

Fire Mitigation and Response Plan

January 2015

Matakohe / Limestone Island



Authorisation

This plan has been adopted by the following:

Whangarei District Rural Fire Authority

Signed:  _____
Chief Executive Officer, Mark Simpson

New Zealand Fire Service

Signed: _____ *Mike Lister* _____

Mike Lister

Principal Rural Fire Officer Whangarei District

Signed:  _____

Kevin Ihaka

Friends of Matakoho – Limestone Island

Signed

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Table of contents

Context	1
General	1
Fire hazard.....	1
Objectives of this plan.....	1
Identified risks.....	1
Risk analysis	2
Risk evaluation	2
Risk treatment.....	2
Communication and engagement.....	2
Monitor and Review.....	2
Mitigation Plan	3
Management Processes and Administration.....	3
Education	3
Training	3
Engineering.....	4
Equipment	4
Storage of flammable materials	5
Enforcement	5
Response Plan	5
Personnel	5
Resources	6
Initial attack considerations.....	7
FOMLI Standing Instructions	8
General	8
Appendix 1 - Action for Emergency	10
Action for Emergency	10
Appendix 2 – Ranger Action at FWI Trigger Points	11
Appendix 3 – Fire Plan Maintenance Checklist	12
Appendix 4 – Fire Protocol For Contractors	13
Appendix 5 – Fire Protocol for Commercial Users of Island	14
Appendix 6 – Ranger Instructions Re Private Functions	15
Fire Map	16

Context

General

Matakohe/Limestone Island is a Scenic reserve under the Reserves Act 1977 administered by the Whangarei District Council (WDC). Because of its unique history and two decades of habitat restoration and predator control it has become a major open space resource and wild life sanctuary. It currently serves as a predator-free haven for juvenile kiwi until they are large enough to fend for themselves on the mainland. It is the focus of broad community participation in its development and management. This is implemented through the Friends of Matakohe/Limestone Island (FOMLI), incorporated in May 1993.

The island comes under the jurisdiction of the WDC Fire Plan.

WDC will be responsible for the cost of developing the plan and assisting with training and publicity costs. FOMLI will put policies and procedures into practice. It is anticipated that this can be achieved from existing budgets.

With only one permanent resident, there is little point in maintaining an extensive inventory of firefighting equipment on the island. In a serious emergency helicopter attack by water bombing is likely to be the only effective response.

Equipment and a trained crew for work to complement aerial suppression can be ferried rapidly to the island by helicopter or boat. Thus equipment kept on the island will be limited.

Fire hazard

Shallow soils and wind exposure lead to rapid drying.

A dense grass sward forms the major fuel hazard, particularly in late summer. This vegetation type will continue to dominate on the summit Pa, the northwest facing slopes, which are the site of past Maori gardens, and around the island's beaches.

Sheep grazing around the ruins of the cement factory have reduced the grass fuel hazard in this area.

The remainder of the island is being replanted in native vegetation which will slowly shade out much of the grass.

Objectives of this plan

- Protect human life – visitors, ranger, volunteers
- Protect biodiversity
- Ensure safety of fire crews and other responders
- Reduce or eliminate fire causes
- Protect Historic values
- Minimise loss to fire
- Ensure efficient and effective response to any fire event
- Identify resources available
- Identify work processes and procedures to reduce fire occurrence.
- Identify predetermined actions and trigger points for mitigation, response and safety procedures.

Identified risks

Major sources of risk that have been identified are:

- Living and working activities of resident staff.
- Activities of visiting and short stay volunteers, conservation staff etc.
- Activities of short stay, casual visitors who can access the island by boat at almost any point on its coast line.

These risk features are mitigated to some degree by:

- Easy access to sea water.
- Proximity to helicopters based at Onerahi airport.
- Intense interest in the welfare of the island by Onerahi and Portland residents whose houses overlook the island.
- Permanent ranger and boat available for patrolling, ferrying and other duties.

