

**KSHCP Participant Annual Report - Base Form**

Reporting Year	2023	Participant Name	State of Hawaii, Department of Transportation			For participants with multiple facilities, indicate here the total number of facilities for which Base Forms have been produced. Complete the Information Required to be Reported on each Base Form.	3
	Item #		Relevant Requirement	Information Required to be Reported			
1	KSHCP Section 6.6.1.2a, ITP Section M.i. (N.i), ITL Section II.I.1	Facility Name, Type, and Location:	Lihue Airport, commercial and public use airport transportation facilities, Lihue, Hawaii	Facility Owner:	State of Hawaii, Department of Transportation Airports Division	Facility Contact Information	Craig Davis, Kauai Airports District Manager Ph: 808-274-3805, Email: Craig.H.Davis@hawaii.gov and Chris Takeno, Environmental Program Manager Ph: 808-586-2504, Email: Chris.Takeno@hawaii.gov
2	ITP Section M (N)/ITL Section II.J	ITP Number:	TE74138D-0	ITL Number:	ITL-30		
3	KSHCP Section 6.6.2.2(1)	List permitted incidental take by species for this facility (lethal/nonlethal)					
		22 / 43	Newell's Shearwater	1 / 2	Band-rumped Storm Petrel		
		3 / 6	Hawaiian Petrel	0	Green Sea Turtle		
4	ITP Section J/ITL Section II.D	2023 Annual Lethal and Non-lethal Take calculated using the methodology described in the KSHCP					
		Nonlethal Take:					
		1.76	Newell's Shearwater	0	Band-rumped Storm Petrel		
		0	Hawaiian Petrel	0	Green Sea Turtle		
		Lethal Take:					
		2.24	Newell's Shearwater	0	Band-rumped Storm Petrel		
		0	Hawaiian Petrel	0	Green Sea Turtle		
		X	Check here if additional information provided on Addendum Sheet.				See Addendum Sheet 1, Take Calculations
5	KSHCP Section 6.6.1.2b, ITP Section M.ii. (N.ii), ITL Section II.I.2.	Summarize any proposed changes to the facility with the potential to affect the Covered Species.		There were no significant changes or proposed changes that might potentially affect the covered seabirds at Lihue Airport in 2023.			
6	KSHCP Section 6.6.1.2c, ITP Section M.iii (N.iii), ITL Section II.I.3.	Identify any changes to facility management/ownership or other key personnel involved in the KSHCP.		In his official capacity, Mr. Jade Butay executed both the ITP and the ITL on behalf of HDOT. Mr. Ed Sniffen should now be listed as the Principal Officer on the ITP and the ITL.			
7	KSHCP Section 6.6.1.2d, ITP Section M.iv (N.iv), ITL Section II.I.4.	Describe any requested changes to minimization efforts conducted at the facility and the reasons for the requested change.		There were no substantive changes to the minimization measures being implemented at Lihue Airport in 2023, and none are presently being considered or proposed in 2024.			
			Check here if additional information provided on Addendum Sheet				
8	KSHCP Section 6.6.1.2e.i, ITP Section M.v.1 (N.v.1), ITL Section II.I.5.a	Provide map or description of search route(s) used for conducting searches.					
		X	Check here if map(s) attached or linked.		See Appendix 1 (Map of Search Routes Followed)		
			Check here if map(s) not attached and explain at right.				

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KSHCP Section 6.6.1.2.e.ii, ITP Section M.v.2 (N.v.2), ITL Section II.1.5.b.

**Describe the frequency and timing of searches conducted at this facility.**

Systematic searches for downed seabirds were conducted twice each day at Lihue Airport as prescribed in the KSHCP and HDOT's Participant Inclusion Plan. Within the publically accessible areas, H. T. Harvey & Associates trained searchers performed this surveillance each day between September 15 and December 15, within 3-4 hours after sundown and then again within 1 hour of sunrise. The public area consists of the terminals, parking areas, portions of the rental car facilities, several roadways and access corridors which interconnect the various parts of the airport facility, and the outer sections of the North Ramp along Ahukini Road. The Aircraft Operations Area (AOA), where active aviation activities take place, is a restricted area. The AOA is searched twice each day by USDA-Wildlife Services biologists in conjunction with the Lihue Airport Wildlife Hazard Management Program (WHMP). The WHMP entails even more frequent and regular wildlife surveillance, facility-wide, both during the fallout season and throughout the year. During the fallout season, USDA-Wildlife Services also frequently extend their searches into the public areas. As in past years, Airport Security and other trained personnel remained vigilant throughout the season and helped augment monitoring and surveillance capacity in 2023. The coordinated and repetitive on-the-ground surveillance and dedicated search effort by multiple staff and personnel provided an effective monitoring program at Lihue Airport in 2023.

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KSHCP Section 6.6.1.2.e.iii, ITP Section M.v.3 (N.v.3), ITL Section II.1.5.c.

**Describe the personnel involved in search efforts at this facility.**

In 2023, H. T. Harvey & Associates coordinated and performed the on the ground searches for covered seabirds utilizing a team of 4 field biologists who shared duties and conducted night and morning searches of the publically accessible portions of Lihue Airport. HDOT coordinated closely with USDA-Wildlife Services, who manage searches for grounded seabirds in the AOA. H. T. Harvey & Associates search biologists received training and orientation to the search areas and procedures during the week leading up to the fallout season. Three of the search biologists have been with the program for multiple years and one was a new participant in 2023. This new individual received all of the same information and training exposure to how the searches are performed, including rescue, documentation, notification and reporting procedures. By the first of October, once the initial training proficiency period was complete, 3 of the 4 searchers shared 85% of the search effort at Lihue Airport. Training consisted of developing familiarity with the search areas, operational aspects of the facility, methods and approaches to ensure high detection capacity and thoroughness of coverage, conducting pre-season searches to enhance familiarity and aid in establishing search profiles, seabird species identification, ecology, and habits exhibited by grounded seabirds. Custom fabricated decoys of Newell's shearwaters were used to enhance detection capacity of searchers via training, in addition to standard seabird awareness, rescue, and response training, this functioned to keep sensory sharp and is believed to be a successful tool. USDA-Wildlife Services staff biologists are highly trained professional wildlife biologists possessing intimate familiarity with seabirds and the annual fallout that occurs on Kauai. USDA-Wildlife Services biologists performed regular and routine wildlife surveillance inside the AOA and in public access areas with a heightened focus on detecting downed seabirds in all portions of the airport during the fallout season and coordinated closely throughout the season with the H. T. Harvey & Associates team. USDA-Wildlife Services found and reported training decoys on several occasions in 2023.

Check here if additional space is needed and continue on addendum sheet.

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KSHCP Section 6.6.1.2.e.iv, ITP Section M.v.4 (N.v.4), ITL Section II.1.5.d.

**Complete the Summary Table containing information for all downed seabirds (and honu nests) found**

**See Summary Table**

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KSHCP Section 6.6.1.1

**Provide a copy of each Downed Wildlife Report that was prepared and submitted submitted for this facility during the reporting year**

**See Appendix 2 (Downed Wildlife Incident Reports)**

X

Check here if any reports are attached or linked.

Link:

13

KSHCP Section 6.6.1.2.e.v, ITP Section M.v.5 (N.v.5), ITL Section II.1.5.e.

**Provide a discussion of the efficacy of the current self-monitoring protocols and adaptive management and whether adjustments need to be made. Describe any proposed adjustments**

The 2023 seabird fallout season represents the fourth consecutive year that HDOT has implemented downed seabird monitoring at Lihue Airport under the KSHCP. This is in addition to three years of pre-permit monitoring work performed at Lihue Airport (2017-2019) while the KSHCP was in the drafting phase prior to its approval in 2020. The monitoring work (i.e. searches for seabirds that are grounded due primarily to light attraction disorientation) is achieved by implementing protocols and procedures that were established in the KSHCP and which are reviewed and fine-tuned each year by HDOT, as needed and in cooperation with the agencies and ESRC, in preparation for the subsequent season. Refinements to the monitoring program stem from what is observed in the field including the distribution and timing of seabird fallout, variability in search conditions, moon phase as proxy for fallout probability, and the spatial character of Lihue Airport lighting infrastructure. The monitoring program combines the skills of H. T. Harvey & Associates trained field biologists and USDA-Wildlife Services staff biologists who also receive considerable training in seabird ecology and characteristics of fallout. In 2023, project managers identified maximizing visual detection capacity and discovery probability as important goals. This entailed working with Lihue Airport maintenance personnel to convey the importance of regular grounds-keeping and weed trimming so that any seabirds along edges and in more densely vegetated areas would not be obscured from view. In addition, custom fabricated decoys of Newell's shearwaters were used as a training tool for enhancing seabird detection probability. The decoys were not used to estimate discovery rate, per se. Instead, they were placed at random in various parts of the search area to acquaint searchers with the visual characteristics of a grounded shearwater/petrel and generate searcher confidence in search methodology. Continuing to implement these kinds of initiatives are expected to enhance the monitoring program at Lihue Airport and ensure that it remains effective. At this time there are no substantive adjustments to the current monitoring protocols being proposed.

