PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT
Agency Update to the Reserve Advisory Council
Sept 2017- April 2018

Photo - Camp switch day April 11th 2018

DLNR Winter 2017 Field Camp (Deployed for 238 days)

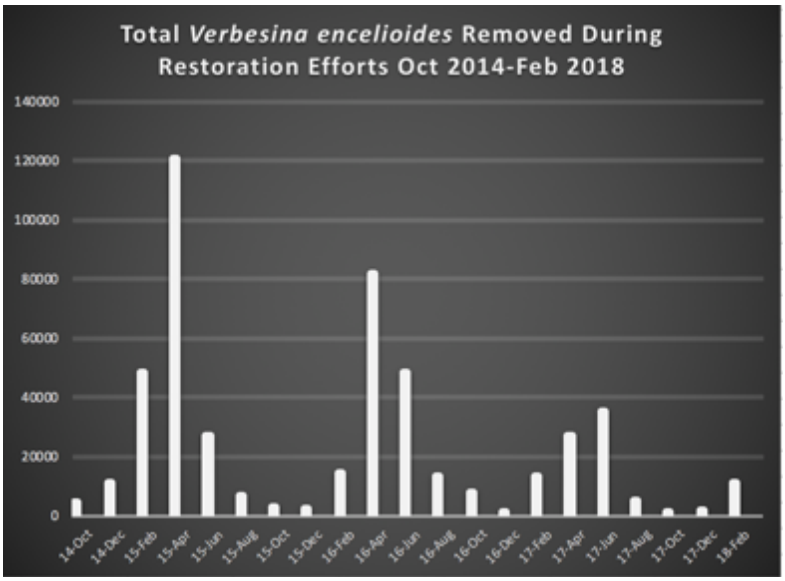
DLNR RCUH Camp Leader: Andy Sullivan-Haskins
DLNR RCUH Temp hire: Ryan Potter
DLNR Volunteers: Amanda Adams, Emily Hamel, Jill Lindemulder, Melanie Mancuso, Zach Pezzillo, Virginie Ternisien

Logistics

- The Winter 17' team was picked up on April 11th by the M/V *Kahana*.
- The *Kahana* was able to make it to Midway the same day, April 11th, and DLNR staff were greeted by Refuge manager Bob Peyton, who extended invitations for the staff to come ashore and visit the bowling alley.
- The *Kahana* left Midway at 1000 on April 12th and arrived offshore of Tern island on April 15th. It left for Honolulu a few hours later after retrieving Amanda Boyd (U.S.F.W.S.) and Sarah Youngren (P.R.C.) from the Tern island.
- The *Kahana* arrived in Honolulu on April 17th.

Habitat Restoration

- (**Treatment Totals Sept 2017-Apr 2018**) – With a team of 8, the winter team completed 5 full-island restoration treatments and two partial-island restoration treatments for a grand total of 1180.27 acres treated.
- The grand total of *Verbesina encelioides* plants treated during the winter season (immature and mature) was 46,290.
- 5796.3 total hours were devoted to invasive plant removal.
- According to the *Verbesina encelioides* reproductive data collected during field work, individual plants and the introduction of seeds has been greatly reduced correlating to an overall reduction of the *Verbesina* seed bank (see figure below)



Laysan Duck *(Anas Laysanensis)*

- 750.66 hours were dedicated to monitoring Laysan ducks and maintaining healthy wetland habitat.
- Daily Seep and Guzzler checks were conducted throughout the season in an effort to identify and mitigate potential sources of avian botulism. During checks, duck sightings were recorded and listed by sex, age, and location in order to maintain a "living" population assessment. One additional check was conducted each week, in the late afternoon, to obtain a high-count.
- A special effort was made to search for dead migrant/vagrant birds during the seep and guzzler checks this season, in an attempt to remove any possible sources of avian botulism from wetland habitat. A total of 9 migrants were found dead at either Brad's pit or Kipukawai seep throughout the season.
- Beginning January 26th, dead albatross and dead albatross chicks were collected weekly from areas prone to flooding like the ETA, WTA, and the Runway. The overall effort was made to remove any potential sources of botulism from these areas that are prone to flooding and becoming temporary wetlands that attract foraging ducks.
- During the season, LADU were observed in high numbers, gathered along the flooded edges of the runway and as far down as the West runway turnaround. They were observed foraging, mating, resting and preening in these areas.
- On September 11th, a banded founder Laysan duck (GN5) was found lame and barely alive, showing advanced symptoms similar to those associated with avian botulism type-c. The duck received treatment and was released on September 16th. The duck has been re-sighted numerous times over the past 9 months and was observed with a single duckling on May 13th.
- Overall, 29 confirmed broods have been recorded on Kure this year, with the first broods appearing on April 14th.