Risk analysis

Any fire starting on the island has a very high probability of spreading and causing significant damage and loss in a short period of time. Therefore prevention is essential as any fire will likely cause significant loss of values.

The high risk light fuels will be present on the island until planted tree species form a canopy and smother out some of the low growing shrubs and grasses. It is expected that fire risk will remain high even at this stage due to the exposed coastal location.

The forest and Rural Fires Act allows for a permanent Prohibited Fire Season to be imposed, as has been the case for a number of years.

As a reserve under the jurisdiction of WDC access to the island can be limited in times of high danger.

Some fuel treatment and breaks are currently in use, there may be further opportunity to develop this in the future.

Risk evaluation

Limestone Island represents a significant community asset that is valued by a wide section of the community and it has been the subject of considerable investment both financially and in terms of labour input and community involvement.

Significant historic and biodiversity values are also present on the Island and justify a significant fire reduction and response process.

Fire behaviour predictions for the island fuel types have indicated that in the event of even a comparatively minor fire significant loss will result in quite short periods of time.

Risk treatment

Risk treatment is covered in the Mitigation Plan below.

Communication and engagement

WDC and FOMLI have a long history of cooperation surrounding the development of Limestone Island.

This plan was developed in consultation between WDC Fire, FOMLI and New Zealand Fire Service (NZFS).

Monitor and Review

An annual review will involve all parties and will be undertaken in September each year. Following each review the plan will be updated as required and approved by all parties.

The FOMLI committee (or a designee thereof) will inspect the island a minimum of twice yearly to ensure compliance with this plan. A plan maintenance check list is attached as Appendix 1

Mitigation Plan

Management Processes and Administration

Fire weather index (FWI). Current and forecast FWI will be monitored by the ranger to allow modification to or cancellation of scheduled visits and impose limits on work processes. WDC PRFO will ensure access to FWI system by the ranger. The FOMLI ranger will also receive FWI warnings from WDC PRFO.

The FWI trigger points for risk mitigation actions will be:

Low	FWI 3 –
Moderate	FWI 4 - 13
High	FWI 12 - 23
Very High	FWI 23 - 28
Extreme	FWI 29 +

The Ranger will take appropriate actions as listed in Appendix 2.

These trigger points will also be used to put in place work practice restriction and modification processes to ensure dangerous operations are limited to low fire danger periods. This includes a fire protocol for contractors and other persons using machinery and motor/manual equipment (Appendix 3).

The trigger points will also be used in instructions to commercial users of Limestone Island (Appendix 4) and organisers of private functions (Appendix 5).

When FWI exceeds 29 the FOMLI committee will endeavour to have a person familiar with the emergency procedures present on the island for the duration of any significant absence of the ranger.

The Ranger will maintain a list of volunteers willing to stay on the island during any absence of the ranger and will ensure that all people on this list are familiar with fire plan and emergency procedures.

Response Plan

A response plan is developed below to identify resources available and mobilisation plan to include boat transport. The plans specifically address safety issues unique to this area including boat transport and fire behaviour. The response plan includes NZFS resources and is in a format that can trigger automatic responses via Fire Communications Centre.

Recovery Plan

In the event of a fire, WDC will coordinate recovery actions with FOMLI to develop a plan to include wildlife and vegetation recovery plans and an environmental risk analysis for firefighting and possible mitigation strategies

Evacuation plan

FOMLI to communicate the “return to wharf” message in all emergencies.

Education

Group visits - include fire danger messages in all school and group visits when fire danger is high or greater.

Working bees - inform all participants of fire danger in briefing and preplanning and include fire safety information in communications with visitors and workers.

Signage - display WDC “Total Fire Ban” signs at all landing areas. WDC Fire to supply high fire danger warning signs.

Mail-outs etc - At the beginning of each fire season a note and single page instruction sheet will be delivered to all homes from which the island is visible at Onerahi and Portland. Letters requesting vigilance and smoke/fire reporting instructions will be sent to Golden Bay Cement, Top Sail café, boating and flying organisations, airport etc.