		Check here if additional information provided on Addendum Sheet	
14	KSHCP Section 6.6.1.2.f, ITP Section M.vi (N.vi), ITL Section II.I.6.	<p><b>Provide a summary discussion of the results and efficacy of on-site animal control efforts and adaptive management.</b></p>	<p>A year round animal control program is in place at Lihue Airport consistent with the provisions of the Wildlife Hazard Management Plan, which is implemented by USDA-Wildlife Services. This program covers the entire airport property inclusive of AOA and publically accessible areas. In addition to avian wildlife the program addresses dogs, pigs, cats and any other free-roaming animals that might present a risk to aviation and public safety. Free-roaming cats present a threat to downed seabirds during the annual seabird fallout season, both within the AOA and publicly accessible portions of Lihue Airport. During the seabird fallout season, HDOT works in coordination with USDA-Wildlife Services to expand the trapping effort targeting the capture and removal of free-roaming cats at Lihue Airport, which includes increasing the number of traps for cats in the AOA and public access areas, prior to September 15th. Tomahawk-style live traps are baited with commercial cat food and checked daily. Trapping effort at Lihue Airport during the 2023 seabird fallout season consisted of 11 traps. In general, there were 2 traps located in the public area and 9 in the AOA for the entire monitoring period for a total of 1,012 trap nights. Traps were spaced in a relatively even mannner along the main terminal ramp where operational lighting is most pronounced and at strategic points in the public area in an effort to maximize catch probability. A total of 11 cats were removed from Lihue Airport during the 2023 seabird fallout season (AOA and public area combined). Eight of these were captured with traps, yielding a capture success rate of 0.008 cats/trap night. Three pre-season spot surveys were conducted to assess the abundance of cats in the public access areas of Lihue Airport. An average of 7.3 cats (range 7-8) was estimated as a baseline. The baseline can be used to assess the effectiveness of capture and removal measures. During the regular counts made during the fallout season we documented between 0-9 (average 2.1) cats, with animals seen on 71 of the 92 nighttime surveys (77%) conducted in the public access area. Removal effort was proportionally directed to focus efforts on the AOA, specifically areas known to be associated with fallout at Lihue Airport. Although our observations of cats are limited to the public access areas, cats were removed in both the AOA and the public area. Additional summary information on predator control activities at Lihue Airport during the 2023 season are provided on Addendum Sheet 2.</p>
		X	Check here if additional information provided on Addendum Sheet
			See Addendum Sheet 2, Predator Control
15	KSHCP Section 6.6.1.2.g, ITP Section M.vii (N.vii), ITL Section II.I.7.	<p><b>On an addendum sheet, please provide a summary of worker training and outreach efforts.</b></p>	<p>Summaries of the training and outreach that was delivered and considered a highly successful program at Lihue Airport are detailed on addendum sheets.</p>
		X	Check here if additional information provided on Addendum Sheet
			See Addendum Sheets 3 and 4
16	KSHCP Section 6.6.1.2.h, ITP Section M.viii (N.viii), ITL Section II.I.8.	<p><b>Describe any other relevant information that the wildlife agencies may require to verify compliance with the permit issued.</b></p>	<p>NA</p>
		Check here if additional information provided on Addendum Sheet	
17	ITP Section M.v.6 (N.v.6), ITP Section II.I.5.f.	<p><b>Provide nighttime photos of covered properties or operations during non-seabird season and during seabird season.</b></p>	
		X	Check here if photos are attached or linked.
			Link: See Appendix 3 (Night Photos of Facility Lighting)
18	KSHCP 6.6.1.2	<p><b>Provide photographs illustrating any proposed changes to lighting, facility predator control programs, outreach and training or downed bird recovery protocols.</b></p>	<p>None – no additional changes proposed for 2023.</p>
		Check here if photos are attached or linked.	
			Link:
19	ITP Section M (N)/ITL Section II.I	<p><b>If applicable, describe any circumstances that triggered adaptive management and how the adaptive management was implemented.</b></p>	<p>NA</p>
		Check here if additional information provided on Addendum Sheet	
20	ITP Section M (N)/ITL Section II.I	<p><b>If applicable, describe all occurrences of changed circumstances and how they were addressed.</b></p>	<p>NA</p>
		Check here if additional information provided on Addendum Sheet	

21	ITP Section M (N)/ITL Section II.I	If applicable, describe any unforeseen circumstances.	NA
		Check here if additional information provided on Addendum Sheet	
22	ITP Section M (N)/ITL Section II.I	If applicable, describe progress made in achieving biological goals and objectives.	Lighting upgrades were implemented in 2020 as part of the Phase 3 lighting improvements for Lihue Airport. A total of 18 high-mast high-pressure sodium light fixtures in the Airside ramp area were replaced with LED full-cut-off heads. Lihue Airport also turns off portions of the high-mast ramp lighting during seabird fallout season on the following schedule: a.) Commercial terminal ramp lights are set to turn off at 12:30am – 3:30am, after last flight, and before Hawaiian Airlines crew begins early morning ramp operations in preparation of their morning flights, b.) Cargo, Commuter and Life Flight ramp lights remain on due to their activity, and c.) North ramp and T-hangar lights turn off at 12:00am – 5:30am. Combined, these measures are considered to advance the efficacy of seabird light attraction minimization and contribute to achieving biological goals and objectives. Beyond these already substantive achievements, there are no additional advancements to report for 2023.
		X Check here if additional information provided on Addendum Sheet	See Addendum Sheet 5 and Appendix 3
23	ITP Section M (N)/ITL Section II.I	If applicable, identify any problems that occurred and how they were handled.	There were no problems or issues that required corrective action in 2023.
		Check here if additional information provided on Addendum Sheet	
24	ITP Section M (N)/ITL Section II.I	If applicable, provide a description of cost expenditures and other information related to funding assurances (e.g., summary of KSHCP financial status, including any KSHCP mitigation fees owed).	HDOT-Airports Division, KSHCP Conservation Measures Implementation Funding Account (Year 4, 2023): <u>Total Deposit</u> = \$9,749.18.
		Check here if additional information provided on Addendum Sheet	
25	KSHCP Section 6.6.1.4	Certification	<p>I certify that to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information is true, accurate, and complete.</p> <div style="background-color: #e0f0ff; height: 40px; margin: 5px 0;"></div> <p>Insert electronic signature in space above.</p>

**KSHCP 2023 - Addendum Sheet 3, Take Calculations, Lihue Airport**

Reporting  
Year

2023

Participant Name

State of Hawaii, Department of Transportation

U.S. Fish and Wildlife Service ITP No. TE74138D-0 and Hawaii Department of Land and Natural Resources ITL No. ITL-30

*Use the spaces below to show how the take calculations are used to estimate take in 2023.*

