

RISK ASSESSMENT MANAGEMENT STRATEGY

This document covers the premises managed by Whangarei Museum and Heritage Trust – The nocturnal Kiwi House, the Museum Galleries, the Education Centre and the Heritage Park.

This document does not cover any potential hazards inside and around the 11 clubs & societies that are tenants within the Heritage Park as they are independent organisations.

We are members of the Museums' Association of Aotearoa, hold Zoo and Aquarium Association Australasia accreditation, Qualmark Silver Certification, Tripadvisor Certificate of Excellence, Tripadvisor Traveller Choice Award 2020 and have been recognised by the NZ government as a Strategic Tourism Asset.

We are developing policies for the park using the Health and Safety at Work Act 2016 and Vulnerable Children Act 2014.

Kiwi North and
Partners – Creating
Safe Experiences for
Everyone

Please contact the Educator
education@kiwinorth.co.nz
0275503905 to organise
your courtesy visit.

Educational Visits Risk Assessment Management Strategy (R.A.M.S)

Your Welfare and Preparation for Educational/School Visits

Our team want you, your students and accompanying adults to have a safe, successful and enjoyable visit.

If anyone in your group feels unwell or displays any of the following symptoms please ask them to stay at home: fever, rashes, itchiness, runny nose, runny eyes, coughing, sore throat, nausea, stomach pain, diarrhoea.

If you have been around someone who is unwell please check the exposure and sickness time scales on Appendix 2: *Infectious Diseases - supplementary matrix*

If anyone in your group is immunocompromised please inform us on the booking form. Our staff can take additional precautions to help keep everyone safe. We expect particularly vulnerable visitors to take precautions appropriate to their needs. Older carers, diabetics, pregnant women, people living with rheumatoid arthritis, inflammatory bowel disease, asthma and psoriasis, people taking immunosuppressant medicines and people in remission may fall into this group.

Please:

- Visit the venue beforehand (if practical) to familiarise yourself with the site.
- Distribute information to parents and supervising adults in good time and ensure they are all familiar with the summary on page 3 of this document.
- Involve your students in planning for their visit.

Students should be encouraged to identify behaviours that are most appropriate for their visit. For example the Museum contains significant taonga/treasures from both Māori and Pākehā culture. Students need to be able to demonstrate respect for cultures other than their own by approaching taonga/treasures in appropriate ways as directed by signs and staff in the Museum.

The following is guidance only to make you aware of the risks that have been identified; however, other unidentified hazards could be present. If you do identify any hazards, please make a member of staff aware of the problem so that we can do something about it as quickly as possible.

Risk Assessment Guidance

It is strongly recommended where possible that all teachers make a pre-visit to the venue and carry out their own risk assessment before undertaking an outing with children. In the event that a pre-visit is not practical, this document provides a general outline of risks and controls identified.

The H&S team at MoE recommends that during this period of Covid-19 community infection, schools develop their own specific health and safety plan for managing any EOTC trip.

It is essential that students are supervised throughout their visit in accordance with your governing body's requirements. The ratio on your booking form is NOT a recommendation on the grounds of health and safety. This is a calculation for invoicing purposes, whilst also taking into account the needs of your students based on age and ability, your mode of transport and the level of supervision required for your activities.

We recommend that schools decide on the number of accompanying adults/ratio of adults:children that they need for their students.

Where a student has severe special needs, and a carer is essential, the entry fee of the carer will be excluded from admission charges.

The invoicing ratio will be agreed with you on the Booking Form prior to your visit.

It is essential that your students understand:

- the aims and objectives of the visit
- how to avoid specific dangers and why they should follow the rules - both ours and yours
- why safety precautions are in place and what standard of behaviour is expected
- who is responsible for the group
- what to do if approached by anyone from outside the group
- what to do if separated from the group

Summary for Students

- Take care of yourself and your friends, take care of our flora and fauna, take care of our venue and our taonga/treasures.
- Walk on the paths provided.
- Do not climb trees or walls.
- Respect the creatures that live here.
- Beware that items here may hurt you and can easily be damaged.
- The location of emergency equipment, meeting places, emergency exits, first aid equipment and staff that can help you are signposted – or ask any adult.

