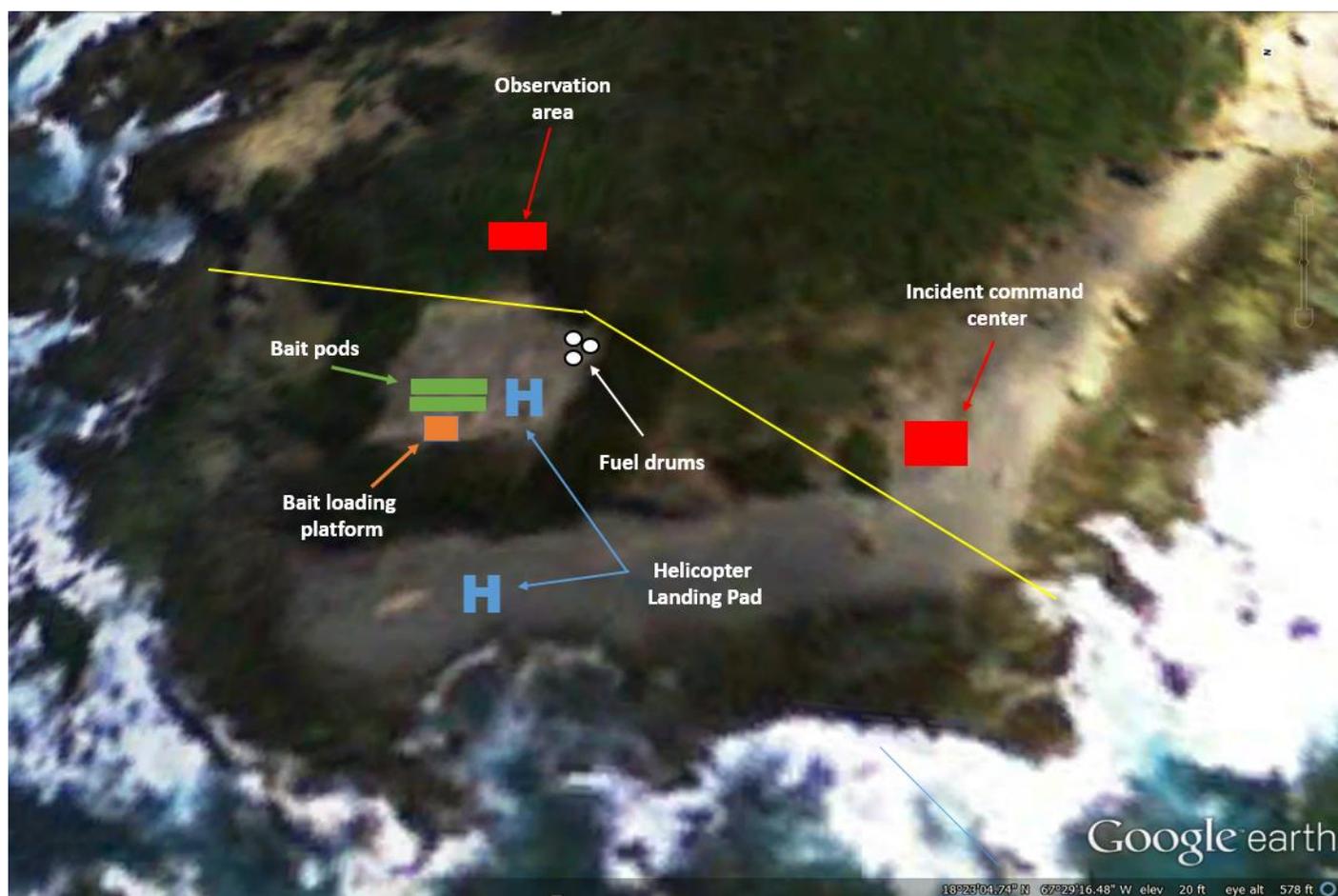


## APPENDIX K: HELICOPTER BAIT SPREADER BUCKET LOADING LOGISTICS

### 1. Bait Loading Site (Desecheo Island)

The bait loading site will be located on the West corner of Desecheo Island and shall include the concrete pad and a portion of the flat beach area below. The bait loading site will consist of one bait bucket loading platform, one refueling zone, and one alternate landing pad (Figure 1). Full bait pods will be transported to the bait loading site and set-up in a strategic layout (as shown in fig 1) prior to the aerial baiting operation. The bait pods will be set up in an L-shape that allows the team to quickly carry bait bags to the bait loading platform in between bait spreader bucket re-loads. The concrete pad (helipad) will serve as the primary landing pad and loading zone, the flat rocky beach area below the helipad will serve as an alternate landing pad. Some clearing of vegetation may be required in order to make the site better suited to loading the bait bucket and flying heavy external loads from the concrete helipad. This may include removing sea grapes from the perimeter of the helipad. FWS and the baiting pilot will be consulted prior to proceeding with vegetation removal; equipment necessary for vegetation removal will be on-site and available throughout the operation.