Item #

Relevant Requirement

4

ITP Section J/ITL Section II.D

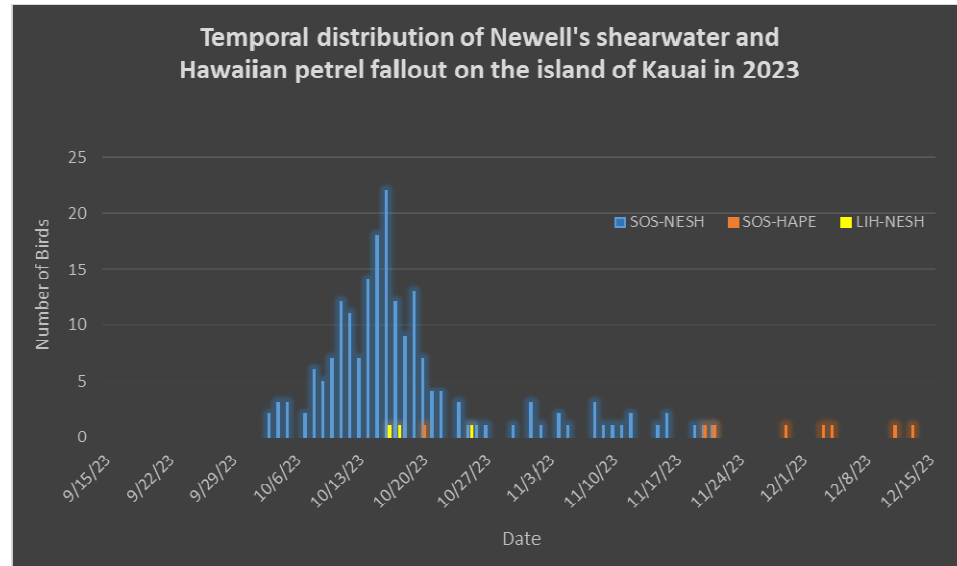
2023 Calculation of Lethal and Non-Lethal Take - Lihue Airport			
Take Estimation Parameter	NESH	HAPE	BRSP
Birds found alive, released from SOS	2	0	0
Birds found dead or euthanized at SOS	1	0.00	0.00
Discovery rate (75% = 0.75)	0.75	0.75	0.75
Total annual take (found birds/disc rate)	4.00	0.00	0.00
Lethal take (Observed+Unobserved)	2.24	0.00	0.00
Non-lethal take	1.76	0.00	0.00

**KSHCP 2023 -- Summary Table Containing Information on Covered Seabirds Rescued and Reported at Lihue Airport**

Reporting Year	2023	Participant Name	State of Hawaii, Department of Transportation
		U.S. Fish and Wildlife Service ITP No. <b>TE74138D-0</b> and Hawaii Department of Land and Natural Resources ITL No. <b>ITL-30</b>	

Complete the information below for each downed seabird found at the facility

Date Found	Time Found	Property or Facility	Describe Exact Location Where Found	GPS Latitude	GPS Longitude	Species (NESH, HAPE, BRSP)	File Name	SOS Reference Number	Date Admitted to SOS	Disposition of Seabird (released by SOS, DOA, euthanized, if known)	Disposition Date	Days in SOS Care (Same day release, 1-Day, ≥2 Days)	Notes
16-Oct-2023	21:06	Lihue Airport	Avis Rental Car	21.978271 N	159.351629 W	NESH	NESH_2023_10-16_HDOT-LIH	BMH039	10/17/2023	Released	10/18/2023	1	
17-Oct-2022	09:00	Lihue Airport	Lihue Airport, Runway 3 (AOA)	21° 58'57" N	159° 20'19" W	NESH	NESH_2023_10-17_HDOT-LIH	BMH040	10/17/2023	Released	10/18/2023	1	
25-Oct-2023	00:30	Lihue Airport	UPS Airside Ramp Area (AOA)	21° 58'54" N	159° 20'40" W	NESH	NESH_2023_10-25_HDOT-LIH	BMH044	10/25/2023	Euthanized	10/28/2023	3	Exam details: Emaciated. Very dirty chest. Feces around cloaca. Sores/scabs on both feet. Consistent

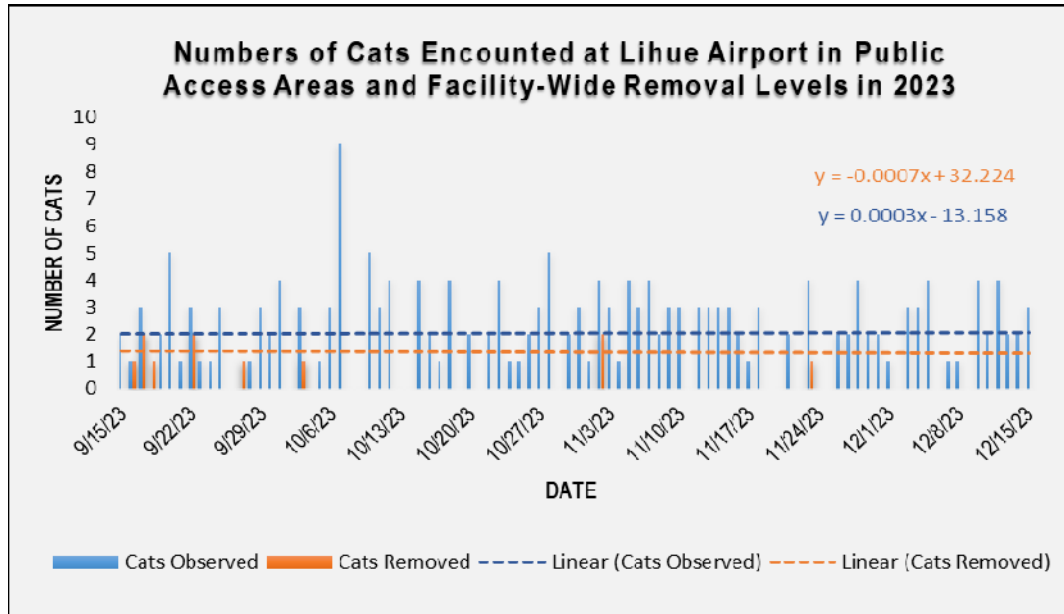


**KSHCP 2023 - Addendum Sheet 2, Summary of Predator Control at Lihue Airport**

Reporting Year	2023	State of Hawaii, Department of Transportation
U.S. Fish and Wildlife Service ITP No. TE74138D-0 and Hawaii Department of Land and Natural Resources ITL No. ITL-30		

*Use the spaces below to provide additional information pertaining to predator control efforts at the facility.*

Item #	Relevant Requirement	Additional Information
14	KSHCP Section 6.6.1.2.f, ITP Section M.vi (N.vi), ITL Section II.I.6.	Trapping effort at Lihue Airport during the 2023 seabird fallout season consisted of 11 traps set in the AOA and public area. Traps were moved around to different areas depending upon where cats were reported. In general, there were 2 traps located in the public area and 9 in the AOA for the entire monitoring period for a total of 1,012 trap nights. Traps were spaced in a relatively even mannner along the main terminal ramp where operational lighting is most pronounced and at strategic points in the public area in an effort to maximize catch probability. A total of 11 cats were removed from Lihue Airport during the 2023 seabird fallout season (AOA and public area combined). Eight of these were captured in traps and subsequently removed, yielding a capture success rate of 0.008 cats/trap night, or 0.62 cats per week. Data on the occurrence of cats at Lihue Airport are gathered mostly by trained KSHCP downed seabird search personnel conducting monitoring activity in the public access areas of Lihue Airport. H. T. Harvey & Associates trained searchers compiled observations of cats and other potential predators that were detected in the public areas during corresponding seabird fallout monitoring activities spanning the entire fallout season. This information was used whenever possible to inform trap placement and effort. Three pre-season spot surveys, to establish a baseline estimate of cat abundance, yielded an average of 7.3 cats (range 7-8) in the public access areas of Lihue Airport. The baseline can be used to assess the effectiveness of capture and removal measures. During the regular counts made during seabird search activities, biologists documented between 0-9 (average 2.1) cats, with animals seen on 71 of the 92 nighttime surveys (77%) conducted in the public access area. Removal effort was proportionally more focused on the AOA, specifically areas known to be associated with fallout at Lihue Airport. Although our observations of cats are limited to the public access areas, cats were removed in both the AOA and the public area. The trend shown in the figure suggests that numbers of cats seen in the public areas of Lihue Airport remained fairly stable. Increasing the number of active traps in the public access areas and continuing to discourage feeding and/or provisioning of free-roaming cats will remain priorities.



