

Standard Operating Procedure 02

Inspection of Vehicles, Construction Materials, Scientific Equipment, & Supplies

Version 1.1, 2/10/2015, Jessica Kirkpatrick & Fritz Klasner

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1. Purpose and Scope

This standard operating procedure (SOP) is designed to reduce the risks from the introduction of invasive species to University of Hawai'i (UH) managed lands. As outlined in the 2009 Maunakea Comprehensive Management Plan (CMP), inspection and cleaning of construction and scientific equipment is required prior to traveling beyond the Saddle Road / Maunakea Access Road junction. This SOP refers to loads, deliveries, packages, construction materials, scientific tools and equipment that will be used on Maunakea. This SOP only applies to UH Managed lands on Maunakea, regardless of destination (i.e. it applies to users accessing the Natural Area Reserve through UH Managed lands). Cleaning of vehicles with 2 axles or less are described in *SOP 01: Cleaning of Vehicles and Personal Belongings*. Guidelines within this SOP include separate requirements for small containers and packages, packages or containers stored outdoors or indoors on an unpaved surface including construction materials, aggregate, equipment, supplies, equipment stored or staged at Halepōhaku, and containers or packages stored indoors. These guidelines do not apply to private vehicles that are not engaged in an activity covered by a permit (CDUP, Special Use, etc.).

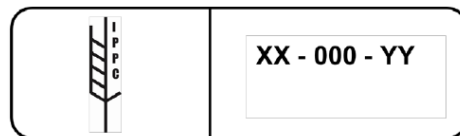
2. Preparation

Those shipping or traveling to University managed lands are **encouraged** to:

- Review International Standards for Phytosanitary Measures #23 “Guidelines For Inspection”, prepared by the Secretariat of the International Plant Protection Convention, <https://www.ippc.int/publications/guidelines-inspection>
- Self-inspect deliveries at point of origin. This does not alter inspection requirements below.
- Maintain clean storage, workshop, and shipping locations that are free of invasive plants, insects and other animals.
- Plan accordingly as an inspection by a DLNR-approved biologist may be required. Maintain a location for inspections that is free of plant, animal, or earthen material; regularly treated for invasive species; with suitable cleaning supplies (vacuums, running water, etc.) available to take remedial action when concerns are identified during inspections.

When shipping supplies and equipment to UH managed lands, operators are **required** to:

- Use **bark-free wood** as identified in International Standards for Phytosanitary Measures (ISPM) #15 “Regulation of Wood Packaging Material in International Trade”, prepared by the Secretariat of the International Plant Protection Convention (IPPC), <https://www.ippc.int/publications/regulation-wood-packaging-material-international-trade-0>.



Example mark (above) found on wood meeting the treated **and** bark-free requirement of ISPM #15. This mark is not required, but is encouraged (treatment to ISPM #15 standards is not available in the State of Hawai`i as of January 2015).

- **Minimize materials** and dunnage included to the minimum required for safe and secure delivery. If minimizing materials is not possible, then be prepared to remove packing materials for any inspection.
- **Clean vehicles and deliveries:** Cleaning includes removal of all plant, animal, and earthen materials on supplies and equipment prior to arrival on UH managed lands. See *SOP 01: Cleaning of Vehicles and Personal Belongings* for cleaning details.
- **Maintain vehicles and equipment:** Ensure that equipment and vehicles are in good working condition and are free of leaks (hydraulic, transmission, radiator, fuel, motor oil, etc.).
 - Once cleaned and inspected, if diverted to another job outside of UH managed lands, vehicle and cargo must be re-cleaned and re-inspected prior to returning to Maunakea. See *SOP 01: Cleaning of Vehicles and Personal Belongings* and this SOP for details.
- Schedule a re-inspection if **equipment is stored at Halepōhaku:** Those that plan on staging or storing equipment or supplies at Halepōhaku, destined for the summit, for 4 days or more are required to **schedule a re-inspection** of the staged item(s) before proceeding above Halepōhaku. Please plan accordingly.

3. Equipment, Materials, Supplies, & Load Guidelines

1) Aggregate materials:

- a) Aggregate and fill materials **must** be *inspected by a DLNR-approved biologist* for plant, animal, and earthen materials. The load itself **and** the site where aggregate and fill materials were extracted or stored must both be inspected. The vehicle carrying the aggregate or fill material and tools for handling/manipulating aggregate must follow vehicle procedures stated in *SOP 01:*

Cleaning of Vehicles and Personal Belongings, as well as this SOP, and be inspected by a DLNR-approved biologist. If plant, animal, or earthen materials are found in aggregate or fill materials, the vehicle and entire delivery are not allowed on UH managed lands until materials are re-inspected and approved for use on Maunakea. Aggregate and fill materials must be inspected within 4 days (96 hours) prior to arrival on University lands.