Summary for Supervising Adults

<i>Hazard identification</i>	<i>Level of risk</i>	<i>Severity of risk</i>	<i>Ways to minimise risk</i>	<i>Ways to eliminate risk</i>
Vehicles & routes as a hazard	Possibly could happen	Catastrophic	Supervision	Supervision
Emergency situation hazards	Unlikely to happen	Catastrophic	Provision & management	Supervision
Electrical & technical equipment presenting hazards	Unlikely to happen	Catastrophic	Provision & management	Supervision
Civil defence emergencies hazards	Unlikely to happen	Catastrophic	Provision & management	Supervision
Deep water, streams, and ponds as hazards	Unlikely to happen	Catastrophic	Supervision	Supervision
Hygiene cross-contamination as a hazard	Possibly could happen	Major	Provision & management	Supervision
Natural areas hazards	Possibly could happen	Major	Supervision	Supervision
Expansive site as a hazard	Unlikely to happen	Major	Supervision	Supervision
General public as a hazard	Unlikely to happen	Major	Supervision	Supervision
Use of powders, paints, chemicals as hazards	Unlikely to happen	Moderate	Provision & management	Supervision
Climbing and running hazards	Very likely to happen	Minor	Supervision	Supervision
Historic buildings presenting a hazard	Possibly could happen	Minor	Supervision	Supervision
Contact with live animals as a hazard	Possibly could happen	Minor	Supervision	Supervision
Dark areas presenting hazards	Possibly could happen	Minor	Provision & management	Supervision
Activities in confined areas presenting hazards	Possibly could happen	Minor	Provision & management	Supervision
Museum Galleries & displays containing hazards	Possibly could happen	Minor	Provision & management	Supervision
Contact with historical artefacts presenting hazards	Possibly could happen	Minor	Provision & management	Supervision
Handling collection presenting hazards	Possibly could happen	Minor	Provision & management	Supervision
Activities presenting hazards	Possibly could happen	Minor	Provision & management	Supervision
Weather event hazards	Possibly could happen	Minor	Supervision	Supervision
Public areas containing hazards	Unlikely to happen	Minor	Supervision	Supervision

HAZARDS AND RISKS, & CONTROLS

Hazard and risk: Expansive site – becoming lost/disorientated/separated from group

Controls:

- Itinerary/programme for each group gives times and locations of activities. This is provided in advance of visits so that group leaders can be organised
- Map showing location of all venues/buildings provided for supervising adults prior to visit
- Large groups are subdivided into smaller units each under the supervision of a teacher/responsible adult
- Follow footpaths and stick to the marked trails/tracks
- Follow the guide/educator's instructions and directions and stay with your group
- Signage indicates routes from one place to another
- If you become separated from your group, seek help from staff, return to the main building or use the emergency cell phone contact

Hazard and risk: General public – child welfare risk

Controls:

- Each group will have its own school procedure if children are separated from their groups
- Children under 14 years must be accompanied by an adult at all times
- Staff will contact group leaders in the event of children becoming separated from the group. Please provide us with a cell phone number on the booking form
- Recommended that adults in charge of groups of children have a working cell phone with them at all times and that at least one emergency contact number is provided
- Activities that require students to move around the site unaccompanied must be notified to the Educator in advance of the visit
- Students from only one school will visit the site per day. This separates school bubbles and facilitates adequate time for cleaning between visits.
- School groups will be programmed for visits as the only group visiting on any one day – no other community groups will be booked to visit at the same time
- Guidance for managing your visit to a public venue can be found in Appendix 1 – *Covid-19 Guidance*

Hazard and risk: Vehicles & routes – risk of being hit by vehicles

Controls:

- Site speed limit 10 kilometres per hour
- Speed limit signs clearly marked and displayed
- Adherence to this is policy for contractors and visitors alike
- Vehicle access on internal roads are reduced to essential journeys during opening hours
- Vehicle access restricted to certain areas
- Avoid areas in the proximity of buses
- Designated car parks must be used by school groups
- Children must walk in a controlled manner from venue to venue and should limit time in the car-parks
- Children must be accompanied by responsible adults at all times
- Visitors should use footpaths, not roads, wherever possible
- Railway line crossings are restricted by safety gates when trains are running, together with warning bells and lights when vehicles are operational. Always take care when crossing tracks

Hazard and risk: Historic buildings – steps, decks, heavy furniture with hinged lids, sharp objects, uneven cladding, uneven paths – risk of injury, slips, bumping, jamming and tripping

Controls:

- Careful instruction and adult supervision at all times
- Group size restricted
- Walking through and around the buildings (no running)- special care must be taken when wet and when surfaces are uneven

Hazard and risk: Contact with live animals – risk of accidental injury

Controls:

- Warning and advisory signs are displayed where necessary. School parties are to use designated footpaths
- Grass areas may have rabbit holes
- Feeding, chasing, handling or otherwise causing distress to live animals is strongly discouraged
- Live fauna (kiwi, geckos, birds, fish etc.) are only to be handled by staff in controlled circumstances as designated by appropriate regulatory authorities e.g. DOC
- Wild birds/minibeasts/animals will not be handled unless under strictly controlled circumstances
- Use wash hand basins/hand sanitising facilities as provided

Hazard and risk: Climbing and running – buildings, engines, railings, nets, fencing, walls, seating, raised garden areas, uneven paths, sloping paths, wet wooden decks, rocks & boulders, pillars, trees, posts and sculptures – risk of injury from slipping, tripping and falling

Controls:

- Students are instructed not to climb up, on, through or over objects and especially not on stone walls, rocks, tools, signs, machinery or logs. Accompanying teachers and parents re-iterate this message and supervise at all times. Stiles are provided to avoid climbing over fences and gates when using bush walks and tracks
- Students must not trespass on other properties. Students are not permitted inside other buildings unless the building is staffed appropriately and students are invited to enter.
- Displays, machinery or equipment must not be operated by any visitors