**Figure 1.** Bait loading site layout. The operational portion of the bait loading site will include the entire concrete pad on Desecheo. Bait pods will be lined up in two parallel rows, the distance between the bait pods and the outer edge of the pad will be approximately 10 meters, allowing the helicopter enough room to set down in the event of a mechanical failure. Fuel drums will be staged in the southeast corner of the pad. The primary landing pad for the helicopter will be the southwest corner of the pad and the alternative landing site will be the beach area below. The yellow line indicates the boundary that non-Air Ops personnel will not cross while the helicopter is in operation.



### ***Incident Command Center***

An Incident Command Center (ICC) will be established adjacent to the load site to monitor bait loading and aerial baiting activity during operations. The equipment at the ICC will include, but is not limited to: computers and printers (including backup sets), relevant maps, a satellite phone, and VHF radios.

### ***Operational Observation Area***

An observation area for the bait loading site will be established outside of the staging site operational area that will allow the safety observer and non-operational personnel to observe operations. A location overlooking the concrete helipad operational area from 200 feet away has been suggested but is subject to change at the request of the safety observer, Incident Commander, Operations Section Chief or Air Operations Supervisor or pilot.

### ***Fuel storage and handling***

Sufficient Jet A-1 helicopter fuel will be transported to the island prior to each baiting operation, in DOT hazmat rated 55 gallon drums. While on Desecheo Island drums will be stored on specialized secondary containment pallets designed to capture fuel in the event of a spill. If a spill does occur the fuel spill protocol will be followed as outlined in **Appendix T: Fuel Spill Protocols**. Empty drums will be slung off the island during the demobilization phase of the Operation.

### ***Refueling***

Helicopter refueling will occur in the designated fueling areas at the staging site and the bait loading site. Fueling will be carried out from 55 gal drums. During baiting operations the helicopter will be shut down completely for each refuel. The refueling system will be an electric pump that runs off an external battery; a manual pump will be on hand as a backup. Only qualified and authorized personnel will be present at the refueling site during helicopter refuels. Only the engineer or pilot are to undertake refueling. One member of the bait loading team will be tending a fire extinguisher at a designated site 50 feet from the refueling operation.

When the helicopter is refueled during baiting operations, the bait bucket motor will be refueled with unleaded fuel dispensed from a small jerry can.

To control spills, self-closing nozzles will be used and not blocked open or dragged along the ground. Additionally, a fuel spill kit will be available at both sites to manage any spillage onto the ground.

## **2. Aerial Broadcast Implementation**

### ***Authorization to Commence Operations***

Prior to initiating the aerial baiting operation, an operation checklist will be completed by the Air Operations Supervisor, and reviewed by the Operations Section Chief and Baiting Leader. The checklist shall include, but not be limited to:

- Helicopter, buckets, and associated equipment tested and ready
- Pilot briefed and ready to commence
- Safety equipment and procedures in place
- Fueling location prepared
- Trial run of loading procedure completed.

The checklist will also be reviewed and approved by the Operations Advisory Group in advance of baiting operations. Following approval by the Incident Commander, the authorization to commence aerial baiting operations will be given to the baiting pilot. The Operations Section Chief will be responsible for providing details of flight activities for the day, while the decision to fly on any given day will be made by the Incident Commander. Ultimately, the final decision to proceed with an approved flight will be made by the helicopter pilot and will depend on suitable weather conditions for safe, effective baiting.

## ***Daily decision to apply bait***

### ***Weather conditions***

Before dawn each day the Operations Advisory Group will consult on local weather conditions and forecasts to assess whether they are suitable for baiting. If conditions are deemed suitable, the team will proceed with preparation and positioning for baiting. The Incident Commander will be advised if weather conditions are unsuitable or if there is disagreement within the OAG about whether to proceed.