2) Items Stored Outdoors or Indoors on an Unpaved Surface (not including shipping and port holdings)

Items stored outdoors, or indoors on unpaved surfaces, have a greater chance of hosting invasive species. See *SOP 01: Cleaning of Vehicles and Personal Belongings* for cleaning details. An approved inspection certificate is required to proceed onto UH managed lands.

a) Construction Supplies and Materials (i.e. equipment, vehicles with three (3) or more axles, lumber, steel, wiring or cables, earth moving equipment, etc.):

- i) **Cleaning:** All construction supplies and materials must be cleaned before arrival onto UH managed lands.
- ii) **Inspection:** All construction supplies and materials stored outdoors or on unpaved surfaces must be inspected by a DLNR-approved biologist after cleaning. If plant, animal, or earthen materials are observed, then the cleaning and inspection process must be repeated. All construction supplies and materials must be free of plant, animal, and earthen materials before arrival on UH managed lands. Inspections must occur within 4 days (96 hours) prior to arrival on University lands.

b) All Other Containers or Packages stored outside or on an unpaved surface, regardless of size:

- i) **Cleaning:** All items stored outside or indoors on an unpaved surface for at least 4 days must be cleaned before arrival on UH managed lands.
- ii) **Inspection:** All items, regardless of size, stored outside or indoors on an unpaved surface must be inspected by a DLNR-approved biologist for plant, animal, and earthen materials. Large and small items must be inspected within 4 days (96 hours) prior to arrival on UH managed lands.

3) Stored Indoors (items stored outdoors or indoors on an unpaved surface must refer to #2 above):

a) Small containers/packages (maximum 4m (156") girth and not to exceed 90kg (200 lbs)):

- i) **Cleaning:** All small containers or packages (less than or equal to 4m (156") girth, 90kg (200 lbs)) stored indoors should be cleaned before arrival on UH managed lands.
- ii) **Inspection:** all small containers must be inspected for plant, animal, and earthen materials by the carrier no more than 4 days (96 hours) prior to arrival on University lands. Reporting is not necessary unless plant, animal, and or earthen materials are encountered.

b) Large containers / packages (shipping containers, open freight, and large packages (greater than 4m (156") girth and/or weighing more than 90kg (200 lbs)):

- i) **Cleaning:** All large containers stored inside must be clean before proceeding above the Saddle Road junction and arrival on UH managed lands.
- ii) **Inspection:** All large containers, packages, and materials must be inspected by a DLNR-approved biologist for plant, animal, and earthen materials. Items must be inspected within 4 days (96 hours) prior to arrival on UH managed lands.

4) Staged or stored outdoors at Halepōhaku for 4 days or more, and destined for the summit

The Halepōhaku area has multiple ant (*Cardiocondyla kagutsuchi*) populations, and staging or storing equipment outdoors at Halepōhaku for 4 days or more increases the threat of contaminating stored item(s). Therefore, items stored outdoors for 4 days or more must be re-inspected prior to proceeding above Halepōhaku, including storage on a vehicle.

- i) **Inspection:** Items destined for the summit that is staged or stored outdoors or on a vehicle at Halepōhaku for 4 days or more **must** be *inspected by a DLNR-approved biologist* for animal plant, and earthen materials. These items must be inspected within 4 days (96 hours) prior to proceeding above Halepōhaku.

5) Routine Deliveries and Equipment Use

Many deliveries (such as water, portable toilets, compressed gasses, Keck mirror segments, etc.) and equipment uses (such as MKSS utilities snow removal, road grading, etc.) occur regularly. OMKM will work with these routine entities to certify that equipment is stored in invasive species free sites and appropriately maintained. This invasive species maintenance at their storage site, including Halepōhaku, is the responsibility of the partner entity, not OMKM.

- i) **Cleaning:** All applicable cleaning criteria still apply. See *SOP 01: Cleaning of Vehicles and Personal Belongings* for details. Portable toilet contents may only include: hand cleaning solution that does not necessitate wiping dry (i.e. waterless hand sanitizer), toilet paper, and non-formaldehyde based deodorizing solution; and must be clean and unused with a secondary door retainer.
- ii) **Inspections with routine entities include 3 phases:**
 - (1) **Site Inspections:** After an initial meeting and program review with OMKM, all company-owned staging or storage sites used by the company will be *inspected by a DLNR-approved biologist* at least annually and without advance notice. Sites must be free of invasive plant species (plant and animal), and if species are present a treatment plan devised and implemented by the partner entity, approved by OMKM, and treatment records shared according to the treatment plan.
 - (2) **Vehicle Inspections:** Highway licensed vehicles will be inspected during the site inspection(s) and again at random times on UH managed lands, as opposed to concurrent with each entry onto UH managed lands. Those failing inspections on UH managed lands will be subject to penalties outlined in *SOP 01: Cleaning of Vehicles and Personal Belongings*.
 - (3) **Equipment & Cargo Inspections:** At present the only potential cargo suited for routine delivery is water, compressed gasses, portable toilets, and Keck mirror segments. The only equipment (unlicensed vehicles) suitable for routine delivery processes is MKSS road maintenance equipment permanently stored at Halepōhaku.
- iii) Anyone wishing to approve other vehicles, cargo, or equipment for routine delivery should contact OMKM.

