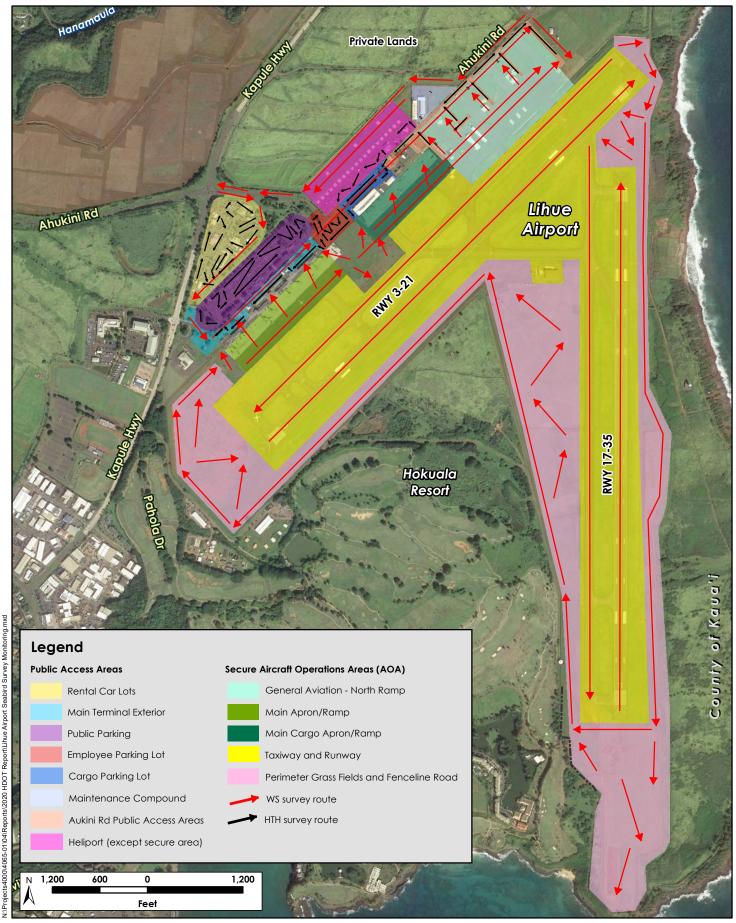
#### **APPENDIX 1**

### MAP OF THE SEARCH AREA AND GENERAL ROUTES FOLLOWED

### LIHUE AIRPORT





H. T. HARVEY & ASSOCIATES

**Ecological Consultants** 

Downed Seabird Search and Monitoring Routes at HDOT Lihue Airport Facilities

## APPENDIX 2 DOWNED WILDLIFE INCIDENT REPORTS

### **LIHUE AIRPORT**

Facility Name: Lihue Airport (HDOT)

Species Common Name: **Newell's shearwater** Species Scientific Name: **Puffinus newelli** 

Four Letter Code: **NESH** 

File Name: **NESH\_2022-10-19a-HDOT-LIH** USFWS Permit Number: **TE74138D-0** 

Hawaii DLNR Incidental Take License Number: ITL-30

Permit Holder:	State of Hawaii, Department of Transportation (HDOT)
Observer Name and Affiliation:	Mel Ota, USDA-Wildlife Services
Report Prepared by:	USDA-Wildlife Services and HDOT
Date of Incident:	October 19, 2022
Date of report:	October 19 (USDA-WS) and October 25, 2022 (HDOT)
Fatality or Injury:	Alive when found, no apparent injuries
Age (Adult/Juvenile), if known:	Presumed HY
Sex (if known):	
Date Area Last Surveyed:	October 18-19, 2022
Time Observed (HST):	12:00
Time Picked Up and By Who:	USDA-WS transported to SOS
General Location:	Jack Harter Helicopter Ramp area
GPS Coordinates	21°59'05.2" N 159°20'29.5" W
Closest structure and type (distance and degree heading from bird):	Road light, 42 meters, 64°; High mast, 79 meters, 134°
Ground Cover Type and Height (cm):	Pavement
Cloud Cover (%):	
Weather Conditions (wind, precipitation)	Overcast, partly sunny
Moon Phase (percent illumination)	Approximately 0.44
Drop off location (Which Aid Station or SOS)	Save Our Shearwaters, Wailua
Deceased and Sent for Necropsy (Y/N)	N/A
Photos (Y/N)	Y
File Name	NESH_2022-10-19a-HDOT-LIH
SOS Reference Number	BSV304

**Condition of Specimen** [Describe the seabird's general condition, as well as any visible injuries, be specific (e.g., large cut on right wing tip)]:

Appeared in good condition with no injuries observed.

