



ARK IN THE PARK LINE MAINTENANCE METHODS

Contents/context.

These methods are to be followed by workers (staff, contractors, and volunteers) when undertaking line maintenance at the Ark in the Park. This includes bait lines, trap lines, and access lines. All other Ark in the Park Health and Safety protocol and kauri dieback protocol should also be followed.

Vegetation maintenance.

Trimming of understory vegetation and cutting back of lianes such as supplejack and kiekie on pest control lines is permitted to allow people to navigate without any major physical barriers. No canopy species (e.g. rimu, kauri, kahikatea) are to be removed, and careful trimming of these species is only permitted where there is no other option.

- Don't avoid cutting taped vegetation if it's in the way; you can tape something else.
- Anything cut from the ground should be cut at ground level. Pictured (top) is an example of what **not** to do:
- Trimming of vegetation at the entry/exit of lines off public tracks should be less thorough to discourage public walking along the lines.
- Pick up and throw cut debris off the line, especially sticks of supplejack.
- Cutty grass: cut at stump level, not only the leaves.
- When cutting something at thigh level, be careful to cut it back as close to the side of the track as possible, so it doesn't obstruct people walking down the line (bottom photo).
- When cutting supplejack:
 - If it's blocking the line, cut at both sides – not through the middle.
 - Cut right down at ground level.
 - Make sure you cut it flat across, **do not leave a sharp tip**.











Maintenance for navigation.

Flagging tape.

- For safe navigation **the next 2 pieces of flagging tape should always be visible** – always place extra tape where needed.
- Pick up all flagging tape you see on the ground and replace faded tape.
- Tapes should be left to hang at about average eye height, with a free hanging length of 10 - 20 cm.
- Tapes should be visible from both directions when placed.
- Attachment to skinnier vegetation conserves tape.
- Bait station locations: mark with a double row of pink tape around the tree (photo: blue line indicates bait line).
- When combining two different tape colours, e.g., blue & yellow for an access line, place them a few cm apart vertically. Don't tie them on together at the same height as they will stick together.







Pink		Bait line
Yellow or Yellow/black		Trap line
Orange		Rat monitoring line
Blue		Research line
Blue/black		Bird nest
Yellow & Blue together		Access line
Orange & Blue together		Invertebrate monitoring line or seed collector
Pink & Blue together		Link between bait lines

Triangles.

- Triangles are attached with fencing staples (4x40mm or 4x50mm).
 - Never attach triangles to kauri.
- The triangle shape should be visible when approaching from either direction, and placed just above average eye height.
- Write on triangles with a tag pen (usually used for marking animal ear tags).
 - The writing surface must be dry.
 - Hold flat while the ink sets - don't attach the triangle until the ink is dry.
- Bait Lines:
 - At each end of the bait line the block name and bait line number should be written on a pink triangle e.g. "IW2".
 - At each bait station the block name, bait line number and station number should be written on a pink triangle e.g. "IW2 14".



Pink triangle		Start/end of bait line or a bait station.
Yellow triangle		Trap site.
Orange triangle		Start/end of rat monitoring line or rat monitoring tunnel.
White triangle		Information: e.g., junction of 2 lines, point of interest, direction of travel.

Ropes.

Ropes are used to assist when navigating sections of steep terrain. Every worker who encounters a rope must check its safety as thoroughly as possible before using the rope for assistance to navigate steep terrain. If approaching a rope from the bottom of a steep section, the attachment at the top must be thoroughly checked after ascending.

- Ropes should always be anchored to a live, stable tree with a secure knot.