4. Corrective Action

If plant, animals, or earthen materials are observed on vehicles, equipment, or supplies on UH managed lands at any time, the operator is to stop, confine the material(s), remove the contaminated item(s) from UH managed lands if they cannot be contained, and report any remedial actions taken to OMKM within 12 hours. (This requirement does not extend to typical road dust, etc. that accumulate while on UH managed lands). Containment of insect, soil, or plant material may be completed by placing it in a sealable plastic, glass, or similar container and share with OMKM for identification. Do not brush it off onto the ground, roadside, or into the trash. The contaminated package or delivery is not permitted to proceed to University lands, until re-inspected and *approved by a DLNR-approved biologist*.

5. Inspectors

As stipulated in the 2009 Maunakea Comprehensive Management Plan, inspectors must be a biologist, recommended by OMKM, and approved by the Department of Land & Natural Resources (DLNR). To be recommended by OMKM, a biologist must:

- 1) Attend Maunakea resource orientation,
- 2) Review the Maunakea Invasive Species Plan and all associated materials, including IPPC information.
- 3) Participate in one or more inspections with OMKM invasive species program staff for training purposes.
- 4) Demonstrate knowledge, training, and understanding of invasive species.
- 5) Be able to identify common invasive species threats.

DLNR-approved biologists for Maunakea invasive species inspections are:

Name	Title	Affiliation	Date Approved
All Inspectors	Hawai'i Dept. of Agriculture, Plant Quarantine Branch		Nov. 5, 2013
Jennifer Randall	NARS Specialist III	DLNR, DoFAW	Pending
Anya Tagawa	NARS	DLNR, DoFAW	Pending
Frederick Klasner	Natural Resource Manager	OMKM	Nov. 5, 2013
Jessica Kirkpatrick	Resource Management Assistant	OMKM	Nov. 5, 2013
Amber Stillman	Natural Resource & GIS Technician	OMKM	Nov. 5, 2013
Darcy Yogi	Invasive Species Student Assistant	OMKM	Feb. 12, 2015
Springer Kaye	Manager	BIISC	Nov. 5, 2013
James Parker	Early Detection Specialist	BIISC	Nov. 5, 2013
Robert Parsons	Early Detection Specialist	BIISC	Nov. 5, 2013
Martha Kawasaki	Biologist	BIISC	Nov. 5, 2013
Nelson Crabbe	Field Associate	BIISC	Feb. 12, 2015
Gizelle Geronimo	Field Associate	BIISC	Feb. 12, 2015
Casper Vanderwoude	Manager	Hawaii Ant Lab	Nov. 5, 2013
Michelle Montgomery	Research Technician	Hawaii Ant Lab	Nov. 5, 2013
Matt Kema	Research Associate	Hawaii Ant Lab	Feb. 12, 2015
Trent Hanzawa	Research Associate	Hawaii Ant Lab	Feb. 12, 2015
Ersel Hensley	Support Technician	Hawaii Ant Lab	Feb. 12, 2015

For more information on who may inspect or to schedule an inspection, visit <http://www.malamamaunakea.org/inspections>, email inspections-grp@hawaii.edu, or call 808-933-0734.

6. Inspection Process

Inspectors look for plant, animal, and earthen materials, as well as hydraulic, transmission, radiator, fuel, and oil leaks on the equipment or vehicle. Inspecting for these items help to ensure the protection of both natural and cultural resources on Maunakea. If the entire delivery can be visually observed and physically accessed by the inspector, then a visual inspection will typically be conducted. Inspectors may however, choose to use bait techniques with such a delivery. The entity requesting the inspection is responsible for identifying an inspection location that is free of plant, animal, or earthen material; regularly treated for invasive species; and has cleaning supplies (vacuums, running water, etc.) available to take remedial action when concerns are identified.

If the entire delivery cannot be visually observed or physically accessed by the inspector, or if the delivery was stored in a contaminated location, or stored for more than 3 months outside, baits will be used as an

attractant. Users should expect a typical inspection duration with baits of at least 1 hour. Baits will combine attractants (jam, spam, and peanut butter [carbohydrate, protein, lipid]) using vials or cards, with at least 5 samples/traps (each with all 3 baits) per delivery.