**KSHCP 2023 -- Addendum Sheet 3, Summary of Training Activities at Lihue Airport**

Reporting Year		Participant Name				
2023		State of Hawaii, Department of Transportation		U.S. Fish and Wildlife Service ITP No. TE74138D-0 and Hawaii Department of Land and Natural Resources ITL No. ITL-30		
Date of Training	Training Topic	Property or Facility	Training Group	Number of Attendees	Training Platform (in-person, video-conference, other)	Printed Materials or Other Media Provided
9/8/2023	Annual Seabird Awareness, Response, and Reporting	Lihue Airport	HDOT Lihue Airport Operations	36	In-Person Airport Conference Room	Yes. Training Module and Fact Sheet, KSHCP Downed Wildlife Reporting Form
9/12/2023	Annual Seabird Awareness, Response, and Reporting	Lihue Airport	HDOT Lihue Airport Operations	2	Microsoft Teams Webinar	Yes. Training Module and Fact Sheet, KSHCP Downed Wildlife Reporting Form
9/8/2023	Airport Public Area Orientations and Search Procedures including Annual Seabird Awareness and Response Training	Lihue Airport	H. T. Harvey & Associates search and monitoring team	4	In-person	Yes. Maps, Training Module, Fact Sheet, discussion of search area characteristics, historic fallout distribution.
9/8/2023	Grounded Seabird Search and Recovery Procedures and Search Strategy Training	Lihue Airport	H. T. Harvey & Associates search and monitoring team	4	In-person	Yes. Maps, Training Module and Fact Sheet, KSHCP Downed Wildlife Reporting Form demonstration of seabird search methods and procedures, rescue techniques, review of data sheets, and additional resources.
	Annual Wildlife Hazard Management Program review (139 Training) delivered by USDA-Wildlife Services	Lihue Airport	USDA-Wildlife Services, Aircraft Rescue and Firefighting personnel, Airport Operations and Maintenance, Tenant representatives	40	In-person	KSHCP seabird fallout protocols were reviewed including seabird identification, reporting procedures, and reporting forms (including relevant information concerning the role of the Save Our Shearwaters program and points of contact for reporting downed wildlife incidents at Lihue Airport).



KSHCP 2023 -- Addendum Sheet 4, Summary of Outreach Efforts at Lihue Airport

Reporting Year **2023**

Participant Name **State of Hawaii, Department of Transportation**  
 U.S. Fish and Wildlife Service ITP No. **TE74138D-0** and Hawaii Department of Land and Natural Resources ITL No. **ITL-30**

Date(s) of Outreach	Description of Outreach	Property or Facility	Outreach Target Audience	Printed Materials or Other Media Provided
Prior to beginning of the 2023 Fallout Season then 9/15-12/15.	Production of the <b>SEABIRD LIGHT ATTRACTION FACT SHEET</b> . Contains written description of seabird light attraction issues, minimization tools, rescue and reporting procedures and visuals. Widely distributed among Lihue Airport workforce with emphasis on reaching many employees and contractors active inside and outside of the AOA. The annual seabird light attraction Fact Sheet was posted in worker common areas and bulletin boards where it is visible to staff.	Lihue Airport	Lihue Airport Staff and many Contractors and tenants.	Lihue Airport seabird awareness and response training module and Fact Sheet.
9/6/2023	Kauai Airports District Manager issues Airport Notice to All Concerned parties to alert airport personal and tenants regarding the seabird fallout season, procedures for rescue and reporting when seabirds are found (dead or alive), the role of USDA APHIS Wildlife Services, and to reiterate the airport policy of no cat feeding anywhere at the airport.	Lihue Airport	All Lihue Airport staff and work teams.	Printed and posted and PDF distributed via email to All Parties concerned.
Week prior to 9/15/2023 and again on several occasions throughout the season	In-person visits to rental car company managers with overview of seabird light attraction and minimization tools, rescue and reporting procedures, and distribution of Fact Sheet; whenever possible we provided "walk-through" scenario-based orientation on site to familiarize what to watch for and how to handle a downed seabird; stressed importance of Fact Sheet distribution to lot staff and pointed out how and why lights can become an attraction risk for seabirds and encouraged shut offs when possible. Followed up in person with Avis to speak with staff and review recent NESH grounding on 10/16.	Lihue Airport	Rental car company staff and managers.	Provided some managers with the annual seabird awareness and response training module and regularly distributed the Fact Sheet.
Various communications throughout the season	Regular check-ins with staff on duty during search activities reviewing seabirds, the fallout season, light attraction risk, and how to minimize by turning off unnecessary lights.	Lihue Airport	Rental Car Service Employees and Managers	Airport Annual Training Module and Seabird Light Attraction Fact Sheets, verbal characterization of seabird light attraction and how to respond efficiently and perform basic seabird rescue with emphasis on timely notification and reporting.

### Seabird Light Attraction at Airports and Harbors



**Hawaiian petrel**  
[Nesting Colonies](#)  
**Maui, Lanai, Kauai**  
[Fledging Dates](#)  
**September to November**



**Newell's shearwater**  
[Nesting Colonies](#)  
**Kauai, Maui, Hawaii**  
[Fledging Dates](#)  
**October and November**



**Wedge-tailed shearwater**  
[Nesting Colonies](#)  
**Coastal Areas State-wide**  
[Fledging Dates](#)  
**November and December**



**Band-rumped storm petrel**  
[Nesting Colonies](#)  
**Kauai, Hawai'i, Maui**  
[Fledging Dates](#)  
**October and November**

Inside nesting burrows since early summer, **fledging seabirds leave the nest at night** and follow the moonlight to reach the open ocean where they learn to feed. They will not return for 3-4 years.

When the moon is dark, **bright lights at airports and harbors can attract fledgling seabirds** which sometimes collide with structures or become grounded.

**Grounded seabirds are vulnerable** to predators such as cats and dogs as well as cars and machinery. This light attraction and grounding phenomena is called "**fallout**".

THESE SPECIES ARE PROTECTED BY STATE AND FEDERAL LAW



Facility lighting is needed for safety and security and during operations



When the moon is full it exceeds the brightness of facility lighting



**Turn Off Non-Essential Bright Lights during Seabird Fallout Season**  
**September 15 – December 15**



GS: I find it hard to believe this message was widely understood in 2023; we made repeated and routine observations of cats in predictable areas containing evidence of feeding; likely not going from internal memo/notice to vendors and tenants.

JOSH GREEN, M.D.  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
AIRPORTS - KAUAI DISTRICT  
LIHUE AIRPORT  
3901 MOKULELE LOOP, UNIT 6  
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EDWIN H. SNIFFEN  
DIRECTOR

Deputy Directors  
FORD N. FUCHIGAMI  
DREANALEE K. KALILI  
TAMMY L. LEE  
ROBIN K. SHISHIDO

IN REPLY REFER TO:

AIR-K  
23.035

September 6, 2023

**AIRPORT NOTICE**

**TO: ALL CONCERNED**

**SUBJECT: SEABIRD FALLOUT SEASON**

Seabird fallout season begins September 15 and will continue through December 15. All airport tenants are obliged to be on high alert for any downed seabirds within property boundaries and report them as soon as possible. All birds found "dead or alive" should be brought to USDA APHIS Wildlife Services for documentation and handling. Any predator activity (i.e., feral cats) within Airport property must be reported as well. As a reminder, please **DO NOT FEED CATS** on Airport property. Airport tenants should call Security Dispatch at (808) 274-3814 for assistance in contacting the USA APHIS Wildlife Services to assist with collection. USDA Wildlife Services will be the main point of contact during the fallout season and will provide a kennel outside its office (Unit 20) to drop off any downed seabird if personnel are limited.

Mahalo for your cooperation and assistance.

*Craig H. Davis*

CRAIG H. DAVIS  
Kauai Airports District Manager

c: William Bukoski, USDA APHIS Wildlife Services

**Handling and Reporting Downed Seabirds**



**Procedures for Rescuing Downed Seabirds**

- Carefully approach the seabird from behind
- Gently wrap a small dry towel around its back and wings and place it inside a well-ventilated small animal carrier or box
- Write down **Date, Time, Specific Location** where the seabird was found, and the **Name and Contact Information** of the person who found it.