Hazard and risk: Public areas – Reception area and Foyer area – risk of injury from automatic doors, lift, electrical equipment and display stands

Controls:

- Keep distance from doors
- Students should not use lifts unless they are unable to use the stairs due to limited physical mobility, medical reasons or are wheelchair users
- Adults should lead through internal doors
- Supervise children carefully around displays that can be toppled

Hazard and risk: Dark areas – risk of injury from falls, collisions and tripping

Controls:

- Transition areas are used between dark/daylight areas so that visitors have time to allow their eyesight to become accustomed to low/bright light levels
- Visitors should walk slowly with distance between small groups
- Visitors should walk in the direction/flow path indicated by staff
- Numbers of visitors moving around dimly lit spaces are restricted to avoid over-crowding
- Visitors should use hand rails for stability
- Seating is provided for visitors
- Low level lighting at floor level provides a pathway guide

Hazard and risk: Activities in confined areas – risk of injury from falls, collisions and tripping

Controls:

- Monitor numbers of students to avoid bumping heads and trapping fingers
- Be aware of doorstops at floor level and hand rail at child's head height
- Small children to be supported to use low foot stools
- Be aware of emergency exit doors
- Adults to lead the way through doors

Hazard and risk: Museum Galleries and displays – risk of injury from falls, collisions and tripping

Controls:

- Be aware of raised plinths, roped areas, furniture legs
- Be aware of overhanging display cases and objects
- Be aware that there is a range of interactives that may distract children

Hazard and risk: Contact with historical artefacts – risk of accidental injury

Controls:

- Objects in the handling collection are checked for sharp edges and moving parts
- Supervision by responsible adults/parents/teachers/helpers is required
- No object identified as an accessioned collection item is to be handled or touched by visitors
- Some historical artefacts may have been treated or come into contact with substances that we now know to be toxic. Advice is available such as in Appendix 7 – *Handling taxidermy specimens or ethnographic objects: Arsenic Health and Safety*

Hazard and risk: Handling collection – organic and inorganic substances – rocks, metals, minerals, seafish, soil, soap, fresh produce and crystals – risk of skin irritation, absorption and inhalation

Controls:

- No substance will be provided that is listed as a controlled substance
- Cotton and latex gloves will be provided for use as required
- Resources will be labelled to facilitate adult supervision of vulnerable children

Hazard and risk: Activities – physical exertion, trips, falls, injury from objects, injury from equipment

Controls:

- Toys and games need appropriate space and supervision
- Sharp objects will be removed where possible and instructions provided for safe use when necessary
- The availability of activities and the range of activities offered is at the discretion of the supervising educator
- Careful instruction and adult supervision at all times
- Active games on grassed areas or suitable indoors area
- Group size restricted to safely control numbers
- Educators and other staff are trained for the provision of workplace first aid
- First aid points are provided. Portable kits to be available.
- For further information see Appendix 2 - *Outdoor Activities – supplementary matrix*

Hazard and risk: Use of powders, paints, chemicals in educational activities – danger of ingestion, inhalation, skin contamination, accidental spills

Controls:

- Age-appropriateness of activity is at the discretion of the educator & lead teacher
- Preference is for no hazardous materials, those deemed safe for use with children and those carrying appropriate referencing
- All materials to be used in accordance with manufacturer's instructions, under adult supervision and for designated purposes only
- Washable and dilutable substances preferred
- Hand-washing facilities and emergency first-aid facilities to be provided
- Safety specs/goggles, dust masks and other protective clothing to be worn when necessary

7

Hazard and risk: Hygiene – cross-contamination

Controls:

- Venues take a broad view of the threats, risks and controls for cross-contamination. See Appendix 3 – *Infectious Diseases - supplementary matrix* for conditions that we are controlling for as well as Covid-19
- No handling of objects/items except during organised and supervised sessions i.e. no handling during morning tea and lunch times
- Separate hand washing and dish washing sinks are provided
- Food/drink should be brought with you and stored away from activities/resources
- Handling objects, resources, work surfaces, bathrooms and stationary are sanitised before and after each school visit. Surfaces in public areas are regularly cleaned during opening hours. See Appendix 4 – *How to prevent germs from spreading*
- Hands to be washed before eating and food preparation activities. Good personal hygiene rules are to be observed See Appendix 5 – *Wash your hands well*
- School records will indicate the teachers, students and accompanying adults for each visit. Your programme and itinerary will indicate which staff members you will have contact with. All visiting adults are expected to register for contact tracing purposes. See Appendix 6 – *Contact tracing record keeping*

Hazard and risk: Electrical and technical equipment – risk of electric shock

Controls:

- Children must not interfere with the cable housing around ipads, laptops, monitors, TVs, DVD players
- Supervise students around technology
- Electrical equipment is checked with a 'test and tag' system

Hazard and risk: Emergency situation – risk of injury from fire or panic

Controls:

- Evacuation procedure induction and safety talk will be given at the start of every school group visit
- Emergency exits clearly indicated in all areas
- Emergency exits kept free from blockage or obstruction at all times
- Fire Fighting equipment is accessible in all areas and regularly maintained
- Building Warrant Certificate is displayed if appropriate
- Maximum occupation capacities are not to be exceeded
- Emergency system and processes notices are displayed
- Functioning smoke detectors in all areas
- Emergency lighting is available where necessary
- Removal of rubbish - have a take-home policy for rubbish and request that all schools adhere to this
- Combustible materials are not used or stored in public areas

Hazard and risk: Civil defence emergencies – forest fire, flood, severe weather warning, cyclone event, earthquake, contagious diseases, explosions, power cut, Armed Offenders Squad call out – risk of harm

Controls:

- Postpone visit when prior notice is available
- Alarms are positioned where audible
- Civil Defence warning app is operational on staff cell phones
- If safe and appropriate, check first with relevant services, evacuate as soon as possible
- Assemble at the nearest evacuation site/assembly area
- Limit spread of infection with regular wiping of surfaces, use of hand sanitiser and good hygiene practices

Hazard and risk: Weather – extreme heat or cold, wet weather, sunny conditions – risk of sun burn or chill

Controls:

- Sunscreen is provided and used
- Tree shade is available
- Appropriate clothing and footwear is available for for each student
- Umbrellas are provided

Hazard and risk: Natural areas – extremes of weather, slips, trips, falls, falling material

Controls:

- Participants are to wear appropriate clothing and footwear, sunscreen, accessories are to be carried in backpacks where possible and used when necessary
- Walking carefully, observing your surroundings at all levels

Hazard and risk: Deep water, streams, and ponds – risk of falling in water and drowning

Controls:

- Hazards are fenced when near footpaths and walkways
- Visiting school groups are kept away from rivers, waterfalls and ponds unless taking part in a structured activity
- If students are working near these areas, maintain the correct adult:student ratios, students will work in pairs, shallow sites will be selected that have level and firm access

Appendix 1 – Covid-19 Guidance

The Covid conditions are fluid and will change as need arises.

Schools may have their own rules that they follow.

Whilst on the Kiwi North site the following rules apply to keep everyone safe.

- All adults (teachers and accompanying adults) must wear a face mask whilst in any of our buildings and indoor environments.
- It is preferred, but not compulsory, that students wear masks at Yr4+above, especially when in our spaces with the general public.
- There will not be mixing of students from different schools. Each school group is a separate bubble.
- The public health measures regarding Covid -19 are followed, which include: good hand hygiene, staying away if feeling sick, the premises are thoroughly cleaned before and after every visit, regular cleaning and disinfecting of surfaces.

Appendix 2 - Outdoor Activities – supplementary matrix

Analysis		Description		
Risks Accident, injury, other forms of loss		<ul style="list-style-type: none"> Getting lost/wandering away from designated activity Vehicle accident Known medical condition e.g. Asthma or allergies Unexpected sickness 		
Causal Factors hazards, perils, dangers		People	Equipment	Environment
		<ul style="list-style-type: none"> Lack of supervision Poor organisation Hygiene Sunburn Grazed knee Stubbed toe Dehydration Hunger 	<ul style="list-style-type: none"> Transport problem Inadequate first aid kit Flat cell phone No coverage for cell phone No credit for cell phone 	<ul style="list-style-type: none"> Lack of sun shelter Public traffic through car parks Sharing environment and facilities with General public
Risk Management Strategies	normal operations	<ul style="list-style-type: none"> Correct ratio of students to supervisors Parents to be advised and informed of RAMS, activities, timings, guidelines, responsibilities Set clear guidelines and boundaries for ALL Take hand sanitizer Sun block to be applied and sunhats to be worn if necessary Children must wear appropriate footwear with closed toe if necessary Take spare water Take spare food Ensure children bring their own food and drink 	<ul style="list-style-type: none"> Follow bus/company procedure as applicable Designated first aider to check kit and carry it with them at all times Adequate numbers of first aid kits for the group or groups All teachers, parents, helpers with cell phones to ensure they are fully charged and with credit 	<ul style="list-style-type: none"> Areas of shelter to be identified All children to have a sunhat Clear boundaries and behaviour expectations established for all Regular roll calls through the day Children to be accompanied at all times
	Emergency	<p>Teachers to count and mark all students and children present before leaving and returning. Optimal ratios of students to adults. Parent helpers to have individual lists of children they are responsible for. Adults to have individual maps of the site. Well-stocked first aid kit to be provided and also staff with first-aid certification. Teachers and supervisors to be advised of pre-existing medical conditions and have remedial medication if necessary. Vulnerable children to be identified.</p>		