**Probable Cause of Injuries and Supportive Evidence** [be descriptive (e.g., 'probable light source', 'teeth marks visible on upper back', 'found adjacent to tire marks in mud')]:

Light disorientation probably contributed to the grounding.

**Action Taken** [include names, dates, and times, if known – whether sent for necropsy]:

USDA-Wildlife Services biologist Mel Ota retrieved and carefully transported the seabird to SOS where it was admitted same day, held overnight, and banded and released the next day (October 20, 2022). Division of Forestry through the agency's HCP planning team and USFWS-PIFWO were notified of the incident within 24 hours of occurrence.

#### **Additional Notes/Comments:**

The USDA-WS standard T&E report contains photos and is attached.

#### Please include the following:

- Map showing aerial imagery with location of found animal, search area polygon, nearby features, roads, and structures labeled.
- Photos showing the downed bird: a) up close; b) with its immediate surrounding; and c) nearest structures in the background. Include a ruler or measuring device if possible to provide scale.

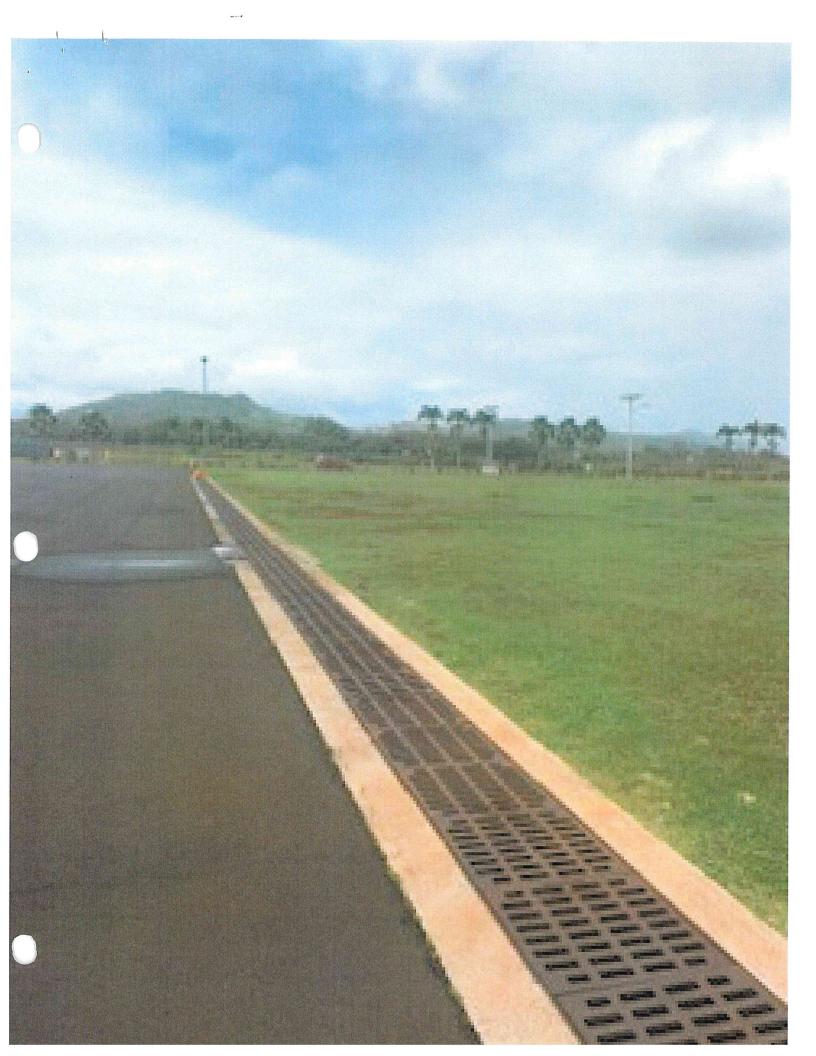


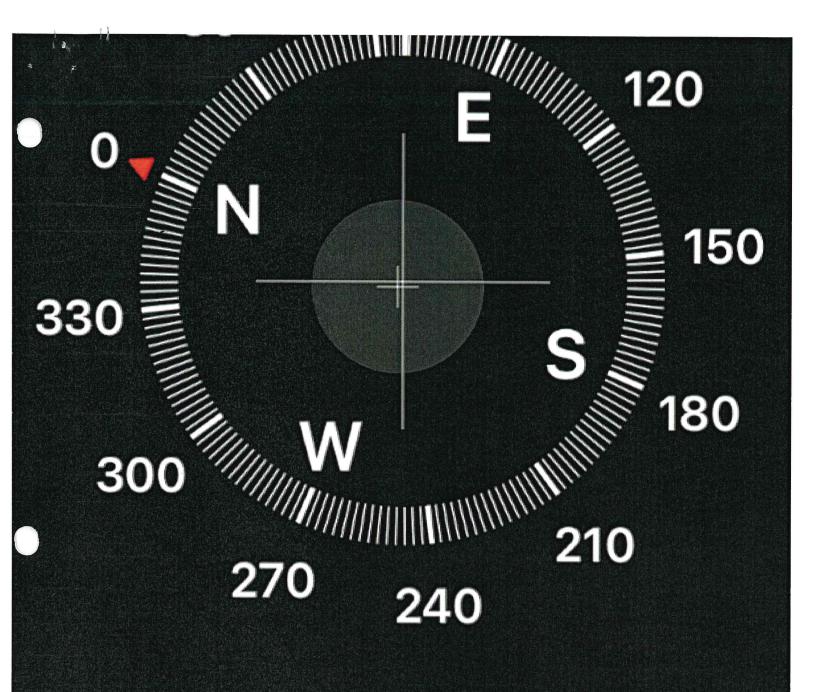
General overview of the Lihue Airport North Ramp and vicinity of grounded Newell's shearwater discovery (top); additional vicinity infrastructure and 2 nearby facility light features are shown below.



#### T&E RECOVERY REPORT

1 DATE FOUND (com days)	collabor	Report of
1. DATE FOUND (mm-dd-xxxx) 2. TIME FOUND (Civilian am/pm)	17100 0000	
3. NUMBER OF SPECIES FOUND AND DESCRIPTION:	NEWELL'S SHEARWATER	BAND-RUMPED STORM PETREL
