaGPS track recording before they start the search, as close as possible to search start time.
3. At the designated search start time, send the teams off to their respective search area sections.
4. Call each searcher 20 minutes into search to remind them their time is almost up. You may keep track of the time using the actual time, or a stop watch.
5. If searchers do not return to base camp at 25 min, call them and ask them to return to base camp, or physically wrangle them if you can see where they are.
6. When both searchers return to base camp, send the teams off to their next search area sections. Repeat steps 3-6 above.
7. When searchers return to base camp after both searches, make sure they stop recording their tracks on GaiaGPS. Ask them to wait for Kyoko to return so she may help them submit their GPS data.