**Reporting Downed Seabirds**

***Kauai***

**Lihue Airport** – Call Security Dispatch (808-274-3814) and ask for assistance from USDA Wildlife Services.

**Nawiliwili Harbor** – Call Harbor Security (808-278-0673) and SOS (808-635-5117)

**Port Allen Harbor** – Call Harbor Security (808-278-0673) and SOS (808-635-5117)

***Maui and Lanai***

**Kahului Airport** – Call Security Dispatch (808-872-3875 and 3876) and ask for assistance from USDA Wildlife Services

**Lanai Airport** – Call USDA Wildlife Services (808-292-8387) and Maui Nui Seabird Recovery Project (808-573-2473)

**Kahului Harbor** – Call Harbor Security (808-227-9423) and Maui Nui Seabird Recovery Project (808-573-2473)











*Photo Credits: Maui Nui Seabird Recovery Project (A); L. Young (B); A. Raine (C); Hawaii DLNR and USFWS (D,E,F); B. Yuen (G).*

KSHCP 2023 -- Addendum Sheet 5, Advancing Biological Objectives at Lihue Airport

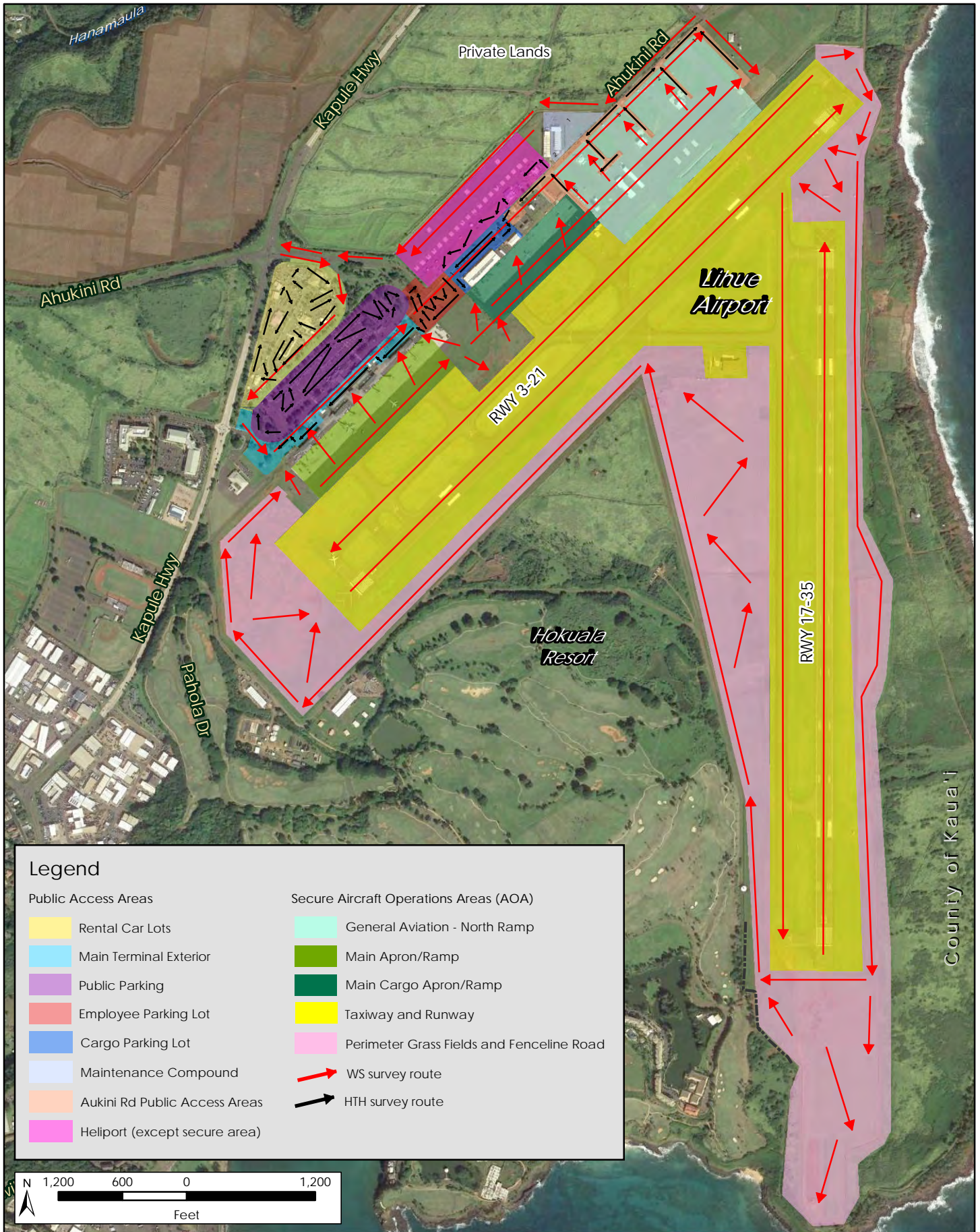
Reporting Year	2023	Participant Name	State of Hawaii, Department of Transportation
			U.S. Fish and Wildlife Service ITP No. TE74138D-0 and Hawaii Department of Land and Natural Resources ITL No. ITL-30

Use the spaces below to provide additional information related to the advancement of Biological Objectives.

Form # (Cover Sheet or Page #)	Item #	Relevant Requirement	Photos and Additional Information	Description
	5	KSHCP 6.6.1.2		New public parking lot lights, installed in 2022, are LED and contain full cut-off fixtures. No further upgrades in 2023.
		KSHCP 6.6.1.2		
	18	KSHCP 6.6.1.2		Full cut-off LED light fixtures installed in 2020, part of facility-wide Phase 3 upgrades planned for completion during 2020-2025 at Lihue Airport. These upgrades are substantively complete and no further installations were made in 2023.
		KSHCP 6.6.1.2		Full cut-off LED light fixtures installed in 2020, part of facility-wide Phase 3 upgrades planned for completion during 2020-2025 at Lihue Airport. These upgrades are substantively complete and no further installations were made in 2023.
		KSHCP 6.6.1.2		Full cut-off LED light fixtures installed in 2020, mounted on tall masts along the main terminal ramp adjacent to Gate 6 at Lihue Airport. These upgrades are substantively complete and no further installations were made in 2023.
		KSHCP 6.6.1.2		High mast lights used to illuminate the cargo ramp apron at Lihue Airport were upgraded to full cut-off LED fixtures in 2020. These upgrades are substantively complete and no further installations were made in 2023.
		KSHCP 6.6.1.2		High pressure sodium lamps, like those pictured here, remain in use mostly on the north ramp.
		KSHCP 6.6.1.2		High mast lights installed in 2020 equipped with LED full cut off heads illuminate the main commercial ramp, cargo ramp, commuter terminal and portions of the general aviation-north ramp at Lihue Airport. These upgrades are substantively complete and no further installations were made in 2023. See Appendix 3 for additional nighttime photos of lighting at Lihue Airport in 2023.

APPENDIX 1  
MAP OF THE SEARCH AREA AND GENERAL ROUTES  
FOLLOWED

**Lihue Airport**



N:\Projects\4000\4065-01\04\Reports\2020 HDOT Report\Lihue Airport Seabird Survey Monitoring.mxd

**Legend**

**Public Access Areas**

- Rental Car Lots
- Main Terminal Exterior
- Public Parking
- Employee Parking Lot
- Cargo Parking Lot
- Maintenance Compound
- Aukini Rd Public Access Areas
- Heliport (except secure area)

**Secure Aircraft Operations Areas (AOA)**

- General Aviation - North Ramp
- Main Apron/Ramp
- Main Cargo Apron/Ramp
- Taxiway and Runway
- Perimeter Grass Fields and Fenceline Road
- WS survey route
- HTH survey route



**H. T. HARVEY & ASSOCIATES**  
Ecological Consultants

Downed Seabird Search and Monitoring Routes  
at HDOT Lihue Airport Facilities  
Kauai Seabird Habitat Conservation Plan (4065-04)  
January 2022

APPENDIX 2  
DOWNED WILDLIFE INCIDENT REPORTS

**Lihue Airport**

## Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES

Facility Name: **Lihue Airport**

U.S. Fish and Wildlife Service Incidental Take Permit Number: **TE74138D-0**

Hawaii DLNR Incidental Take License Number: **ITL-30**

Species Common Name: **Newell's shearwater**

Species Scientific Name: ***Puffinus newelli***

Four Letter Code: **NESH**

File Name: **NESH\_2023\_10-16\_HDOT-LIH**

Permit Holder:	Hawaii Department of Transportation
Observer Name:	Avis Rental Car staff
Report Prepared by:	H. T. Harvey & Associates and USDA-WS
Date of Incident:	<b>October 16, 2023</b>
Date of report:	October 19, 2023
Fatality or Injury:	Found alive
Age (Adult/Juvenile), if known:	Presumed HY
Sex (if known):	
Date Area Last Surveyed:	October 16, 2023 (AM)
Time Observed (HST):	21:06
Time Picked Up and By Who:	USDA-Wildlife Services
General Location:	Avis Rent-A-Car, near washdown area
GPS Coordinates:	21.978271 N, 159.351629 W
Closest structure and distance (light, powerline, building):	Customer service building and vehicle washdown rack, nearest service area lights 20 and 30 meters
Ground Cover Type and Height (cm):	Asphalt
Cloud Cover (%):	Mostly clear
Weather Conditions (wind speed, direction, rain):	Light trades
Moon Phase:	Waxing crescent 3% illumination
Drop off location (Which aid station or SOS):	SOS personnel picked up
File Name	NESH_2023_10-16_HDOT-LIH
SOS Reference Number	

## **Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES**

**Condition of Specimen** (describe the general condition of the seabird, any visible injuries, please be specific (e.g., disfigured wing, bleeding, distorted motor response)):

The shearwater was alive when it was discovered by Avis rental car employee. No injuries reported.