3a. Other wildlife	WEDGE-TAILED SHEARWATER  Other T&E Species	HAWAIIAN PETREL
4. HDOT LOCATION  4a.Specific site location, Airport name, harbor name, mile marker, runway etc.  4b. Inside Secured Area?  4c.ls this a public area?  4c.GPS Location	DACK HARRER HELLOPISES	PAMP
5. COMMENTS	FOUND DEAD  FOUND INJURED AS DESCRIBED:	
5a. Environmental conditions(i.e. water, light, vegetation, fence 6. AID STATION LOCATION AND TIME SUBMITTED:	TARMAC/SUNIN/OUGLCAS	
REPORTER NAME: AGENCY: UNIT: TELEPHONE NUMBER:	MELOTA USDA - WHULFE LOUS-THON	
Photo Provided Thank you for filling out this form. Please add clea	Y/N ar photo of bird recovered. Your report will help in the preservation effor	orts of our natural wildlife,
1. DATE FOUND (mm-dd-xxx) 2. TIME FOUND (Civilian am/pm)	The state of the s	eport or
3. NUMBER OF SPECIES FOUND AND DESCRIPTION:	NEWELL'S SHEARWATER	BAND-RUMPED STORM PETREL
3a. Other wildlife	WEDGE-TAILED SHEARWATER Other T&E Species	HAWAIIAN PETREL
4. HDOT LOCATION	AIR HAR HWY _	OTHER
4a.Specific site location, Airport name, harbor name, mile		
marker, runway etc.		
marker, runway etc.  4b. Inside Secured Area?  4c.ls this a public area?  4c.GPS Location		
4b. Inside Secured Area? 4c.ls this a public area?	FOUND DEAD FÖUND UN-INJURED	
4b. Inside Secured Area? 4c.ls this a public area? 4c.GPS Location		
4b. Inside Secured Area? 4c.ls this a public area? 4c.GPS Location	FÖUND UN-INJURED	
4b. Inside Secured Area? 4c.ls this a public area? 4c.GPS Location 5. COMMENTS	FÖUND UN-INJURED	
4b. Inside Secured Area? 4c.Is this a public area? 4c.GPS Location 5. COMMENTS  5a. Environmental conditions(i.e. water, light, vegetation, fence	FÖUND UN-INJURED	