Training

Rural Fire Authority (RFA) to provide training to Ranger in basic fire fighting and response procedures and training of island personnel so that they:

- link effectively with fire authorities,

- do not attempt control operations without outside help except in the case of very small fires in less extreme conditions,
- understand their duties under this plan, and
- maintain personal safety.

Regular (at least annual) refresher training will be provided as opportunities permit. Advantage will be taken whenever possible to train with local emergency personnel and the helicopter based at Onerahi.

Any personnel living temporarily on the island or visiting daily for more than one week at a time must read and understand the fire plan and receive basic instruction in emergency procedures and use of the equipment stored on the island.

RFA to provide training in aspects of the response plan to first response volunteers and contractors including aircraft and liaison with Marsden Point to provide back-up boat transport to the island.

Regular (at least annual) refresher training will be provided as opportunities permit. Advantage will be taken whenever possible to train with local emergency personnel and the helicopter based at Onerahi.

Any personnel living temporarily on the island or visiting daily for more than one week at a time, must read and understand the fire plan and receive basic instruction in emergency procedures and use of the equipment stored on the island.

Engineering

Fuel breaks – see map. All firebreaks will consist of regularly mown strips maintained with a short, green pasture sward and a minimum of dead material. The concept is to divide the island into segments separated by strips of non-flammable grass sward that also provide easy access.

Fuel modification – current fencing infrastructure allows for sheep grazing in ruins area and around visitor centre. This maintains a short green sward unlikely to carry fire.

Equipment

The following fire suppression equipment will be kept in a designated storage area on the island. The equipment will not be used for any purposes other than fire fighting or training.

- 3 Rega back packs
- 1 Foam supply for tractor weed spraying unit
- 4 Fire shovels
- 1 Pair fire proof overalls
- 4 Pairs ordinary overalls
- 5 Safety helmets
- 5 Pairs gloves

During the fire season (October to May inclusive) the tractor mounted spray tank will be kept full of water when not being used for spraying purposes. It will be kept in a location that allows rapid attachment to the tractor.

Fire extinguishers

The following inventory of extinguishers will be maintained on the island.

Location	Type
Ranger's house	4.5 kg Dry Powder
Volunteer hut	2.2 kg Dry Powder
Workshop	8.0 kg Dry Powder
Fixed to tractor	2.0 kg Dry Powder
Fixed to 4WD truck	2.0 kg Dry powder
Fixed to boat	2.0 kg Dry Powder
Carried when using manual/motor equipment.	500 gems Dry Powder

All operators of motor manual equipment (chainsaws, brush cutters, weed-eaters, post hole borers, motorised back pack sprayers) will carry, or have available within 25 metres of the work site, a dry powder fire extinguisher of minimum capacity 500gm.

Smoke alarms

Will be fitted in all dwellings or enclosed buildings.

Storage of flammable materials

All flammable materials such as fuel and oil, spare gas cylinders etc. will be stored outside in weatherproof tanks or in a secure, designated fire store. The fire store and fuel tanks will be surrounded by green, mown grass or other, non-flammable surface.

Fuel will not be stored in the ranger's house.

Enforcement

Forest and Rural Fires Act can be used to enforce the prohibited season and recover costs from person responsible for any fire.

Ranger patrols to be instigated according to fire danger.

All fires will be investigated to determine cause and attempt to identify a person responsible.

Response Plan

Personnel

Whangarei District Council

PFRO Kevin Ihaka (Forest Protection Services)

Bus Hrs	09 430 7707
After hours	09 437 6580
Fax	09 430 2734
Call sign	FPS 1

Deputy PFRO Trevor Bullock (FPS)

After hours	09 437 6538
Mobile	021 575 383
Call sign	FPS 3

Deputy PFRO Mike Sullivan (FPS)

After hours	09 435 5219
Mobile	021 575 204
Call sign	FPS 2

Forest Protection Services Group pager 026 105 816

Island Staff

Ranger Bernie Buhler

Tel	09 436 0923
Mobile	021 132 2261
Marine VHF Ch. 64 Call sign	"island ranger"