**Probable Cause of Injuries and Supportive Evidence** (describe any potential contributing factors (nearby light sources, evidence of blunt impact, information from observers)):

Light attraction disorientation likely contributed to the grounding; no observed injuries reported by the Avis employee or USDA-Wildlife Services.

**Action Taken** Please include names, dates, and times when specific response actions were initiated and how these proceeded:

Avis rental car employee, identified as Cheri, found the shearwater in the rental car lot adjacent to the vehicle washdown “rack” at approximately 21:06; the employee contacted security dispatch at Lihue Airport and USDA-Wildlife Services biologist John Caneda dispatched to Avis to document the incident and collect the shearwater; Mr. Caneda coordinated transfer to SOS. H. T. Harvey biologist followed up with Avis managers and staff on October 17, reviewed the circumstances of the seabird grounding, and provided refresher outreach on seabird fallout patterns and importance of light minimization during the fallout season (provided additional seabird fallout Fact Sheets).

**Additional Notes/Comments:**

See attached USDA-Wildlife Services T&E Recovery Report.

**Please include the following:**

- Photos showing where the downed seabird was discovered
- Up close and vicinity photos to show immediate surroundings
- Nearby structures in the background
- Map showing an aerial representation of where the seabird was discovered, nearby features, roads, structures, and relevant lighting infrastructure, and each labeled as appropriate.

Refer to: *Protocol for Holders of a State of Hawai'i Incidental Take License and U.S. Fish and Wildlife Service Incidental Take Permit Responding to Dead or Injured Birds under the Kaua'i Seabird Habitat Conservation Plan.*



## Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES



Wide view of the western end of Lihue Airport. The Newell's shearwater was discovered in one of the several rental car facilities that are adjacent to Kapule Highway



The dashed oval in the image above gives the location where the Newell's shearwater was found by rental car agency staff at Lihue Airport; nearest service area lights were about 20 and 30 meters away.

## Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES

Facility Name: **Lihue Airport**

U.S. Fish and Wildlife Service Incidental Take Permit Number: **TE74138D-0**

Hawaii DLNR Incidental Take License Number: **ITL-30**

Species Common Name: **Newell's shearwater**

Species Scientific Name: ***Puffinus newelli***

Four Letter Code: **NESH**

File Name: **NESH\_2023\_10-17\_HDOT-LIH**

Permit Holder:	Hawaii Department of Transportation
Observer Name:	Jason Shimauchi (USDA-Wildlife Services)
Report Prepared by:	H. T. Harvey & Associates
Date of Incident:	<b>October 17, 2023</b>
Date of report:	October 21, 2023
Fatality or Injury:	Found alive, no injuries reported
Age (Adult/Juvenile), if known:	Presumed HY
Sex (if known):	
Date Area Last Surveyed:	October 16-17, 2023
Time Observed (HST):	9:00 AM
Time Picked Up and By Who:	9:00 AM Jason Shimauchi
General Location:	Lihue Airport, Runway 3 (AOA)
GPS Coordinates:	21° 58'57" N, 159° 20'19" W
Closest structure and distance (light, powerline, building):	≥ 190 meters (see map)
Ground Cover Type and Height (cm):	Asphalt, nearby low grass areas
Cloud Cover (%):	Mostly clear
Weather Conditions (wind speed, direction, rain):	Light trades, no precipitation reported
Moon Phase:	Waxing crescent 7% illumination
Drop off location (Which aid station or SOS):	SOS picked up
File Name	NESH_2023_10-17_HDOT-LIH
SOS Reference Number	

## **Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES**

**Condition of Specimen** (describe the general condition of the seabird, any visible injuries, please be specific (e.g., disfigured wing, bleeding, distorted motor response):

Found alive, no injuries were reported.

**Probable Cause of Injuries and Supportive Evidence** (describe any potential contributing factors (nearby light sources, evidence of blunt impact, information from observers):

Light attraction disorientation likely contributed to the grounding. No injuries reported.

**Action Taken** Please include names, dates, and times when specific response actions were initiated and how these proceeded:

USDA-Wildlife Services placed the shearwater inside the rescue kit carrier, transported the seabird in the carrier to the Wildlife Services office, and handed custody over to SOS staff.

**Additional Notes/Comments:**

Please see attached USDA-Wildlife Services T&E Recovery Report.

**Please include the following:**

- Photos showing where the downed seabird was discovered
- Up close and vicinity photos to show immediate surroundings
- Nearby structures in the background
- Map showing an aerial representation of where the seabird was discovered, nearby features, roads, structures, and relevant lighting infrastructure, and each labeled as appropriate.

Refer to: *Protocol for Holders of a State of Hawai'i Incidental Take License and U.S. Fish and Wildlife Service Incidental Take Permit Responding to Dead or Injured Birds under the Kaua'i Seabird Habitat Conservation Plan.*

## Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES



Location where a Newell's shearwater (NESH) was discovered by a USDA Wildlife Services biologist at Lihue Airport on October 17, 2023

T&E RECOVERY REPORT

Report 1 of 1

1. DATE FOUND (mm-dd-xxxx)

10/17/2023

2. TIME FOUND (Civilian am/pm)

0900 am

3. NUMBER OF SPECIES FOUND AND DESCRIPTION:

<input checked="" type="checkbox"/>	NEWELL'S SHEARWATER	<input type="checkbox"/>	BAND-RUMPED STORM PETREL
<input type="checkbox"/>	WEDGE-TAILED SHEARWATER	<input type="checkbox"/>	HAWAIIAN PETREL
<input type="checkbox"/>	Other T&E Species		

3a. Other wildlife

4. HDOT LOCATION

AIR     HAR     HWY     OTHER

4a. Specific site location, Airport name, harbor name, mile marker, runway etc.

LITHUE AIRPORT Runway 3 @ 1500' remaining

4b. Inside Secured Area?

YES

4c. Is this a public area?

NO

4c. GPS Location

21°58'57" N    159°20'19" W

5. COMMENTS

FOUND DEAD

FOUND UN-INJURED

FOUND INJURED AS DESCRIBED:

5a. Environmental conditions (i.e. water, light, vegetation, fence)

Sunny, short grass area

6. AID STATION LOCATION AND TIME SUBMITTED:

transfer of custody to Save Our Shearwaters

REPORTER NAME:

JASON SHIMAUCHI

AGENCY:

USDA Wildlife Services

UNIT:

LITHUE AIRPORT

TELEPHONE NUMBER:

808.645.1394

Photo Provided  Y/N

Thank you for filling out this form. Please add clear photo of bird recovered. Your report will help in the preservation efforts of our natural wildlife.

Report \_\_\_ of \_\_\_

1. DATE FOUND (mm-dd-xxxx)

2. TIME FOUND (Civilian am/pm)

3. NUMBER OF SPECIES FOUND AND DESCRIPTION:

<input type="checkbox"/>	NEWELL'S SHEARWATER	<input type="checkbox"/>	BAND-RUMPED STORM PETREL
<input type="checkbox"/>	WEDGE-TAILED SHEARWATER	<input type="checkbox"/>	HAWAIIAN PETREL
<input type="checkbox"/>	Other T&E Species		

3a. Other wildlife

4. HDOT LOCATION

AIR     HAR     HWY     OTHER

4a. Specific site location, Airport name, harbor name, mile marker, runway etc.

4b. Inside Secured Area?

4c. Is this a public area?

4c. GPS Location

5. COMMENTS

FOUND DEAD

FOUND UN-INJURED

FOUND INJURED AS DESCRIBED:

5a. Environmental conditions (i.e. water, light, vegetation, fence)

6. AID STATION LOCATION AND TIME SUBMITTED:

REPORTER NAME:

AGENCY:

UNIT:

TELEPHONE NUMBER:

Photo Provided  Y/N

Thank you for filling out this form. Please add clear photo of bird recovered. Your report will help in the preservation efforts of our natural wildlife.

**Bukoski, William - MRP-APHIS**

---

**From:** William Bukoski <williambukoski@icloud.com>  
**Sent:** Tuesday, October 17, 2023 9:18 AM  
**To:** Bukoski, William - MRP-APHIS  
**Subject:** [External Email]Down Bird RWY 3 10/17/2023

[External Email]

If this message comes from an unexpected sender or references a vague/unexpected topic;

Use caution before clicking links or opening attachments.