# 66° NE

These coordinates are in error

21°58′36″ N 159°20′25″ W



( ) <sub>N</sub>

Facility Name: Lihue Airport (HDOT)

Species Common Name: **Newell's shearwater** Species Scientific Name: **Puffinus newelli** 

Four Letter Code: **NESH** 

File Name: **NESH\_2022-10-19b-HDOT-LIH** USFWS Permit Number: **TE74138D-0** 

Hawaii DLNR Incidental Take License Number: ITL-30

Permit Holder:	State of Hawaii, Department of Transportation (HDOT)
Observer Name and Affiliation:	Amber Hedges, USDA-Wildlife Services
Report Prepared by:	USDA-Wildlife Services and HDOT
Date of Incident:	October 19, 2022
Date of report:	October 19 (USDA-WS) and October 24, 2022 (HDOT)
Fatality or Injury:	Alive when found, no apparent injuries
Age (Adult/Juvenile), if known:	Presumed HY
Sex (if known):	
Date Area Last Surveyed:	October 18-19, 2022
Time Observed (HST):	12:24
Time Picked Up and By Who:	USDA-WS retrieval and transported to SOS
General Location:	Grassy area to the south of radio communication array
GPS Coordinates	21° 58′36″ N 159° 20′25″ W
Closest structure and distance (e.g., light, powerline, building, etc.):	Approximately 100 meters; two radio installations
Ground Cover Type and Height (cm):	Grass, approximately 8-12 cm
Cloud Cover (%):	Mostly cloudy
Weather Conditions (wind, precipitation)	Winds 0-10 mph, rain frequent
Moon Phase (percent illumination)	Approximately 0.44
Drop off location (Which Aid Station or SOS)	Save Our Shearwaters, Wailua
Deceased and Sent for Necropsy (Y/N)	N/A
Photos (Y/N)	Y
File Name	NESH_2022-10-19b-HDOT-LIH
SOS Reference Number	BSV303

**Condition of Specimen** [Describe the seabird's general condition, as well as any visible injuries, be specific (e.g., large cut on right wing tip)]:

The shearwater appeared unharmed and alert.

**Probable Cause of Injuries and Supportive Evidence** [be descriptive (e.g., 'probable light source', 'teeth marks visible on upper back', 'found adjacent to tire marks in mud')]:

Light attraction and disorientation may have contributed to the seabird becoming grounded.

**Action Taken** [include names, dates, and times, if known – whether sent for necropsy]:

Responsive actions were carried out according to standard procedures. The USDA-Wildlife biologist responded by carefully placing the seabird a secure carrier and delivering to SOS in Wailua. The shearwater was banded and released in good condition the day following admission to SOS (October 20, 2022). Division of Forestry through the agency's HCP planning team and USFWS-PIFWO were notified of the incident within 24 hours of occurrence.

#### **Additional Notes/Comments:**

See attached USDA-Wildlife Services T&E Report for photos.

#### Please include the following:

- Map showing aerial imagery with location of found animal, search area polygon, nearby features, roads, and structures labeled.
- Photos showing the downed bird: a) up close; b) with its immediate surrounding; and c) nearest structures in the background. Include a ruler or measuring device if possible to provide scale.



Broad view of the area (above) within the Lihue Airport AOA and closer view (below) show the location where a Newell's shearwater was discovered alive and rescued on October 19, 2022.