Marine Support

Marine rescue centre	09 3031303 or (by mobile) *500
Whangarei Duty officer	
Mobile	027 667 6816
Oil Refinery	
Call sign	2223 Via Firecom
Damian Southorn	021 222 7032

Airport

Airport Duty Manager	021 175 7701
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FOMLI Committee

Co-opted fire person

Co-opted fire person Ian Page	All Hrs	09 434 4217
Chair person Pam Stevens	Bus. Hrs	09 438 3273
	After hours	09 436 0246
	Mobile	027 420 4302

Resources

All responses resources to assemble at Onerahi boat ramp.

1st Alarm will include:

- WDC RFO 1 (notification only)
- Whangarei 9110 (notification only)
- Onerahi 201
- Whangarei 121
- Marsden Point 2223 Rescue Boat standby
- Skywork 2 standby
- FOMLI Ranger notified by RFO

2nd Alarm will also include

- WDC RFO 1 (Response)
- Whangarei 9110 (Response)
- WDC RFO 2 (response)
- Whangarei 9176 (Respond when crewed)
- Skywork 2 responding
- Skywork 1 standby
- Rescue helicopter on standby for rescue (if persons reported)
- Marsden Point 2223 Rescue Boat (Response)
- Airport Duty Officer notified by RFO

3rd Alarm will be as determined by IC but will include:

- Skywork 1 (Respond)
- more helicopters standby
- Consider requesting Refining NZ Oil Spill Recovery Vessel “Taranui” Ideal craft for equipment and personnel transfer to shore.
- Command unit or ICP set up at yacht club

Triggers for alarm levels.

A second alarm shall be automatically responded if any of the following conditions exist:

- Smoke showing from the island confirmed by response crews.
- Confirmation of fire by ranger.

A third alarm shall be automatically responded if any of the following conditions exist:

- Persons reported on island in fire area likely to need evacuation.
- Any serious injuries or fatalities.

Initial attack considerations

Safety

All persons transported by boat must have safety briefing from skipper and wear lifejackets at all times on the water.

All boats to carry marine VHF radio.

Harbour master may be needed to keep area clear of public boats.

All crews are to be transported to the island wharf unless specifically tasked to other areas.

Steep terrain and light fuels will cause fast moving fires, escape routes and safety zones must be confirmed with sector supervisor/IC before commencing work. LACES to be applied and reported. (Note. LACES = Look out/Awareness & anchor points/Communication/Escape route/Safety)

Tactics

Given the light fuel types and steep terrain it is anticipated that initial fire runs will only be controlled by aircraft or allowing fire front to reach hill tops. It is essential that ground crews immediately follow up on containment work to prevent re-ignition.

Grid lines and firebreaks are cut in light fuel areas and should be considered for access, retardant and burn out purposes.

Helicopters will dip fill buckets from the sea; the site for filling must be selected to avoid interaction with boats transporting crews.

FOMLI Standing Instructions

General

Action for emergency

See Appendix 1

Ranger actions for specific fire dangers.

See Appendix 2

Fire fighting

In the event of a fire being discovered or reported an attempt to extinguish the fire should only be made if it can clearly be dealt with in 2 or 3 minutes using resources immediately at hand without any undue risk to the fire-fighter. If a small fire is extinguished in this manner it should be reported to the Rural Fire Officer as soon as possible.

If the fire cannot be immediately contained, dial 111 and report the fire. The ranger should then take the boat to the Onerahi ramp to await the arrival of fire crews.

Open fires

There is a permanent, total ban on open fires on the island.

This is formally declared by the Principal Rural Fire Officer and imposed under the Forest and Rural Fires Act.

There are no mechanisms for relaxation of the ban.

Cooking appliances

Cooking by campers, day-trippers and organised parties will be confined to liquid or gas fuelled barbecues and stoves. These will only be allowed in areas designated from time to time by the committee of FOMLI or on the advice of the WDC Principal Rural Fire Officer.