- Never attach ropes to tree ferns, dead or sick trees, kauri, or those with precarious stability such as on the edge of a slip face with exposed roots.
- Always check anchoring knots are secure, and do not attempt to adjust or tie a rope if you are not confident with this skill.
- Ropes should have knots every 30-60cm along their length to assist with grip.
- Report any hazards identified to the Ark team the same day you observe them. Examples of hazards include: frayed ropes, ropes without knots for grip, loose or otherwise unsafe attachment to anchoring tree, too short to safely traverse the entire steep section, and slimy/slippery texture reducing grip.
- If you encounter a steep section of terrain where a rope would improve safety of access, note the location (baitline number e.g. "AWN4", and location relative to bait stations e.g. "between AWN4 6 and 7, nearer 7") and the approximate total length of rope required (overestimate if unsure as longer ropes can be adjusted when being installed).

Gear maintenance.

- Give the tools and holding pouches/sheaths a thorough brush, with or without water.
 - Check that there is no mud left at the bottom of the sheaths.
 - Ensure all dirt removed is within kauri dieback cleaning areas.
- Thoroughly clean gear with water and a scrubbing brush making sure to remove all mud and vegetation.
- Spray all gear with Trigene and leave to dry as pictured so liquid will drain.
- For any tools with metal components (e.g., secateurs): after leaving Trigene to dry for 1 minute (or longer if possible), use the tool maintenance kit in the storeroom to oil metal.
- If gear is dry before you leave the Ark base: please return each item to the correct place in the storeroom ready for the next worker.



The following 2 pages are designed to be printed as a double-sided sheet to be carried by any worker undertaking line maintenance.



ARK IN THE PARK LINE MAINTENANCE METHODS

Field Gear (from home):

- Day pack
- Charged mobile phone (optional)
- Outdoor clothes & boots
- Spare shoes & pants (kauri dieback)
- Plastic box/bag for dirty gear/boots in car
- Kauri dieback car & personal IDs
- Spare warm clothes + rain gear
- Food & water + hand sanitiser

Field Gear (from Ark store room)

- Radio (charged & tested) & locator beacon
- First aid kit
- Kauri kit (trigene, brush, in plastic bag)
- Hi-vis Forest & Bird vest
- Line description card(s) + map(s)
- Gardening gloves
- Safety glasses
- Clearing tools: secateurs, saw, loppers
- Navigation maintenance: repair kit, hammer, extra triangles and flagging tape of correct colours
- Compass (optional)

Methods: AT BASE

1. Complete intentions book
2. Collect all gear + record in intentions book
3. Ensure you know line location + safe parking spot if driving

Methods: IN THE FIELD

4. Navigate to line start
5. Follow vegetation & navigation maintenance methods:
 - a. If cutting vegetation low, cut to ground level
 - b. Ensure cuts are flat across, **don't leave sharp tips**
 - c. Be mindful of species being cut – avoid canopy species
 - d. Never attach triangles to kauri
 - e. You should always be able to see at least the next 2 pieces of flagging tape
 - f. Report locations of any ropes in need of maintenance
 - g. Triangles and tape should be visible from both directions
6. Always follow kauri dieback protocol – see below.

Methods: BACK AT BASE

7. Full kauri dieback clean with Sterigene - remove all dirt from all gear including boots, radios, tools
8. Maintain gear; dry radios & place on charge, clean and oil tools, re-stock repair kits, leave note about any 1st aid kit items used
9. Complete intentions book for yourself & returned gear







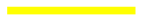





Health and Safety - Key hazards & controls:





- **Field work** - intentions book & missing person protocol, radios & locator beacons, 1st aid kits, maps
- **Rough terrain** - boots, awareness of surroundings
- **Phone numbers:** Ark office 09 810 7014, Ranger station 09 810 8133, Arataki Visitor Centre 09 892 4789.
- **Radio channels:** 5 = line of sight 1, 2, 3, 4 = open channels for Waitākere Ranges & Arataki Visitor Centre.

Kauri dieback reminders:

- Only work within one Zone of Operation per day.
- **Stop, scrub, spray** any time you change area, and leave dirt/mud where it came from - if exiting the forest, scrub before entering a track.
- Changing area means moving from access track to baitline, from track to road, crossing a stream, etc.



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