Inspections are a commercial activity and are not permitted on road shoulders or private property without landowner permission. Inspectors may deny delivery of loads, cargo, or vehicles when the inspection location is known to be contaminated (for example, Argentine Ants (*Linepithema humile*) are known to be present at the Saddle/ Access Road junction). Except for equipment and materials stored at Halepōhaku, inspections must occur below the Saddle Road Junction. Inspections will not occur on State or County road shoulders, State or County Parks, Department of Hawaiian Home Lands, etc. as permission has not been granted.

Items must be inspected within 4 days (96 hours) prior to arrival on UH managed lands.

7. Decision Tree for Inspections



8. Requesting Inspections and Reporting

Inspections are both requested by users with results of inspections by DLNR-approved biologists recorded at <http://www.malamamaunakea.org/inspections>. Each observatory has management access to generate reports of inspection requests and results of inspections conducted by DLNR-approved biologists. OMKM will prepare annual summaries to be included in the Invasive Species Annual Report. Users may review status of requested inspections and results for past inspections at this same location. Reporting of inspections conducted by anyone other than DLNR-approved biologists is not required.

Invasive Species Inspection Certificate

XXXX

Date Inspected: _____

Inspector: _____

Delivery Must Occur by: _____

Destination: _____

Vehicle License (or description): _____

Cargo Description: _____

Cargo inspected at point of origin (Y/N/?): _____ **Comments/Remediation:** _____

Delivery is Approved ----- Rejected (circle one)

**Inspections valid only for stated vehicle, cargo, destination, & time frame (96 hours/4 days).
Please provide this certificate to facility manager (Construction Site Manager).**

For more information please visit: www.malamamaunakea.org/inspections/

Invasive Species Inspection Certificate

XXXX

Date Inspected: _____

Inspector: _____

Delivery Must Occur by: _____

Destination: _____

Vehicle License (or description): _____

Cargo Description: _____

Cargo inspected at point of origin (Y/N/?): _____ **Comments/Remediation:** _____

Delivery is Approved ----- Rejected (circle one)

**Inspections valid only for stated vehicle, cargo, destination, & time frame (96 hours/4 days).
Please provide this certificate to facility manager (Construction Site Manager).**

For more information please visit: www.malamamaunakea.org/inspections/

OMKM Invasive Species Inspection Data Sheet

Inspector OMKM approved inspection biologist	Inspection Location Where was the inspection conducted?	Date/Time of Inspection When was inspection conducted?	Expiration Date/Time of Inspection Inspections are valid for 4 days (96 hours).
Destination Inspections are for a specific destination.	Facility Affiliation Who is this inspection for (for example: TMT, even if the cargo is destined for Keck)?	Facility Representative Who was present from the facility, contractor, etc.?	Vehicle Owner Identify owner: examples: private, Subaru, Isemoto, Oahu AirConditioning, etc.
Vehicle Lic. If applicable, identify License #. If unlicensed, describe.	Cargo Description Briefly describe cargo, if any, applicable to inspection.	Inspection @ Origin? Was the cargo inspected prior to shipping to Hawaii?	Bait (Attractant) used? Identify baits used (i.e. Spam, Peanut Butter, Jam, Cat food, etc.), duration, & quantity
Concerns Identified Identify if any concerns were identified in the inspection (vehicle, cargo, operator, inspection site, etc.).	Remediation Taken Were any remedial efforts made during inspection to pass? If so, describe in detail. As opposed to a delivery rejected for treatment and subsequent re-inspection.	Re-inspection Was this a re-inspection following up from a previously rejected delivery? Yes or No	Approved for delivery Was the delivery approved or rejected? Approved or Rejected
Certificate # _____			Data Entered: _____

9. Emergencies

In the event of an emergency, such as telescope instrument failure with delivery of replacement parts the same day/night, the entity operating under a permit must still *first* submit the inspection request in the online system: www.malamamaunakea.org/inspections and clearly state in the comment field the nature of the emergency, vehicle used in delivery, and describe the cargo delivered (or via email to inspections-grp@hawaii.edu if the online system is unavailable). OMKM may follow up with on-site inspections of the delivery or vehicle, and will summarize emergency deliveries in annual reporting.

Health and safety emergencies are exempt from all requirements and no reporting is necessary.

10. Revision History Log

Previous Version #	Version Date	Author	Changes Made	Reason for Change	New Version #
1.0	May 2012	FLK	Original Procedures	Consistent with comprehensive plan	1.1
Add rows as needed for each change or set of changes associated with each version.					

11. Recommended Citation

Kirkpatrick, J. and F.Klasner. 2015. *Standard Operating Procedure 02, Inspection of Vehicles, Construction Materials, Scientific Equipment, & Supplies*. 9 pp. In: Vanderwoude, C., F. Klasner, J. Kirkpatrick and S. Kaye. 2015. Maunakea Invasive Species Management Plan. Technical Report No. 191. Pacific Cooperative Studies Unit, University of Hawai'i, Honolulu, Hawai'i.