#### T&E RECOVERY REPORT

	,	leport of
1. DATE FOUND (mm-dd-xxxx)	10/19/2022	
2. TIME FOUND (Civilian am/pm)	12:24 014	
	12 7 7 10	
<ol><li>NUMBER OF SPECIES FOUND AND DESCRIPTION:</li></ol>	NEWELL'S SHEARWATER	BAND-RUMPED STORM PETREL
	WEDGE-TAILED SHEARWATER	
3a. Other wildlife	The state of the s	HAWAIIAN PETREL
Sa. Other wildlife	Other T&E Species	
4. HDOT LOCATION	M AIR HAR HWY	071150
4a. Specific site location, Airport name, harbor name, mile	A MILL	OTHER
marker, runway etc.	114	
4b. Inside Secured Area?	406	
4c.ls this a public area?	NO	
4c.GPS Location		
	FOUND DEAD	
5. COMMENTS	POUND BEAD	
	FÖUND UN-INJURED	
	FOUND INJURED AS DESCRIBED:	
	اسا حوات استان المسالم	
5a. Environmental conditions (i.e. water, light, vegetation, fence	RAIN/660UDY - Open	field
6. AID STATION LOCATION AND TIME SUBMITTED:		
REPORTER NAME:	AULBEN HED Ats	
AGENCY:	TIMED A COLL C	•
UNIT:	AINE BAHIT	
	1060 101 1000	
TELEPHONE NUMBER:	(909) 27 1 6928	
i.		
Photo Provided	Y/N	
Thank you for filling out this form. Please add cl	ear photo of bird recovered. Your report will help in the preservation effor	orts of our natural wildlife
		The second secon
	B	eport of
	R	eport of
1. DATE FOUND (mm-dd-xxxx)	B	eport of
	B	eport of
2. TIME FOUND (Civilian am/pm)		
	NEWELL'S SHEARWATER	BAND-RUMPED STORM PETREL
2. TIME FOUND (Civilian am/pm)	NEWELL'S SHEARWATER	BAND-RUMPED STORM PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER	BAND-RUMPED STORM
2. TIME FOUND (Civilian am/pm)	NEWELL'S SHEARWATER	BAND-RUMPED STORM PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION: 3a. Other wildlife	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER	BAND-RUMPED STORM PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  4a. Specific site location, Airport name, harbor name, mile	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  4a. Specific site location, Airport name, harbor name, mile	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  4a. Specific site location, Airport name, harbor name, mile marker, runway etc.  4b. Inside Secured Area?  4c.Is this a public area?	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  4a.Specific site location, Airport name, harbor name, mile marker, runway etc.  4b. Inside Secured Area?	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  4a. Specific site location, Airport name, harbor name, mile marker, runway etc.  4b. Inside Secured Area?  4c.Is this a public area?	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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  5a. Environmental conditions(i.e. water, light, vegetation, fence)  6. AID STATION LOCATION AND TIME SUBMITTED:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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  5a. Environmental conditions(i.e. water, light, vegetation, fence)  6. AID STATION LOCATION AND TIME SUBMITTED:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  4a. Specific site location, Airport name, harbor name, mile marker, runway etc.  4b. Inside Secured Area?  4c.Is this a public area?  4c.Is this a public area?  4c.Is this a public area?  6. AID STATION LOCATION AND TIME SUBMITTED:  REPORTER NAME: AGENCY:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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  5a. Environmental conditions(i.e. water, light, vegetation, fence)  6. AID STATION LOCATION AND TIME SUBMITTED:  REPORTER NAME:  AGENCY: UNIT:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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  5a. Environmental conditions(i.e. water, light, vegetation, fence)  6. AID STATION LOCATION AND TIME SUBMITTED:  REPORTER NAME:  AGENCY:  UNIT:  TELEPHONE NUMBER:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED FÖUND INJURED AS DESCRIBED:	BAND-RUMPED STORM PETREL HAWAIIAN PETREL
2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:  3a. Other wildlife 4. HDOT LOCATION  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  5a. Environmental conditions(i.e. water, light, vegetation, fence)  6. AID STATION LOCATION AND TIME SUBMITTED:  REPORTER NAME:  AGENCY:  UNIT:  TELEPHONE NUMBER:	NEWELL'S SHEARWATER  WEDGE-TAILED SHEARWATER  Other T&E Species  AIR HAR HWY  FOUND DEAD FÖUND UN-INJURED	BAND-RUMPED STORM PETREL  HAWAIIAN PETREL  OTHER