Poor weather conditions may cause baiting operations to be halted, changed, or delayed. Daily baiting will be delayed (or discontinued if flying has already commenced) if the weather is unsuitable, and/or the pilot feel it is no longer possible to continue flying in a safe manner.

Weather conditions in which baiting may be halted or delayed are:

- wind speeds in excess of 25 knots, with an evaluation of the terrain and impact of the wind conditions
- visibility conditions in the area being treated are obscured, inhibiting the pilot's ability to safely operate
- conditions of heavy rain (loading bait buckets in rainfall may cause "gumming" of bait and potentially cause bait bucket to jam or clog)

### ***Other reasons for delay***

Illegal activities on or adjacent to Desecheo Island could halt or delay operations. In this event, the decision to initiate or continue flying operations that day will be determined by the Incident Commander.

## ***Bait-bucket Loading Procedures***

Bait Loading Team will consist of:

- Air Operations Supervisor (site controller)
- Baiting Leader
- Bait loader 1 / Bait bucket technician
- Bait loader 2
- Bait loader 3
- Bait loader 4

The Bait Loading Team will comprise of five loading staff plus the Air Ops Supervisor; provision will be made for other project staff to be involved as and when required at the loading site. Bait loading will be done manually with a team of five personnel with the AOS present to oversee operations. Four of the bait loading team will already be present on island after the external load operation, the remaining two will be transported to Desecheo on an additional personnel flight or marine transport.

Only four bait loaders will be on the bait loading platform at a given time, the additional bait loader will stand clear of the loading platform during active bait loading operations. The Air Operations Supervisor will oversee the bait loading operation from a strategic position allowing observation of the loading operations while being in sight of the pilot. The additional bait loader will be standing by to assist the bait bucket technician in refueling the bait bucket motor, if a bag is lost, or something else occurs. The Air Operations Supervisor will oversee the load site set up and assist in prepping for bucket loads while the helicopter is baiting or on the ground during refuels. The Air Ops Supervisor will instruct the bait loading team to clear the bait loading platform and the helicopter to shut down after the first load for each drop day and then every 5 loads after that to download GPS data and discuss baiting progress.

The bait spreader bucket will be filled with bait directly from pre opened 50 lb. (22.7kg) bags. A secure loading platform will be created with full or empty pods for emptying bags into the bucket, this will be referred to as the bucket loading platform; the bucket loading platform may be moved as pods are emptied. Two further sheets of plywood or equivalent may be used on the bait pod setup, to provide a stable platform for the team emptying bags into the bucket. If plywood

sheets are used they will be secured down to ensure they don't get caught in the rotor draft. Up to sixteen pre-opened bait bags (360kg load) will be arranged on the top of the loading platform in readiness for the next bucket. It will be up to the pilot to communicate the desired bucket load weight to the Air Operations Supervisor who will then direct the team to have only the required number of bags of bait on the platform.

Bucket loading sequence:

- Staff will open bait pods and place full bags of bait onto the top of the loading platform, making sure that all lids are secured shut after removing bags.
- The bags will be arranged in 2 rows of bags on each side of a small clear area in the middle, and pre-opened in readiness.
- The pilot will communicate to the Air Operations Supervisor when inbound to the bait loading site for a bucket load.
- The Air Operations Supervisor will be present in a location that allows observation of the loading team and line of sight with the pilot.
- The Air Operations Supervisor will confirm with the pilot that the loading site is ready for his arrival- bait and loading team in place, no additional risks (pod lids open etc).
- When the helicopter is at the bait loading site only four people will ever be under the helicopter. The extra bait loader will be tending a fire extinguisher or standing clear of the loading site.
- 2 bait loaders will be positioned on top of the loading platform ready to put bait in to the bucket while 2 others will be on the ground in front of the platform ready to position the bucket and receive empty bait bags.
- When the bucket arrives the two loaders on the ground will grab the bucket by the frame and guide it next to the loading platform
- The Baiting Leader will check the bucket every time it comes in to ensure there is approximately 10 kg of bait remaining in the bottom. The Baiting Leader will relay this information to the Air Operations Supervisor.
- Once the bucket is next to the loading platform the two loaders standing by on top of the loading platform will lift and empty each bag into the bucket.
- The two staff on the ground will grab and secure the empty bags from the loaders as they become available. The two staff on top of the loading platform will maintain positive contact with the bag and not let go until the bait loader on the ground has securely grabbed the bag.
- The bait loaders will hold bags against their chest, ensuring that one arm is always holding onto the bags as they reach to grab another, until the helicopter departs the bait loading site, at which point they will deposit the bags into an agreed upon and secured empty bait pod.
- Once all bags have been emptied into the bucket the two staff on the platform will ensure the bucket lifts off the platform smoothly by holding the frame and guiding it away from the loading platform.
- Between bucket loads the loading team will manage the opening of the next bait pod, prepping the site for the next load, the security and storage of the empty bait bags and any other debris. It will be up to the Baiting Leader to ensure staff stay on task and prepared to receive and load the bucket at any given moment. The Baiting Leader must confirm to the Air Operations Supervisor that they are ready before the pilot is given the approval to come in to refill.
- Remaining time will be spent either resting or carrying out duties such as bucket maintenance and GIS management. Team members will be rotated as needed to reduce the risk of heat exhaustion, injury, etc.