Appendix 3 - Infectious Diseases - supplementary matrix

Infectious Diseases:

information & exclusion list

Condition	This disease is spread by	Early Symptoms	Time between exposure and sickness	Exclusion from school, early childhood centre, or work*
Rashes and skin infections				
Chickenpox	Coughing, sneezing and contact with weeping blisters.	Fever and spots with a blister on top of each spot.	10-21 days after being exposed	1 week from appearance of rash, or until all blisters have dried.
Hand, foot and mouth disease	Coughing, sneezing, and poor hand washing.	Fever, flu-like symptoms – rash on soles and palms and in the mouth.	3-5 days	Exclude until blisters have dried. If blisters able to be covered, and child feeling well, they will not need to be excluded.
Head lice (Nits)	Direct contact with an infested person's hair.	Itchy scalp, especially behind ears. Occasionally scalp infections that require treatment may develop.	N/A	None, but ECC/school should be informed. Treatment recommended to kill eggs and lice.
Measles	Coughing and sneezing. Direct contact with an infected person. Highly infectious.	Runny nose and eyes, cough and fever, followed a few days later by a rash.	7-18 days	5 days after the appearance of rash. Non-immune contacts of a case may be excluded.
Ringworm	Contact with infected skin, bedding and clothing.	Flat, ring-shaped rash.	4-6 weeks	None, but skin contact should be avoided.
Rubella (German Measles)	Coughing and sneezing. Also direct contact with an infected person.	Fever, swollen neck glands and a rash on the face, scalp and body.	14-23 days	Until well and for 7 days from appearance of rash.
Scabies	Contact with infected skin, bedding and clothing.	Itchy rash.	4-6 weeks (but if had scabies before it may develop within 1-4 days)	Exclude until the day after appropriate treatment.
School sores (Impetigo)	Direct contact with infected sores.	Blisters on the body which burst and turn into scabby sores.	Variable	Until sores have dried up or 24 hours after antibiotic treatment has started.
Slapped cheek (Human parvovirus infection)	Coughing and sneezing. The virus may be passed from mother to child during pregnancy.	Red cheeks and face-like rash on body.	4-20 days	Unnecessary unless unwell.
Diarrhoea & Vomiting illnesses				
Campylobacter Cryptosporidium Giardia Salmonella	Undercooked food, contaminated water. Direct spread from an infected person or animal.	Stomach pain, fever, nausea, diarrhoea and/or vomiting.	Campylobacter 1-10 days Cryptosporidium 1-12 days Giardia 3-25 days Salmonella 6-72 hours	Until well and for 48 hours after the last episode of diarrhoea or vomiting. Cryptosporidium – do not use public pool for 2 weeks after symptoms have stopped. Salmonella – Discuss exclusion of cases and contacts with public health service.
Hepatitis A	Contaminated food or water, direct spread from an infected person.	Nausea, stomach pains, general sickness, jaundice a few days later.	15-50 days	7 days from the onset of jaundice.

* Seek further advice from a healthcare professional or public health service.

For further information contact:

Your Public Health Nurse



Your Public Health Service

Vaccine-preventable and/or on National Immunisation Schedule

Notifiable disease (Doctors notify the Public Health Service)

Pregnant women should seek advice from their maternity provider or G.P

New Zealand Government

Revised March 2016, 05/2018. Code HE1215

Appendix 4 - How to prevent germs from spreading

Germs can be spread from person to person or by touching unclean equipment or surfaces. A good cleaning regime is based on the following advice from:

<https://www.health.govt.nz/your-health/healthy-living/environmental-health/infectious-disease-prevention-and-control/prevent-spread-infectious-disease>

<https://www.nhs.uk/live-well/healthy-body/how-to-prevent-germs-from-spreading/>

- Clean areas where germs are more likely to spread, such as the kitchen and toilet.
- Use a disinfectant to kill them.
- Dry surfaces such as worktops thoroughly after cleaning. Dampness helps any remaining germs to survive and, if there's enough water, multiply.
- Clean germ hotspots before visitors arrive and once they leave.
- Cleaning aids, such as cloths or mops, must be germ-free or they'll spread germs to other surfaces.

Cloths and sponges

- use of disposable cloths or paper towels
- reusable cloths are disinfected or washed at 60C (140F) after each use

Washing-up brushes

- wash brushes with detergent and warm water after each use

Mops and buckets

- use two buckets for mopping – one for detergent and the other for rinsing
- mops and buckets are cleaned and dried after each use

Toilets

- keep the U-bend and toilet bowl clean by flushing after each use
- use a toilet cleaner and brush after each visit
- limescale is removed using a descaling product
- keep the toilet seat, handle and rim clean by using a disinfectant

Sinks

- clean sinks before and after each visit
- use disinfectant

Kitchen

- food-preparation surfaces are clean before use
- wash and dry your hands before and after eating and handling foods
- clean surfaces immediately after use
- Hot and cold drinks can be provided if they are able to be cleaned on hot setting in a dishwasher or with boiling water after use

Floors

- bathroom floors are cleaned with hot water and detergent
- carpet tiles are steam cleaned twice a year and on other occasions if necessary

Soft furnishings

- steam cleaning is effective against germs on soft furnishings

Toys

- clean hard or plastic toys by washing them and putting them away once they're clean and dry
- some soft toys can be cleaned in the washing machine