All users of cooking appliances must have a minimum of 20 litres of water beside the appliance while it is in use (e.g. 2 x 10 litre buckets of seawater).

Smoking

Smoking on the island will be strongly discouraged, particularly away from the water's edge.

Inspection

The FOMLI committee (or a designee thereof) will inspect the island a minimum of twice yearly to ensure compliance with this fire plan. A fire plan maintenance check list is attached to this plan Appendix 3.

Machinery

All mobile and static machinery operated on the island will:

- be equipped with Spark arresting exhaust systems (unless fitted with turbochargers);
- be equipped with a minimum 2.5kg dry powder fire extinguisher;
- have sump pans and engine areas generally kept clear of dry debris.

No welding repairs will be carried out on the island without the express permission of the ranger who will observe the work and stand by with tractor, pump and water filled spray tank.

All batteries on machinery to be isolated when operators leave the island or park up for more than 4 hours.

Contractors

A fire protocol for contractors is attached as Appendix 4.

Commercial users of island

A fire protocol for commercial users of the island is attached as Appendix 5.

Private functions

A fire protocol for organisers of private functions is attached as Appendix 6.

Appendix 1 - Action for Emergency



Action for Emergency

When a fire or smoke is detected on the island:

DIAL 111 (Fire Service)

In the unlikely event of failure of the 111 service:

DIAL 026 105 816 (pager RFO)

For the WDC Principal Rural Fire Officer

Do not move out of hearing of Telephone

- When fire has been reported or discovered, can you safely and quickly (2 or 3 minutes) extinguish the fire? If yes, do so and report the incident to the RFO.
- If the fire can't be quickly dealt with report details to 111
- Prepare boat for transport of personnel and equipment from Onerahi pontoon to fire site.
- Take the boat to the Onerahi wharf and report to the first responding crew.

Appendix 2 – Ranger Action at FWI Trigger Points



FWI 4- 13 (Moderate)

Ranger to carry phone at all times

FWI 14 - 23 (High)

Ranger to carry phone at all times

Ranger to check all machinery and other work sites approximately 30 minutes after work ceases.

Ranger to check all camp and picnic sites 30 minutes after occupation has ceased.

FWI 24 - 28 (Very High)

Ranger to carry phone at all times

Work at all sites to cease 15 minutes before personnel leave.

Ranger to check all machinery and other work sites approximately 30 minutes after work ceases.

Ranger to check all camp and picnic sites 30 minutes after occupation has ceased.

Ranger to reschedule work and visitor programmes to early morning for days when wind speeds exceeding 25 kph are predicted.

FWI 29 + (Extreme)

Ranger to carry phone at all times

No work with machinery or motor/manual equipment to be performed.

Work at all other sites to cease 15 minutes before personnel leave.

Ranger to check all other work sites approximately 30 minutes after work ceases.

Ranger to check all camp and picnic sites 30 minutes after occupation has ceased.

Ranger to reschedule work and visitor programmes to early morning for days when wind speeds exceeding 25 kph are predicted.

Use of barbecues and camp stoves to be restricted to early morning and late evening and prohibited if wind speeds exceed 25 kph.

When FWI exceeds 29 the FOMLI committee will endeavour to have a person familiar with the emergency procedures present on the island for the duration of any significant absence of the ranger.

Appendix 3 – Fire Plan Maintenance Checklist



September

- Update fire mitigation and response plan in consultation with WDC Fire

October

- Check island fire equipment and signage - organise repair/replacement as necessary.
- Discuss fire mitigation and response plan in detail with ranger and as many committee members as possible.
- Arrange targeted publicity.
- Ensure WDC fire plan is on the island.

October to May incl.