A key aspect of safety on the loading sites is the securing of empty bait bags. These can cause extensive damage if drawn up into the rotors after being caught in the rotor wash. Empty bags will be secured by two designated loading team members then placed in a bait pod designated for this purpose and far enough from the loading site to not be affected by rotor wash. Emptied bait pods and pods that are filled with empty bait bags will be moved as needed during refuels. One of the key roles of the Air Operations Supervisor will be to ensure the pace of loading is conducted at a rate that empty bags and maintaining the load site clear of debris can be managed.

The helicopter pilot will communicate with the Air Operations Supervisor to indicate how much bait they want in each individual load, taking into consideration the site to be baited. The bucket should return to the load site with some bait – approximately 10kg, left in the bottom to demonstrate that no gaps were produced through running out of bait. **If the**

**bait bucket returns empty the Air Operations Supervisor will relay information to the Operations Section Chief and notify the helicopter pilot that the previous line needs to be rebaited.**

All project staff will be required to wear high-visibility vests and designated personal protective equipment (PPE) at all times while at the loading site. Further details are provided in the Helicopter Safety Plan, Appendix L.

### *Bait bucket refueling*

The bait bucket will be refueled by the bait bucket technician every time the helicopter refuels; every 5<sup>th</sup> load when the GIS information is downloaded and checked or every 45 minutes, whichever occurs first. A five gallon canister of 89 octane unleaded fuel and funnel will be on the bait loading site, there will also be small bottle on site full of 1 liter of fuel to fill the bucket while loading bait if necessary.

### *Aerial Data*

#### *Monitoring Sow Rate*

On arrival at the bait loading site at each bucket reload, the helicopter pilot will communicate via radio to the Air Operations Supervisor the area (measured in ha) that has been treated with bait. This is cumulative. The Air Operations Supervisor will record this information into the bait-application monitoring spreadsheet and calculate the sow rate achieved by each bucket load.

#### *Deviations from Target Sow Rate*

The Air Operations Supervisor will ask the pilot to adjust flight speed if the reported sow rate is between 2 and 5 kg/ha from the target sow rate.

The Air Operations Supervisor will notify the Operation Sections Chief immediately if the reported sow rate is more than 5 kg/ha from the target sow rate. The Air Ops Supervisor will also instruct the bait loading team to clear the loading platform and the pilot to set down the helicopter. The Operation Sections Chief would call for a halt in operations and check the bait application data (bait used, area covered etc) then consult with the Operations Advisory Group about how to achieve the target application rate before resuming operations.

### *GPS*

On aerial baiting days, the helicopter will halt operations and set down and GPS information will be downloaded after the first load, then after every five bucket loads applied by the helicopter pilot. To download the GPS information the helicopter will shut down and the Air Operations Supervisor will collect the GPS TracMap information from the pilot and give to the GIS Specialist/Operational Section Chief. The GIS Specialist will produce bait application maps and interpret the data looking for any possible errors in flight lines, GPS logging, or bait application rates. Operations will not resume until the GPS information has been reviewed by the *Operations Advisory Group* and approval to resume given by the *Operations Section Chief*. During this review the helicopter pilot will provide a quick assessment of the aerial baiting operation including: weather conditions, wind, bucket operation, bucket loading and general observations.

### *Off-Island Support (PR based)*

A designated off-island support person will be positioned at the Aguadilla airport during aerial baiting, to serve as off-island support for the aerial operation. The main responsibility of this position is to respond to and coordinate response to emergency situations and urgent mechanical or operational incidents.