Laundry

- wash your hands after handling dirty laundry
- all underwear, towels and household linen should be washed at 60C (140F) or at 40C (104F) with a bleach-based laundry product to prevent germs from spreading
- don't leave laundry in the washing machine – any remaining germs can multiply rapidly

Waste disposal

- foot-operated bins are more hygienic because they reduce the risk of getting germs onto your hands from touching the bin lid
- always wash your hands after handling waste material
- throw rubbish away carefully to avoid attracting vermin and insects

Appendix 5 – Wash your hands well

When to wash

Always wash and dry your hands

Before:

- eating food
- preparing food

After:

- sneezing, coughing or blowing your nose (or wiping children's or other people's noses)
- gardening or outside activities
- having contact with animals
- using the toilet or changing nappies
- looking after sick people.

How to wash

Washing hands properly is one of the most important and effective ways of stopping the spread of infections and illnesses.

- Wash your hands thoroughly using water and plain soap.
- Wash for at least 20 seconds and dry them completely.
- Using warm water is preferable, if available.
- If soap and water are not available, use an alcohol-based hand sanitiser.

Steps for clean hands

- Wet your hands under clean running water. Use warm water if available.
- Put soap on your hands and wash for 20 seconds. Liquid soap is best.
- Rub hands together until the soap makes bubbles.
- Rub on both sides of both hands ...
- and in between fingers and thumbs ...
- and round and round both hands.
- Rinse all the soap off under clean running water. Use warm water if available.
- Dry your hands all over for 20 seconds. Using a paper towel or individual/one use hand towel is best.

Appendix 6 – Handling taxidermy specimens or ethnographic objects: Arsenic Health and Safety

National Park Service, Washington D.C. Conserve O Gram. September 2000 Number 2/3

Arsenic Health and Safety Update

Background

From the 18th century to the late 20th century, arsenic compounds were commonly applied as a preservative to biological specimens and ethnographic objects, not only as insecticides, but also as herbicides, rodenticides, and antibiotics. Arsenic in the form of soap mixtures and sprays (arsenic trioxide and sodium arsenite) was used to preserve bird and mammal skins and mounts. Arsenic was also used as a fixative in the preparation of wet specimens to control the growth of microorganisms.

Arsenic compounds retain their toxicity, and once treated, objects containing arsenic can probably never be fully decontaminated. Following its application, arsenic tends to adhere strongly to hair and feathers. Sometimes the compounds may be visible as white powder. In general, the older the specimen, the greater the likelihood that arsenic will be present. Accordingly, curatorial staff must exercise precautions when handling biological specimens collected and prepared before the 1980s. (The use of arsenic in the field preparation of specimens and in some museum applications post-1980 has been documented.)

National Park Service museum collections may contain arsenic-treated natural history specimens and ethnographic objects. These items pose a health risk to curatorial staff and to the public who come into physical contact with the objects, unless proper precautions are taken. Curatorial staff must take steps to identify arsenic compounds that may be on museum objects and to develop procedures for the proper handling of these items. This *Conserve O Gram* provides guidance on how to test collections for the presence of arsenic and to implement proper handling, storage, and use precautions in the collections.

Health Related Effects

Route of Entry: Skin absorption, inhalation, and ingestion.

Organs Affected: Stomach, liver, intestines, heart, lungs, blood vessels, kidneys, nervous system, skin, and nails.

Acute (short-term) Effects: Weakness, headache, gastro-intestinal discomfort, changes in skin and nail texture and pigmentation, respiratory problems, coughing, irregular heart beat, breathing difficulty, and chest pain.

Chronic (long-term) Effects: General abnormalities to the pigmentation of the skin and abnormalities to nails and skin on the palms of the hands and soles of the feet. Linked to nonmalignant respiratory diseases, numerous diseases of the nervous system, emphysema, kidney diseases, and many heart diseases.

Carcinogenic Effects: A carcinogen, causes various cancers, including liver cancer, cancers of the reproductive organs, skin cancer, and lung cancer.

Reproductive Effects: May impair nail development in the fetus or lead to nail deformities in the newborn, and causes changes in gene expression.

Handling, Storage, and Use Precautions

Any specimens or ethnographic objects known or suspected to contain arsenic should NEVER be used in hands-on interpretation. Generally, unless confirmed to be safe, treat all natural history specimens, prepared prior to 1980 as if they may contain arsenic or other toxic compounds. Any exhibited specimens from this period should be enclosed in an exhibit case.

Handle contaminated objects and specimens as little as possible. Never touch them with bare skin. Wear nitrile gloves and a protective smock or apron. Wear a fit-tested respirator equipped with high efficiency particulate air (HEPA) filters. (Note: Before wearing any respirator, you must have a medical evaluation.) If possible, handle specimens by their stands or mounts.

Always discard gloves and wash hands after working with the specimens. Keep lab smocks and aprons clean. Do not wash them with other fabrics.

Obtain a Material Safety Data Sheet on arsenic.