- After consecutive years of poor reproductive success, the Laysan ducks appear to be having an excellent year and the most recent report from the current field team is that there are currently 65 ducklings (23 stage I, 20 stage II, 22 stage III).
- The current population estimate for AHY LADU (non-duckling) is 30.
- "Yellow X', a banded founder and 2015 avian botulism rehab patient, has been observed with two separate broods this season!

Mosquitos (*culex quinquefaciatus*)

- 73.92 hours were devoted to Mosquito monitoring.
- Mosquito checks were conducted once weekly until October 06th. After discovering mosquito larvae at Brad's pit in September, it was decided to increase the amount of mosquito checks to twice-weekly for the remainder of the season. Pool skimmers are being used to detect larvae, with a minimum of ten skims per water source.
- Mosquito larvae were detected twice during the winter season.
- Mosquito larvae has been detected once in 2018 by the current summer team.
- Upon detection and after heavy rain events, water sources are being treated with *Vectolex* Bs (*Bacillus sphaericus*).

Big-Headed Ants (*Pheidole megacephala)*

- 271.47 hours were devoted to BHA monitoring.
- A full-island BHA survey of over 950 points was conducted from October 23rd - October 26th, 2017.
- BHA were discovered in 5 of the 950 total vials examined upon retrieval.
- Additional mini surveys were conducted using a smaller grid at the locations where BHA were initially discovered.
- Areas where BHA were discovered were treated with AMDRO fire ant bait.
- Mini-surveys were conducted at each of the original sites every month after the application of AMDRO and until there were no BHA observed for three consecutive months.
- At the time of the winter team's departure there were no BHA detected at any of the sites.

Seabirds

- **Disentanglements**
  - November 8th, green mono-filament line was removed from the leg of a Black-foot albatross in NMFS sector 8. The leg was deeply scarred and the foot was atrophied.
  - November 20th, green monofilament line was removed from the leg of a Black-foot albatross. The leg was deeply scarred.
  - January 29th, knotted pink ribbon (similar to that of a balloon string) was removed from the leg of an adult Laysan albatross.
  - February 26th, a LAAL chick was discovered was discovered with frayed blue line knotted around both of its legs. The birds right leg had been cut deeply by the entanglement.
  - February 26th, a BFAL chick was observed with a plastic oyster ring lodged on its upper mandible.
  - March 10th, A LAAL chick was discovered with green mono-filament line wrapped around its head and body. The line could be traced into the chick's mouth and down its throat. DLNR staff removed an additional 12" of line from the bird's throat by gently pulling it out.
  - March 16th, a LAAL chick was discovered with frayed line wrapped tightly around its leg in two places. One of the entanglements had cut deeply into the bird's leg.
  - March 21st, a LAAL chick was discovered with a plastic oyster ring lodged on its upper mandible.

- **Tristram's storm petrel/Short-eared Owl event**- A total of **223** depredated Tristram's storm petrel carcasses have been discovered since November 23rd, 2017. 7 depredated Pacific golden plovers were also found. All carcasses were examined; the wings were clipped; and a GPS waypoint was taken at the point of discovery. Carcasses were found picked clean, with heads removed and sharp marks on the keel, leaving only the wings. An owl was observed on four occasions by DLNR staff. Photos of the owl were used by Peter Pyle to identify the owl as a "Pueo" or Hawaiian short-eared owl. Along with the observations, 3 owl pellets were discovered during the season.

