

Wildlife Hazing & Monitoring Data Collection Protocols - **DRAFT**

OBJECTIVES

1. Document response of gulls to various hazing techniques both passive and active
2. Document impacts of hazing techniques on non-target species, particularly marine mammals
3. Accurately assess the efficacy of various hazing methods

COMMUNICATION

During this trial, field staff will primarily be working in two person teams. Each team will consist of a designated hazer and a wildlife monitor. There will be a total of four teams, each responsible for “policing” their assigned hazing sector and enacting various hazing methods when necessary (see Trial Plan for more general information). In order to accurately assess all wildlife response to the various hazing methods, it will be necessary to maintain good communication between each hazer and their assigned monitor as well as between the different hazing teams and the hazing coordinator. This will help to ensure the safety of all island personnel as well making sure that all the necessary data is recorded. The Hazer and Monitor may not always be together and there may be times when multiple monitors are required for a single hazing event. Therefore, all personnel will be required to carry handheld radios and use them as the primary form of communication.

MONITORING

In general, monitoring data will be collected in specified field notebooks or data sheets that will be set up prior to the start of the Hazing Trial. The section below details the data collection methods and types of data to be collected.

I. PASSIVE HAZING

The purpose of these checks is to assess gull and pinniped response to passive (i.e. non-manned, stationary) hazing methods including Kites, Effigies, Biosonics, Mylar and Zon Cannons. There will be a **Passive Hazing** Rite-in-the-Rain Field Notebook for each Hazing Sector where you will record all observations.

A. Deployment of Passive Hazing Devices

On the first day of the hazing trial, a series of Passive Hazing Devices will be deployed at predetermined locations around Southeast Farallon and West End Islands (consult the Hazing Coordinator and the Field Trial Plan to determine these locations). At the time of deployment, record in your field notebook the following information:

1. **Hazing Sector** – Record the number of the Hazing Sector where the device is deployed
2. **Treatment Area** - Specific location where the hazing treatment occurred (see Map for area designations)
3. **Treatment Type** - Record the specific type of hazing treatment deployed (i.e. kite or effigy)

4. **Install Date** – Record the date the hazing treatment was originally deployed
5. **Installed by** – Record the 1st initial and last name of the person who deployed the device
6. **GPS coordinates** – Record the Northing and Easting coordinates that represent the location of the hazing device after it has been deployed

In addition, you should put out markers at distances of 25 and 50 meters from the hazing device. These will aid observers in assessing their effective radius. All Passive Hazing Devices will be mapped using their GPS coordinates and checked throughout the Hazing Trial to determine their initial effectiveness as well as how long it takes for gulls to become conditioned to their presence.

At the end of the trial, return to all sites to remove the hazing devices. At this time you should also fill in the **Removal Date** and **Removed By** (1st initial last name) fields in the **Passive Hazing** field notebook.

NOTE: Be aware of any marine mammal presence when deploying the Passive Hazing devices. If there are Marine Mammals nearby, we must record any disturbance caused by our activity or the Passive Hazing Device. ***Coordinate with the designated monitor for your Hazing Sector and be sure they are ready to record any disturbance before you enter an area with Marine Mammals*** (See Section III below for additional information).

B. Passive Hazing Checks

Once every two hours throughout the day, each team will survey all the passive hazing sites within their designated hazing sector. Many of these will be able to be checked from distant vantage points such as Lighthouse Hill or Maintop while others may require visiting the site due to obstructed views or poor visibility conditions. If you do have to go to a site to conduct the survey, be sure to approach carefully or to observe from a safe distance where you will not unintentionally influence the effectiveness of the passive hazing device.

For each passive hazing device, record the following information in the **Passive Hazing** Rite-in-the Rain Field Notebook:

1. **Date** - Record the date you performed the check
2. **Time** - Record the time (24 hr format) that you checked the Passive Hazing Device
3. **Treatment Area** – Record the specific location where the hazing treatment occurred (see Map for area designations)
4. **Hazing Treatment** – Record the specific type of hazing treatment deployed (i.e. kite or effigy)
5. **Observer** – Record the 1st initial last name of the person doing the check
6. **25 m** – Record the number of gulls within 25 meters of the hazing device
7. **50 m** – Record the number of gulls within 50 meters of the hazing device. Note: This is additive, so count the number within 25m, record that number and then continue counting the remaining number of birds within the 50m radius

8. **Notes** – Record any additional pertinent information including any information on the condition of the Passive Hazing Device that may affect its effectiveness (i.e fallen down, kite torn etc.), presence of other species, or any additional active hazing that was conducted nearby

NOTE: Starting during Phase 3 of the trial, we may conduct Active Hazing after completing the Passive Hazing check. Please be sure that all data for the Passive Hazing survey has been collected **before** initiating any Active Hazing.

II. ACTIVE HAZING

Beginning during Phase 3 of the trial we will be conducting Active Hazing of all gull roosts on Southeast Farallon and West End Islands. Active hazing includes human presence, moving kites or effigies, helicopter passes, Lasers and pyrotechnics. During Active Hazing, there is more data to collect and each team member will be responsible for specific data collection tasks. **In general, the Hazer will be responsible for tracking hazing effort and the number of supplies used while the Monitor will be responsible for recording animal responses to hazing.** During Active Hazing, there may be many things happening at once and it will be crucial for the Hazer and Monitor to work together to ensure that all data is collected. In some instances the Hazer may be asked to help keep track of wildlife movement or behavior or multiple Monitors may be assigned to help assess wildlife response for a single hazing event.

Note: Before conducting any hazing activity, it is the responsibility of the Hazer to contact their designated Monitor(s) and ensure that they are positioned and ready to record wildlife response.