Label museum storage cabinets housing specimens and objects suspected of, or known to be contaminated with arsenic, with a warning sign that indicates “**ARSENIC.**” Prepare and post a written set of instructions for handling contaminated specimens. Consult the Material Safety Data Sheet for further information.

Curatorial staff should always exercise caution whenever handling any museum object contaminated with arsenic. At the same time, staff should remember that arsenic encountered during the course of their work will not be harmful, as long as safety precautions and procedures are consistently practiced and adhered to at all times.

Procedures for Identification of Arsenic

1. *Inspect the collection.* Look for powdery or crystalline deposits at the base of feathers and hairs, around eyes, in or at the base of ears, around mouth or bill, along ventral incision, at base of tail, and on foot pads. On ethnographic objects, inspect crevices and seams where arsenic may have collected. Even if deposits are not evident, all natural history specimens collected and prepared before the 1980s should be tested for the presence of arsenic. In addition to examination, where possible, research the object's history. Try to determine when and by whom it was collected and if arsenic was used to protect objects from infestation.

2. *Test specimens for arsenic.* A test kit has been developed by EM Science to detect the presence of arsenic. At this time, the only vendor for the kit is VWR Scientific. Use of this kit requires no elaborate setup or special equipment, although depending upon the number of items to be tested, this project may involve a moderate to large investment of time. If testing a large quantity of specimens is necessary, it is recommended that staff prioritize these collections and develop a strategy for testing over a period of time, beginning with those items most suspected of arsenic contamination.

Each arsenic test kit contains the supplies and equipment necessary to conduct 100 individual tests. Additional supplies needed are 1 molar solution potassium hydroxide (KOH), a glass dropping bottle (with a polypropylene screw cap, rubber bulb, and glass pipet), a metal microspatula, and extra reaction vessels to facilitate multiple tests.

3. *Instructions for use of the kit.* The directions for use supplied with the kit were written by the manufacturer for testing a water sample for the presence of arsenic, and not specifically for museum specimens.

Instead of using the directions provided with the kit, follow these modified instructions:

Obtain, read, and keep on file a Material Safety Data Sheet (MSDS) for each chemical used in the test. At the time of purchase, request these sheets from the vendor. **Read the contact hazard label on the lid of the kit. Conduct the test in a well-ventilated workspace. Wear a respirator fitted with HEPA filters, an apron, protective nitrile gloves, and safety glasses.**

For each test, obtain a sample from the specimen. If a residue is evident, use the tip of a metal microspatula to remove the crystalline or powdery material and place it in the reaction vessel. If there is no obvious residue, use a cotton swab dampened with distilled water to collect a sample from the base of hair or feathers or crevices of the skin. Cut off the swab fibers and use them as the test sample. Place the sample in the kit's reaction vessel. Use a glass dropping bottle to dispense the KOH. Add one to two drops of the KOH to dissolve the sample. If results of the first test do not indicate arsenic, collect and test samples from other areas of the specimen as the arsenic compound may not have been evenly applied.

Affixed to one end of each plastic test strip is a white reagent impregnated blotter swatch. Holding the swatch area of the test strip downwards, insert the strip into the slit in the reaction vessel's cap. Ensure that the cap divides the test strip into two approximately equal segments (one inside and one outside).

Put 1 measuring spoonful (spoon provided in the kit) of zinc dust (container marked Reagent 1) into the reaction vessel.

Using the syringe included with the kit, add 10 drops of hydrochloric acid (in the container marked Reagent 2) into the reaction vessel and immediately close the vessel with the cap.

Allow the reaction vessel with contents to stand for 30 minutes. At the end of the test time, remove the test strip.

Immerse it briefly in a small container of tap water.

Compare any change of color on the swatch with the color scale provided on the vial containing the test strips.

4. *Tag specimens testing positive for arsenic.* Write "**Arsenic Contamination**" prominently on the specimen's label, and add this information to the item's museum catalog card. Retain complete records of each test, whether positive or negative, in the specimen's accession or catalog folder.

5. *Objects that tested negative may still contain arsenic.* Suspect items should be inspected and tested every two to three years, as arsenic may migrate from the interior of the specimen.

6. *Inform the Museum Director about the project and the results.*

Proper Disposal of Waste Products Resulting from the Test

Following completion of the test, it is important to properly dispose of all resulting waste products:

1. The reaction vessel(s) containing the various chemicals utilized during the procedure, as well as the resulting precipitate materials.
 2. The test strip(s) and the small container of tap water used to immerse the test strips.
- All of these materials are considered hazardous waste and must be properly disposed of. The procedures for proper disposal are as follows:
1. Place the reaction vessel(s), test strip(s), and the small container of tap water within a larger, sealable, impervious container, such as a glass vial.
 2. The sealable, impervious container must be labeled as containing hazardous waste. Information on the label must include the name of the active ingredient of the waste material.
 3. Dispose of the container and contents in accordance with the park's Hazardous Waste Disposal Program. Contact the Park or Regional Hazardous Waste Coordinator for disposal guidance and/or instructions on proper interim storage of the container.