Please send any concerns or suspicious messages to: [Spam.Abuse@usda.gov](mailto:Spam.Abuse@usda.gov)



Sent from my iPhone

**Bukoski, William - MRP-APHIS**

---

**From:** William Bukoski <williambukoski@icloud.com>  
**Sent:** Tuesday, October 17, 2023 9:18 AM  
**To:** Bukoski, William - MRP-APHIS  
**Subject:** [External Email]Down Bird RWY 3 10/17/2023

[External Email]

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Please send any concerns or suspicious messages to: [Spam.Abuse@usda.gov](mailto:Spam.Abuse@usda.gov)



Sent from my iPhone

## Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES

Facility Name: **Lihue Airport**

U.S. Fish and Wildlife Service Incidental Take Permit Number: **TE74138D-0**

Hawaii DLNR Incidental Take License Number: **ITL-30**

Species Common Name: **Newell's shearwater**

Species Scientific Name: ***Puffinus newelli***

Four Letter Code: **NESH**

File Name: **NESH\_2023\_10-25\_HDOT-LIH**

Permit Holder:	Hawaii Department of Transportation
Observer Name:	Mel Ota (USDA-Wildlife Services)
Report Prepared by:	H. T. Harvey & Associates and USDA-WS
Date of Incident:	<b>October 25, 2023</b>
Date of report:	October 26, 2023
Fatality or Injury:	Found alive, no injuries reported
Age (Adult/Juvenile), if known:	Presumed HY
Sex (if known):	
Date Area Last Surveyed:	October 24, 2023 (PM)
Time Observed (HST):	00:30
Time Picked Up and By Who:	06:36, SOS personnel collected
General Location:	UPS airside ramp area
GPS Coordinates:	21° 58'54" N, 159° 20'40" W
Closest structure and distance (light, powerline, building):	Lihue Airport, AOA, UPS airside ramp
Ground Cover Type and Height (cm):	Asphalt
Cloud Cover (%):	50
Weather Conditions (wind speed, direction, rain):	Light and variable winds, overnight periodic drizzle
Moon Phase:	Waxing Gibbous 85% illumination
Drop off location (Which aid station or SOS):	SOS direct transfer
File Name	NESH_2023_10-25_HDOT-LIH
SOS Reference Number	



## **Downed Wildlife Incident Reporting Form** **LISTED and MBTA SPECIES**

**Condition of Specimen** (describe the general condition of the seabird, any visible injuries, please be specific (e.g., disfigured wing, bleeding, distorted motor response):

Alive, appeared healthy and alert.

**Probable Cause of Injuries and Supportive Evidence** (describe any potential contributing factors (nearby light sources, evidence of blunt impact, information from observers):

No injuries reported. Light attraction disorientation likely contributed to the grounding.

**Action Taken** Please include names, dates, and times when specific response actions were initiated and how these proceeded:

USDA-Wildlife Services biologist Mel Ota discovered and handled rescue requirements for the seabird and processing with SOS.

**Additional Notes/Comments:**

Please see the attached USDA-Wildlife Services T&E Recovery Report.

**Please include the following:**

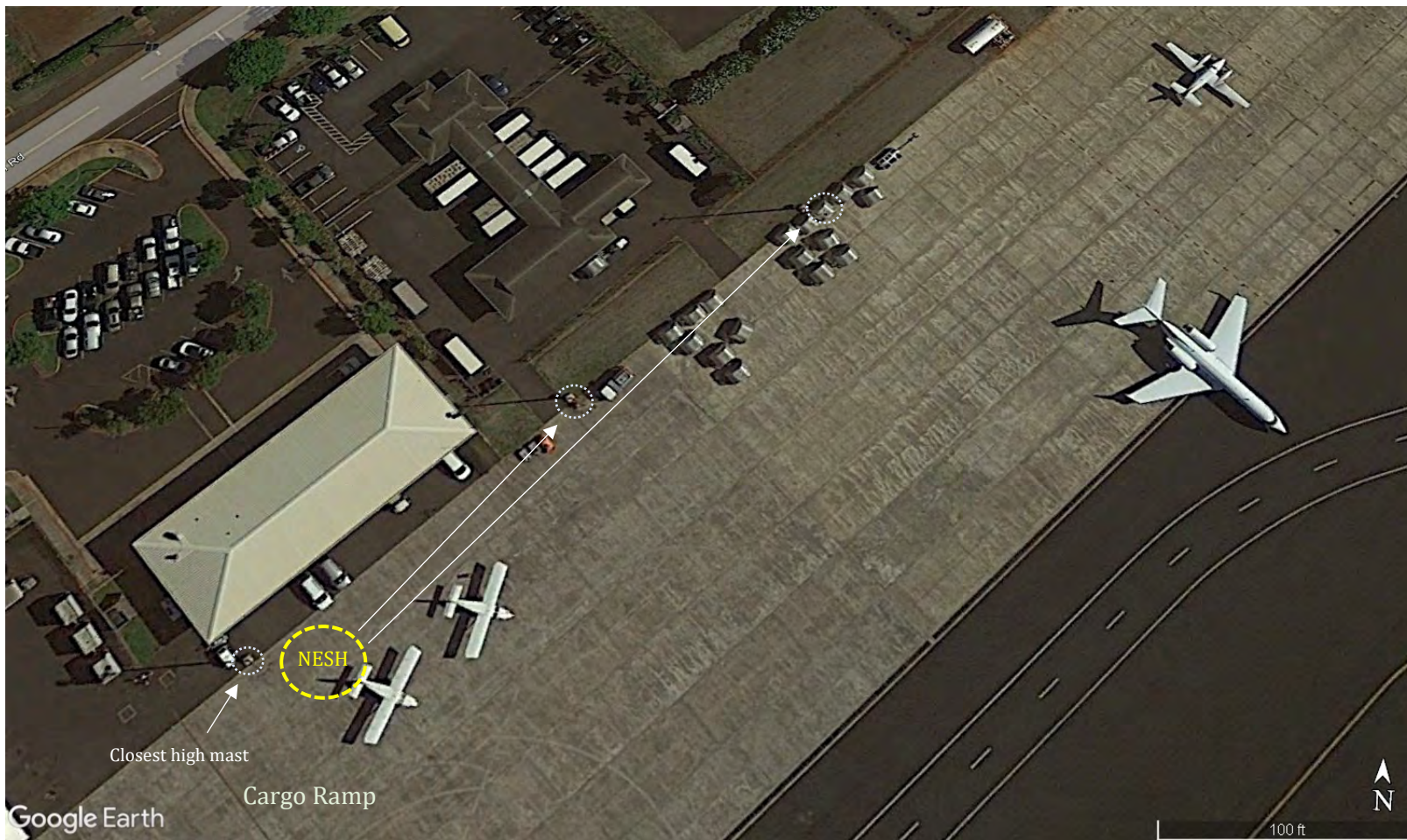
- Photos showing where the downed seabird was discovered
- Up close and vicinity photos to show immediate surroundings
- Nearby structures in the background
- Map showing an aerial representation of where the seabird was discovered, nearby features, roads, structures, and relevant lighting infrastructure, and each labeled as appropriate.

Refer to: *Protocol for Holders of a State of Hawai'i Incidental Take License and U.S. Fish and Wildlife Service Incidental Take Permit Responding to Dead or Injured Birds under the Kaua'i Seabird Habitat Conservation Plan.*

## Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES



### Downed Wildlife Incident Reporting Form LISTED and MBTA SPECIES



Specific layout features in the vicinity where a grounded Newell's shearwater was discovered by USDA-Wildlife Services during routine wildlife and seabird surveillance and monitoring at Lihue Airport on October 25, 2023.

T&E RECOVERY REPORT

Report \_\_\_ of \_\_\_

1. DATE FOUND (mm-dd-xxxx)  
 2. TIME FOUND (Civilian am/pm)

10/25/23

00:23

3. NUMBER OF SPECIES FOUND AND DESCRIPTION:

<input checked="" type="checkbox"/>	NEWELL'S SHEARWATER	<input type="checkbox"/>	BAND-RUMPED STORM PETREL
<input type="checkbox"/>	WEDGE-TAILED SHEARWATER	<input type="checkbox"/>	HAWAIIAN PETREL
<input type="checkbox"/>	Other T&E Species _____		

3a. Other wildlife

4. HDOT LOCATION

AIR  HAR  HWY  OTHER

4a. Specific site location, Airport name, harbor name, mile marker, runway etc.