Each hazing team will “police” their designated Hazing Sector to look for roosting gulls and conduct any hazing actions necessary to keep the maximum number of gulls off of their sector for the duration of the hazing trial. In addition, the hazing team may be deployed at any time to a specified area at the direction of the Hazing Coordinator. This is most likely to occur if gulls are persistently roosting in a particular spot or if another hazing team requires assistance.

A. Hazing Data

Whenever any Active Hazing is to occur, the Hazer must record the following information in the **Active Hazing** Rite-in-the-Rain notebook for their Hazing Sector:

1. **Date** - Record the date the hazing occurred
2. **Time** – Record the time (24hr format) of specific hazing activity
3. **Treatment Area** – Record the specific location where the hazing treatment occurred (see Map for area designations)
4. **Passive Hazing Present** – Record all existing passive Hazing devices in area where Active hazing is going to occur
5. **Hazing Treatment** – Record the specific type(s) of Active Hazing treatment employed (i.e. moving kite, helicopter or pyrotechnics)
6. **Supplies Used** – Record the total number of each type of Active Hazing treatment used (i.e. 5 caps, 3 bangers, 1 mobile kite)

7. **Notes** – Record any additional pertinent information including any information on the wildlife behavior observed, impacts on non-target species and performance of pyrotechnics

It is the responsibility of the Hazer to keep track of all **hazing** supplies checked out and used throughout the course of the day and to ***double check their numbers against inventory when they are finished hazing.***

As noted above, the Hazer may also be asked to assist with wildlife monitoring, but the Monitor will be responsible for all data recording.

B. Wildlife Monitoring Data

Whenever any Active Hazing is to occur, the Monitor must record the following information in the **Wildlife Response** Rite-in-the-Rain notebook for their Hazing Sector.

1. **Date** - Record the date the hazing occurred
2. **Time** – Record the time (24hr format) of specific hazing activity
3. **Treatment Area** – Record the specific location where the hazing treatment occurred (see Map for area designations)
4. **Hazing Treatment** – Record the specific type of hazing treatment employed (i.e. moving kite, helicopter or pyrotechnics)
5. **Initial Gull Count** – Record how many gulls were present before hazing is initiated
6. **Gull Response** – Record the approximate **Percent** of gulls from the initial count that exhibit each of the three categories of response: none, alert, or flush (i.e. 25% no response, 50% alert, 25% flush)
7. **Flight Response** – For birds that flushed, record the approximate **Percent** of gulls which departed the island, moved to another area, or circled and returned to the same area. (i.e. in response to the hazing, 30% ***of the birds that flushed*** departed the island, 70% moved to another area and 0% returned)
8. **Notes** – Record any additional pertinent information including other species response or other gull roosts affected. Also, always note if Marine Mammals are disturbed as a result of hazing. The Marine Mammal Monitoring data will be recorded in a separate notebook but this will help to link the gull and pinniped data to the same hazing event (see section III below).

III. MARINE MAMMAL RESPONSE MONITORING

It is extremely important to record **ALL** Marine Mammal response to any Active or Passive Hazing. This is required under the Marine Mammal Incidental Harassment Authorization (IHA). Therefore, whenever you are entering an area, deploying a Passive Hazing Device or conducting Active Hazing, where ***Marine Mammals are or may be present, you MUST coordinate with the designated monitor for your Hazing Sector and be sure they are ready to record any disturbance.***

The Monitor responsible for observing Marine Mammal response will record the following information in the **Marine Mammal Monitoring** Rite-in-the-Rain notebook for the designated Hazing Sector.

1. **Date** - Record the date the hazing occurred
2. **Time** – Record the time (24hr format) of the specific hazing activity, deployment of Passive Hazing Device or entry to an area where Marine Mammals are present
3. **Treatment Area** – Record the specific location where the hazing treatment occurred (see Map for area designations)
4. **Initial Count** – Record the total number of Marine Mammals present *for each species* prior to the initiation of the hazing activity.
5. **Response** – Record the number of animals *for each species* that fall into one of the four response categories (None, Alert, Move >1m or Flush). See definitions below.
6. **Notes** – Record any additional pertinent information such as if animals in an adjacent area are affected or an individual is injured.

Marine Mammal responses will fall into the four general response categories listed below. Do your best to record accurate numbers for each category, but in the case of large numbers or multiple areas affected, you may need to estimate.

None – Refers to any animal that does not react in any discernible way to the hazing event

Alert – Refers to any animal that lifts head, looks around or gets agitated but does not move from their starting location (i.e. less than 1m)

Move >1m – Refers to any animal that moves more than 1 meter in response to a hazing event but which doesn't go all the way back into the water

Flush – Refers to any animal that exhibits a strong response to a hazing event and departs the area, typically by completely abandoning their haul out area and returning all the way back into the water

These can be thought of as different degrees of disturbance to hauled out animals with Alert being the most mild and Flush being the most severe. Each successive category necessarily contains the others within it (i.e. an animal that flushed must also have moved and alerted), so each animal only needs to be assigned to the most severe applicable category. The total across all categories plus the total number of animals that show no response should be equal to the total from the initial count.

IV. DATA ENTRY

At the end of each day, one to two people will be assigned to enter all of the data into the corresponding Excel spreadsheet. ***Always update the computer files after each day! This is important to be sure that no data is lost if your field notebook should blow away, get misplaced or become hopelessly covered in guano.***

Additionally, make a photo copy of each field notebook each day to keep as a backup. It is not necessary to copy the entire notebook each day, but be sure to copy any new records added since the last time the book was copied. Write the date on the top of the copy and place in the designated file for archiving.