Facility Name: Lihue Airport (HDOT)

Species Common Name: **Newell's shearwater** Species Scientific Name: **Puffinus newelli** 

Four Letter Code: **NESH** 

File Name: NESH\_2022-10-22a-HDOT-LIH USFWS Permit Number: TE74138D-0

Hawaii DLNR Incidental Take License Number: ITL-30

Permit Holder:	Hawaii Department of Transportation
Observer Name and Affiliation:	Alex Henry, H. T. Harvey & Associates
Report Prepared by:	HDOT and H. T. Harvey & Associates
Date of Incident:	October 22, 2022
Date of report:	October 25, 2022
Fatality or Injury:	Possible injury
Age (Adult/Juvenile), if known:	Presumed HY juvenile
Sex (if known):	
Date Area Last Surveyed:	October 21-22, 2022
Time Observed (HST):	20:00
Time Picked Up and By Who:	21:40 USDA-Wildlife Services
General Location:	Lihue Airport Maintenance Baseyard rear portion of parking area along fence (off Ahukini Road)
GPS Coordinates	21°59'06.6"N 159°20'37.3"W
Closest structure and distance (e.g., light, powerline, building, etc.):	Maintenance warehouse (closet point) 46 meters, 148°; closest pole-mounted parking area light 16 meter, 178°; mid-lot pole-mounted lights (3): 37 meters, 118°; 54 meters, 107°; 70 meters, 103°.
Ground Cover Type and Height (cm):	Bare dirt, sparse scrub, 3-5 cm max.
Cloud Cover (%):	50
Weather Conditions (wind, precipitation)	Partly cloudy, no precipitation
Moon Phase (percent illumination)	Waning crescent, 0.10 illumination
Drop off location (Which Aid Station or SOS)	Lihue Fire Station SOS Aid Station (23:00)
If Deceased, sent for Necropsy (Y/N)	
Photos (Y/N)	Y
File Name	NESH_2022-10-22a-HDOT-LIH
SOS Reference Number	

**Condition of Specimen** [Describe the seabird's general condition, as well as any visible injuries, be specific (e.g., large cut on right wing tip)]:

The seabird was alive and exhibited responsiveness when it was discovered. However, it appeared to be fouled by the foot or segment of the wing on the lower margin of the fence; this may have caused or been associated with injury but extent is unknown.

**Probable Cause of Injuries and Supportive Evidence** [be descriptive (e.g., 'probable light source', 'teeth marks visible on upper back', 'found adjacent to tire marks in mud')]:

Injury was not confirmed in the field but is likely and may have been complicated by interaction with the base of the fence.

**Action Taken** [include names, dates, and times, if known – whether sent for necropsy]:

The shearwater was discovered by H. T. Harvey & Associates trained biologist and searcher, Alex Henry. Mr. Henry contacted airport security dispatch and communicated his discovery and requested the assistance of USDA-Wildlife Services. Wildlife Services responded and proceeded to place the shearwater in a secure carrier and subsequently transported the seabird to the Lihue Fire Station SOS Aid Station.

#### **Additional Notes/Comments:**

The standard T&E report prepared by USDA-WS is attached.

#### Please include the following:

- Map showing aerial imagery with location of found animal, search area polygon, nearby features, roads, and structures labeled.
- Photos showing the downed bird: a) up close; b) with its immediate surrounding; and c)
  nearest structures in the background. Include a ruler or measuring device if possible to
  provide scale.



These two images show the vicinity overview of the Maintenance Baseyard (above) and details of the infrastructure in and around the parking area relative to the location where the Newell's shearwater was discovered on October 22, 2022. The parking lot pole-mounted lights are located within the dashed ovals.