- Periodic checks of following:
 - Fire breaks are regularly mown and minimum 3m wide.
 - Tractor spray tank is full of water and attached to tractor when not in use on other work.
 - Check all fire extinguishers.
 - Check exhaust system on island machinery and other machinery.
 - Monitor FWI, communicate with ranger and/or ensure ranger is doing same, internet facilities are available on the island.
 - Ensure restrictions, patrolling etc are in keeping with FWI level.
- Meet with WDC Rural Fire Officer to maintain the islands profile and attempt to involve the island and staff in training exercises.
- Ensure helicopter "no-go" areas are known before any exercise.

Appendix 4 – Fire Protocol For Contractors

Smoking on the island is strongly discouraged. Please smoke below the high tide mark and take your butts with you.

There is a permanent, total open fire ban on the island

No welding repair work to be carried out at any time without express permission of the ranger who may arrange for somebody to standby with tractor pump and water filled spray tank

Obtain the FWI (Fire Weather Index) from the ranger before commencement of work and follow corresponding instructions below.

MODERATE: FWI 4-13

- no additional prohibitions

HIGH: FWI 14-23

- Smoking limited to below high tide mark (take butts with you)
- Inspect areas of work when leaving site. Weedeater operators must look back and check where they have been when they turn a corner.
- 500g fire extinguisher to be carried at all times

VERY HIGH: FWI 24-28

- Smoking limited to below high tide mark (take butts with you)
- Inspect areas of work when leaving site. Weedeater operators must look back and check where they have been when they turn a corner.
- No work with machinery or motor equipment to be performed after 1200 hrs if winds exceed 25kph (ranger to be final arbiter of wind speed).
- 500g fire extinguisher to be carried at all times
- Machinery to be shut down 15 minutes before operator leaves. Inspect machinery for smouldering debris before leaving.

EXTREME: 29+

- no work

Appendix 5 – Fire Protocol for Commercial Users of Island



WHEN SMOKE OR FIRE IS DETECTED ON THE ISLAND CALL 111

Please note there is a total open fire ban on the island at all times.

Two buckets of water are kept behind the visitor shelter for extinguishing small controllable fires and are to be on standby if using camp stoves or BBQ's. At any time, such stoves may only be used in areas designated by the ranger. Additional restrictions apply as fire danger increases.

In spring and summer please obtain the fire weather index (FWI) from the ranger prior to your departure and inform guests of corresponding instructions below

MODERATE: FWI 4-13

- no additional prohibitions

HIGH: FWI 14-23

- smoking limited to below high tide mark (take butts with you)
- check visitor shelter area before leaving

VERY HIGH: FWI 24-28

- smoking limited to pontoon (take butts with you)
- check visitor shelter area before leaving
- camp stoves/BBQ's only to be used below high tide mark with two buckets of water on standby

EXTREME: 29+

- Smoking prohibited
- Check visitor shelter area before leaving
- camp stoves/BBQ's not to be used
- Visitors to stay off the top ridge between 1200 and 1600 hrs if winds exceed 25kph
- Inform ranger on your departure

Appendix 6 – Ranger Instructions Re Private Functions



Private social events include such events as wedding parties and other privately organised events.

As a general rule, the ranger should make all reasonable efforts to brief event organisers on the danger of fire to the island. Such briefing should include any prohibitions both permanent (fire ban) and temporary depending upon actual and expected fire danger as noted below.

FWI 4 – 13 (Moderate)

- General briefing.

FWI 14 – 23 (High)

- Ranger to check area where event was centred as soon as possible after party has left.

FWI 24 – 28 (Very High)

- Ranger to check area where event was centred as soon as possible after party has left.
- Smoking restricted to water front area only.

FWI 29+ (Extreme)

- Ranger to check area where event was centred as soon as possible after party has left.
- No Smoking anywhere on the island.
- If possible, schedule event for prior to 14.00hrs.
- Use of barbecues restricted to early morning or late evening and prohibited if wind speeds exceed 25 kph.
- Small children, elderly and physically handicapped persons to remain close to shoreline if wind speeds exceed 25kph.

The ranger should explain the permanent and temporary prohibitions to any unscheduled parties visiting the island during periods of very high and extreme FWI.