- **Current 2018 MABO/BRBO nests** – 30 MABO/ 111 BRBO

- **The Annual Albatross Chick Count** was conducted June 5 – 9.
  - Laysan – 8,061 chicks (27,794 nests counted Dec 2017)
  - Black-footed – 1,226 chicks (2,749 nests counted Dec 2017)
  - Short-tailed – 0 chicks (1 nest counted Dec 2017)

Shorebirds

- 158.8 hours were devoted to shorebird surveys throughout the season, usually in conjuction with Hawaiian monk seal surveys
- There was a large Ruddy turnstone mortality event observed during the month of September 2017. DLNR personnel monitored for dead/lame shorebirds opportunistically and conducted weekly searches along the runway, WTA and ETA. The total number of dead/lame RUTU observed in Sept was 36.

Migrants/Vagrants

- **Cattle egrets-** cattle egrets were observed throughout the winter season and are currently being monitored for high counts, locations and behaviors. No Cattle egrets have been observed with breeding plumage, and there have been no nests discovered. The most recent observation was on May 22nd (4 CAEG).
- **Great egrets-** On November 3rd, 3 great egrets were sighted during the shorebird survey. Upon return to Honolulu, photos of the great egrets were confirmed for identification by Peter Pyle. The sighting became a high-count record for the State of Hawaii, a record first for Kure Atoll, and a record first for the Northwestern Hawaiian Islands.

Hawaiian Monk Seal (*Monachus schauinslandi*)

- 210.35 hours were devoted to monitoring Hawaiian monk seals.
- Weekly surveys were conducted on Green Island by DLNR staff. Survey objectives are to record survival factors, pregnant females, pupping, and the physical condition of young animals. Weekly reports were sent to NMFS.
- **First pup of 2018** - The first Hawaiian Monk Seal pup observed in the Northwestern Hawaiian Islands in 2018, was born on Kure atoll on January 28th. The Pup was bleached (ASH, Permit # 16632) with the alpha-numeric code "Z00" on March 11th.
- There are currently 1 mom & pup pair, 1 untagged weaner, and 9 tagged weaners on Kure.

Marine Debris

- 146.18 hours were devoted to marine debris efforts
- Marine debris and entanglement hazards were collected opportunistically throughout the season. Marine debris entanglement hazards are stored at "marine debris collection points" around the island until they can be secured back at camp.
- 10 super-sacks full of entanglement hazard marine debris weighing an estimated 5,000lbs were removed from Kure atoll during the recent camp switch.
- All ten super-sacks were transported to the "M/V Kahana" by use of the "*Alewa*" during the camp switch on April 11th.
- Upon arrival to Honolulu, the super-sacks were delivered by DLNR staff to Shnitzer Steel. Where it could be processed before being delivered to H-Power (Covanta) as part of their "Fishing for Energy" program

Blogs

- Kure staff and volunteers continue to write monthly blogs describing their experiences on Kure atoll. Blogs are posted to Facebook and the Kure atoll conservancy website www.Kureatollconservancy.org.

Hawaiian Culture

- The Huli i kalani! Huli i kahonua! Huli i kekai observation sheet was utilized throughout the season.
- **Oli Komo** -The Winter team answered the "Oli Kāhea" that was chanted by the arriving summer team with "Oli Pane" during the camp switch on April 11th.
- A Hawaiian word of the day board was maintained throughout the season. Hawaiian words were chosen that would reflect current observations, feelings and happenings on the island.

"Reclaiming Kure Atoll's Runway for Seabird Habitat NFWF grant"

- 168.92 were devoted to the Runway project.
- As part of this grant, a one-acre demonstration project was conducted in the West runway turnaround to identify the highest priority areas for restoration, experiment with tools and techniques to reduce flooding, and to develop a safe and efficient strategy for transforming approximately 18 acres of runway habitat in an effort to increase nesting capacity and survival.
- 50 sub-plots, each one approximately 2mx2m, were broken up with the aid of a jackhammer and then capped with sand to create new nesting habitat for seabirds. Open space was left in between sub-plots to accommodate fledging and take-offs for rising seabird populations.
- Native plant species were outplanted at the experiment site to help restore the area and support seabird nesting. Primary restoration plants included: *Scaevola taccada*, *Eragrostis variabilis*, *Eragrostis paupera, Fimbristylis cymos, Ipomoea indica, Ipomoea pes-caprae, Lepturus repens, Pseudognaphalium sandwicensium var. sandwicensium, Sesuvium portulacastrum, and Solanum nelsonii*
- The summer team is continuing to work on this exciting project.