Two photos taken of the Newell's shearwater discovered at the Lihue Airport Maintenance Baseyard in the corner of the perimeter fence adjacent to the parking area on October 22, 2022.

#### T&E RECOVERY REPORT

	The point or		
1. DATE FOUND (mm-dd-xxxx) 2. TIME FOUND (Civilian am/pm) 3. NUMBER OF SPECIES FOUND AND DESCRIPTION:	10-22-2022 9:40 PM NEWELL'S SHEARWATER BAND-RUMPED STORM PETREL WEDGE-TAILED SHEARWATER HAWAIIAN PETREL		
3a. Other wildlife	Other T&E Species		
4. HDOT LOCATION  4a. Specific site location, Airport name, harbor name, mile marker, runway etc.  4b. inside Secured Area?  4c. is this a public area?	LIHUE AIRPORT - Maintenance Shop parking are NO. YES	ea near fe	nce
4c.GPS Location 5. COMMENTS	N 21° 59.111 W 159° 20.622  FOUND DEAD  FOUND UN-INJURED  FOUND INJURED AS DESCRIBED: Left wing appears injured.	-	
5a. Environmental conditions(i.e. water, light, vegetation, fence 6. AID STATION LOCATION AND TIME SUBMITTED:	NO RAIN, CHAIN LINK FENCE, DIMLY LIGHTS LITUE FIRE DEPARTMENT @ 2300 hrs	E <i>D</i>	
REPORTER NAME: AGENCY: UNIT: TELEPHONE NUMBER:	JASON SHIMAUCHI USDA WILDLIFE SERVICES 808 G45 1394	a.	
Photo Provided Thank you for tilling out this form, Please add cla	Arr photo of bird recovered. Your report will help in the preservation efforts of our natural wildlife.		
	Report of		





Facility Name: Lihue Airport (HDOT)

Species Common Name: **Newell's shearwater** Species Scientific Name: **Puffinus newelli** 

Four Letter Code: **NESH** 

File Name: NESH\_2022-10-22b-HDOT-LIH USFWS Permit Number: TE74138D-0

Hawaii DLNR Incidental Take License Number: ITL-30

Permit Holder:	Hawaii Department of Transportation
Observer Name and Affiliation:	Jason Shimauchi, USADA-Wildlife Services
Report Prepared by:	HDOT and H. T. Harvey & Associates
Date of Incident:	October 22, 2022
Date of report:	October 26, 2022
Fatality or Injury:	Found alive, no apparent injury
Age (Adult/Juvenile), if known:	Presumed HY juvenile
Sex (if known):	
Date Area Last Surveyed:	October 21-22, 2022
Time Observed (HST):	21:30
Time Picked Up and By Who:	USDA-WS delivered to Lihue F.S. SOS Aid Station
General Location:	Lihue Airport Public Access Area adjacent to Alpha Gate
GPS Coordinates	21° 58.582 N 159° 21.045 W
Closest structure and distance (e.g., light, powerline, building, etc.):	Wastewater control systems building and solar-powered security light within approximately 10 meters; 2 high mast lights 43 meters and 55 meters; AOA perimeter fence 15-20 meters SE.
Ground Cover Type and Height (cm):	Mowed grass, 2-3 cm max.
Cloud Cover (%):	Variable
Weather Conditions (wind, precipitation)	Partly cloudy, no precipitation
Moon Phase (percent illumination)	Waning crescent, 0.10 illumination
Drop off location (Which Aid Station or SOS)	Lihue Fire Station SOS Aid Station (23:00)
If Deceased, sent for Necropsy (Y/N)	
Photos (Y/N)	Y
File Name	NESH_2022-10-22b-HDOT-LIH
SOS Reference Number	DLR037

**Condition of Specimen** [Describe the seabird's general condition, as well as any visible injuries, be specific (e.g., large cut on right wing tip)]:

The seabird was alive and exhibited responsiveness, no injuries evident.

**Probable Cause of Injuries and Supportive Evidence** [be descriptive (e.g., 'probable light source', 'teeth marks visible on upper back', 'found adjacent to tire marks in mud')]:

No apparent injuries.