4b. Inside Secured Area?

4c. Is this a public area?

4c. GPS Location

YPS NO 21° 58' 54" N 159° 20' 40" W

5. COMMENTS

FOUND DEAD  
 FOUND UN-INJURED  
 FOUND INJURED AS DESCRIBED:

5a. Environmental conditions (i.e. water, light, vegetation, fence)

6. AID STATION LOCATION AND TIME SUBMITTED:

06:36 BBN

REPORTER NAME:

AGENCY:

UNIT:

TELEPHONE NUMBER:

M. CIA  
 USPA  
 W/UPB

YPS  
 (2:30 AM

Photo Provided  Y/N

Thank you for filling out this form. Please add clear photo of bird recovered. Your report will help in the preservation efforts of our natural wildlife.

Report \_\_\_ of \_\_\_

1. DATE FOUND (mm-dd-xxxx)  
 2. TIME FOUND (Civilian am/pm)

3. NUMBER OF SPECIES FOUND AND DESCRIPTION:

<input type="checkbox"/>	NEWELL'S SHEARWATER	<input type="checkbox"/>	BAND-RUMPED STORM PETREL
<input type="checkbox"/>	WEDGE-TAILED SHEARWATER	<input type="checkbox"/>	
<input type="checkbox"/>	Other T&E Species _____		

3a. Other wildlife

4. HDOT LOCATION

AIR

4a. Specific site location, Airport name, harbor name, mile marker, runway etc.

4b. Inside Secured Area?

4c. Is this a public area?

4c. GPS Location

5. COMMENTS

FOUND DEAD  
 FOUND UN-INJURED  
 FOUND INJURED AS DESCRIBED:

5a. Environmental conditions (i.e. water, light, vegetation, fence)

6. AID STATION LOCATION AND TIME SUBMITTED:

REPORTER NAME:

AGENCY:

UNIT:

TELEPHONE NUMBER:

Photo Provided  Y/N

Thank you for filling out this form. Please add clear photo of bird recovered. Your report will help in the preservation efforts of our natural wildlife.



APPENDIX 3  
PHOTOS OF FACILITY LIGHTING

**Lihue Airport**



Main terminal ramp (south)

Aircraft and lighting infrastructure along the main terminal ramp (above), cargo and north ramps (below) at Lihue Airport during normal operational conditions.



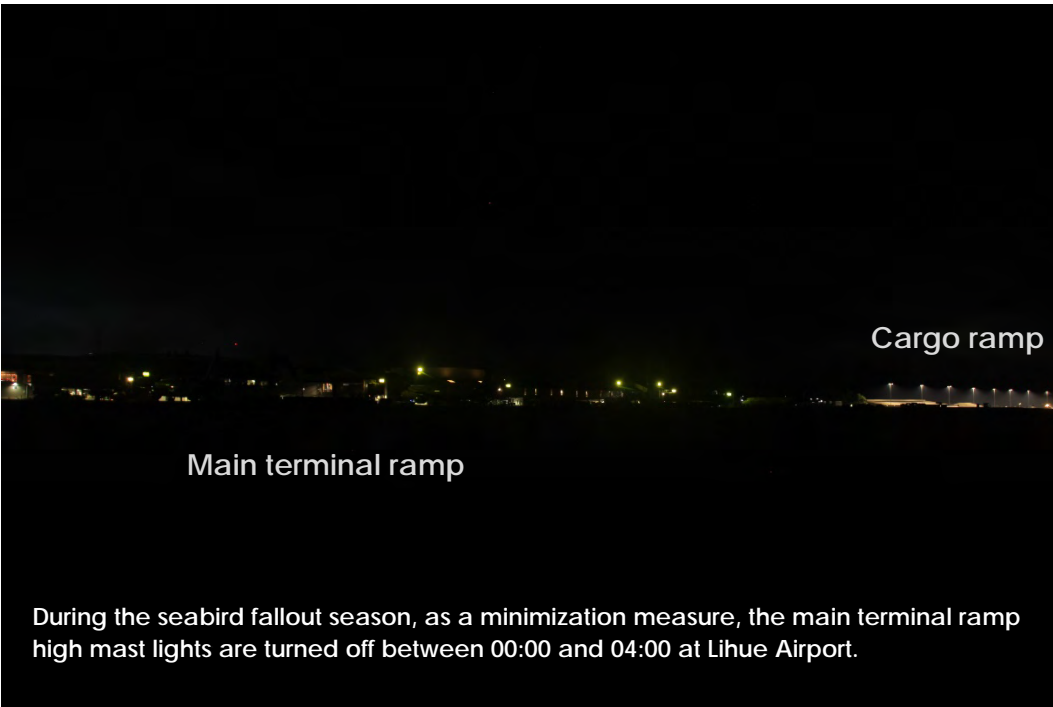
Main terminal ramp

Cargo ramp

North ramp



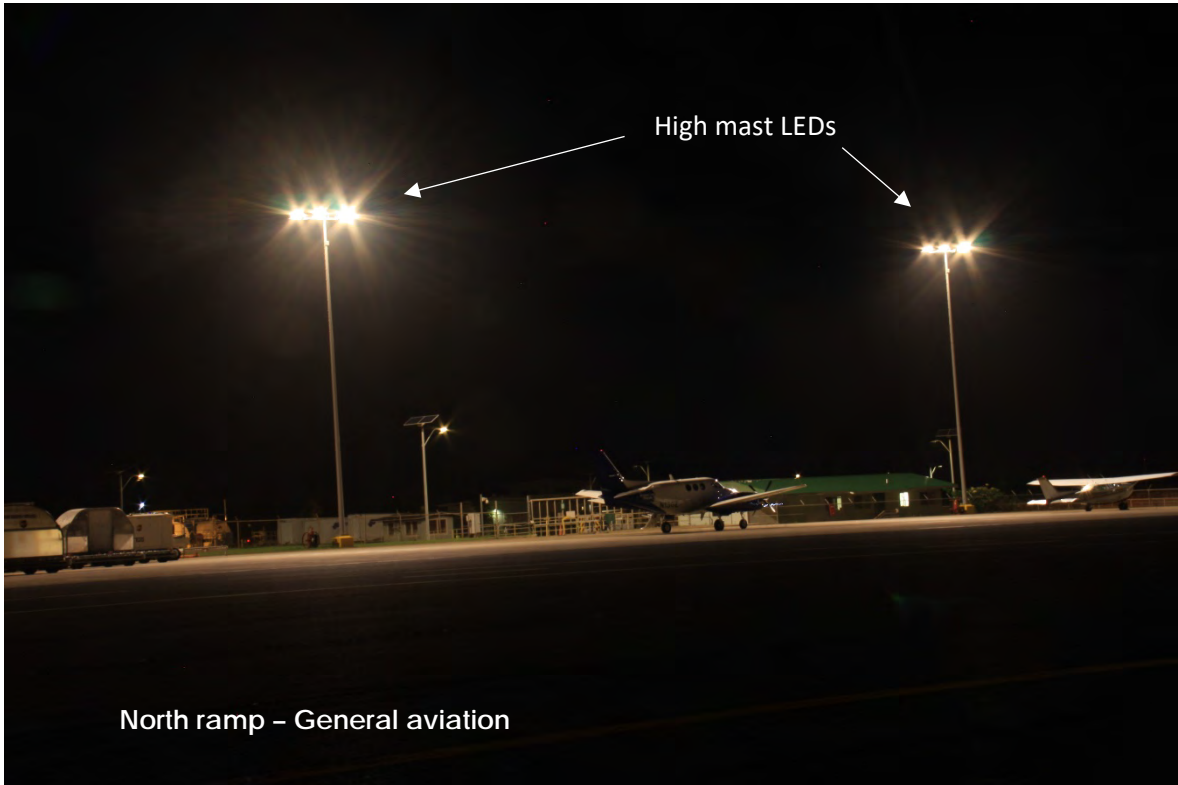
Normal operational lighting conditions along a portion of the main terminal ramp, cargo ramp, and north ramp at Lihue Airport.



Cargo ramp

Main terminal ramp

During the seabird fallout season, as a minimization measure, the main terminal ramp high mast lights are turned off between 00:00 and 04:00 at Lihue Airport.







View from the North ramp looking south along the Cargo and Main Terminal sections of the airfield at Lihue Airport.