Sources

Arsenic test kit (catalog number EM-10026-1), one molar KOH in minimum quantities of one pint, glass dropping bottles, and metal microspatulas are available from VWR Scientific, 405 Heron Drive, Bridgeport, NJ 08014, (800) 932-5000. On the web at <http://www.vwrsp.com>.

For technical information concerning the arsenic test kit, contact the technical services department of the manufacturer, EM Science at (800) 222-0342.

Shell vials may be used as additional reaction vessels. They can be obtained from Southern Biological Supply Company, P.O. Box 368, McKenzie, TN 38201, (800) 748-8735. (Stock #8849; 12 dram capacity).

Protective equipment (e.g., respirator, gloves, apron, and safety glasses) is available from a variety of sources, including Lab Safety Supply Company, P.O. Box 1368, Jamesville, WI 53547, (800) 356-0783. On the web at <http://www.labsafety.com>.

References

Goldberg, Lisa. "A History of Pest Control Measures in the Anthropology Collections, National Museum of Natural History, Smithsonian Institution." *Journal of the American Institute for Conservation* 35, no. 1 (1996). Hawks, Catherine A. and Stephen L. Williams, "Arsenic in Natural History Collections." *Leather Conservation News* 2, no. 2. Austin, Texas: Materials Conservation Laboratory, Texas Memorial Museum, 1986. National Park Service Museum Management Program. "Curatorial Health and Safety Issues." *Museum Handbook*, Part I, Chapter 11. Washington, D.C.: National Park Service, 2000.

Anthony M. Knapp Staff Curator Museum Management Program National Park Service Washington, D.C. 20240
Revised by Museum Management Program, 2000

The *Conserve O Gram* series is published as a reference on collections management and curatorial issues. Mention of a product, a manufacturer, or a supplier by name in this publication does not constitute an endorsement of that product or supplier by the National Park Service. Sources named are not all inclusive. It is suggested that readers also seek alternative product and vendor information in order to assess the full range of available supplies and equipment.

The series is distributed to all NPS units and is available to non-NPS institutions and interested individuals by subscription through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; FAX (202) 512-2250. For further information and guidance concerning any of the topics or procedures addressed in the series, contact NPS Museum Management Program, 1849 C Street NW (NC 230), Washington, DC 20240; (202) 343-8142.

Appendix 7 – Additional RAM that applies when using Millingtons Bush Area

Supplementary RAM for visits to and walks through the onsite area of Pukenui Forest -Millingtons Bush

Risks: Injury/Illness Disorientation Allergic Reaction	<ul style="list-style-type: none"> • Injuries resulting from slipping, tripping, falling, collision • Effects from the weather – hypothermia, sunstroke • Getting lost, separated from group • Allergic reaction to plants and/or stings 		
	People	Equipment	Environment
Dangers:	<p>Participants and adults inexperienced/unskilled/ill prepared/ not fit enough/badly behaved.</p> <p>Not getting too far ahead during hike or lagging too far behind</p> <p>Inadequate 1st Aid skills</p> <p>No emergency plan/signal</p> <p>Not following rules or directions</p> <p>Child panics</p>	<p>Lack of personal medication</p> <p>Inadequate clothing, food, liquid</p> <p>Lack of rescue facility</p> <p>Freaked children</p> <p>Lack of first aid equipment</p>	<p>Weather: high wind/ low or high temperature</p> <p>Limited exit routes</p> <p>Unstable/slippery tracks</p> <p>Tripping over roots/ branches/sticks</p> <p>Lack of shelter</p> <p>Wasp stings</p> <p>Poisonous or toxic plants, berries etc.</p>

<p>Risk management strategies – Normal operations</p>	<p>Ensure that all involved are:</p> <ul style="list-style-type: none"> · Clear about the activity; signals, instruction , boundaries, required behaviour · Wearing suitable clothing & footwear · Ensure leader has appropriate skills and experience and knows the names and health status eg. allergies, of all children involved · During hiking activities adult at front & back of group · Ensure that the adults in the group have suitable 1st aid equipment on them · Ensure the adult with the group of children accounts for the children all the time. · Use buddy system · Ensure all feel safe, happy and secure in the activity 	<p>Prior to departure of activity ensure all involved have:</p> <ul style="list-style-type: none"> · First aid kits · Suitable food and liquid · Personal medication · Appropriate footwear/clothing for activities · Check the children know who their leader is. · Ensure children know who is in their group · Check parent/ child ratio 	<ul style="list-style-type: none"> · Visit area prior to activity · Children all aware of hazards involved and how to be careful doing the activity · All wear suitable clothing · Footwear to suit the activity · All activities fully supervised by appropriate adults
<p>Emergency</p>	<ul style="list-style-type: none"> · Cellphones available for all adults in charge of a group · Apply first aid and arrange for child to be taken back to kiwi North/ emergency services involved if necessary · Have management strategies for total group – one adult to accompany child, rest of group supervised by other accompanying adults/Kiwi North staff 		