**Action Taken** [include names, dates, and times, if known – whether sent for necropsy]:

The shearwater was discovered by USDA-Wildlife Services. Wildlife Services proceeded take photos and gather notes, placed the shearwater in a secure carrier, then transported the bird to the Lihue Fire Station SOS Aid Station. SOS determined that this shearwater was in healthy condition and it was banded and successfully released on October 24, 2022.

#### **Additional Notes/Comments:**

The standard T&E report prepared by USDA-WS is attached.

#### Please include the following:

- Map showing aerial imagery with location of found animal, search area polygon, nearby features, roads, and structures labeled.
- Photos showing the downed bird: a) up close; b) with its immediate surrounding; and c)
  nearest structures in the background. Include a ruler or measuring device if possible to
  provide scale.



Overview showing the prominent features in the area where a grounded Newell's shearwater fledgling was discovered and rescued by USDA-Wildlife Services (top) and at Lihue Airport on October 22, 2022. The two figures below provide details of the immediate vicinity and surrounding infrastructure.





### T&E RECOVERY REPORT

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

. DATE FOUND (mm-dd-xxxx)	10-22-2022	
. TIME FOUND (Civilian am/pm)	9:30 PM	
,	NEWELL'S SHEARWATER BAND-RUMPED STORM PETREL	
S. NUMBER OF SPECIES FOUND AND DESCRIPTION:	WEDGE-TAILED SHEARWATER HAWAIIAN PETREL	
Ba, Other wildlife	Other T&E Species	
4. HDOT LOCATION	AIR HAR HWY OTHER	
4a.Specific site location, Airport name, harbor name, mile marker, runway etc.	LIME AIRPORT - Outside secure fenced grea new	ar Alpha gate.
4b. Inside Secured Area?	NO.	9
4c.Is this a public area? 4c.GPS Location	YES N 21°58.582 W 159° 21.045	
5. COMMENTS	FÖUND DEAD FÖUND UN-INJURED	
	FÖUND INJURED AS DESCRIBED:	
5a. Environmental conditions(i.e. water, light, vegetation, fence	NO RAIN, GRASSY AREA, DIMLY LIGHT	ED
6. AID STATION LOCATION AND TIME SUBMITTED:	LITHE FIRE DEPARTMENT @ 2300 hs	
REPORTER NAME:	JASON SHIMAUCHI	
AGENCY: UNIT:	USDA WILDLIFE SERVICES	
TELEPHONE NUMBER:	8086451394	
Photo Provided	Y/N	
Thank you for filling out this form. Please add cl	ear photo of bird recovered. Your report will help in the preservation efforts of our natural wildlife.	
	/	





#### **APPENDIX 3**

### PHOTOS OF FACILITY LIGHTING IN OPERATIONAL AND MINIMIZATION STATUS

**Lihue Airport** 

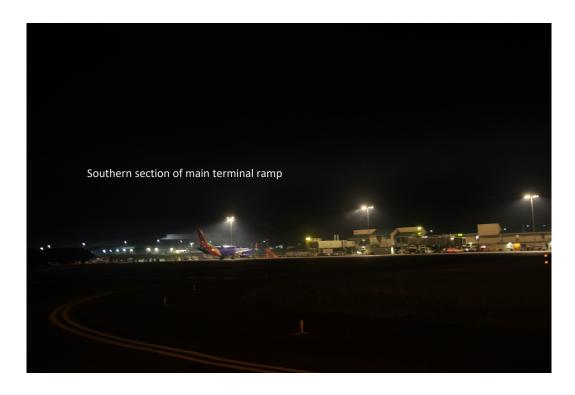


Photo 1 (top) and 2 (below). Aircraft and lighting infrastructure along the main terminal ramp at Lihue Airport during normal operational conditions.





Photo 3 (top) and 4 (bottom). These images show the northern portion of the main terminal ramp and adjacent cargo ramp lighting at Lihue Airport in operational setting. High mast full cut off fixtures facilitate the direction of light at a downward angle.





Photo 5 and 6 (top and below). Main terminal with high mast light complex off. As a minimization measure, this condition exists each night during the seabird fallout season for several hours during night and early predawn hours at Lihue Airport. Cargo and Life Transport remain operational.

