

10. Prepared by: RORY RENWICK

## INCIDENT OBJECTIVES AND STRATEGIES

**3. INCIDENT OBJECTIVE(S)/AIM MISSION:** (SMART, Specific, Measurable, Achievable Relevant, Time bound)

General Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 20m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

**4. STRATEGY/ STRATEGIES:** (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 20m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 20m of perimeter that can be detected from a helicopter or drone by thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 20m in Sierra Sector and areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Rory Renwick

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### ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Ian Reade	[REDACTED]		Doc 5
Deputy IC	Steve Joyce	[REDACTED]		Doc 5
Information Officer	[REDACTED]	[REDACTED]		Doc 5
Safety Officer	Logan Akers	[REDACTED]		Doc 5
Liaison Officer	[REDACTED]	[REDACTED]		Doc 5
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	[REDACTED]		Doc 5
Agency	MCDEM	[REDACTED]		
Agency	Enterprise Trust	[REDACTED]		
Agency				
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	Rory Renwick	[REDACTED]		Doc 5
Situations Unit	Rory Renwick			
Resources Unit	Pete Walker	[REDACTED]		Doc 5
Management Support Unit	[REDACTED]	[REDACTED]		Doc 5
Information Unit				
Technical Specialists Unit				
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Pete Walker	[REDACTED]		Doc 5
Supply Unit	Sue Stewart (NZ based)		[REDACTED]	
Catering Unit	[REDACTED]	[REDACTED]		Doc 5
Facilities Unit	[REDACTED]			
Finance Unit	[REDACTED] Sue Stewart	[REDACTED]	[REDACTED]	
Communications Unit	Peter Walker			
Medical Unit	Logan Akers	[REDACTED]		Doc 5

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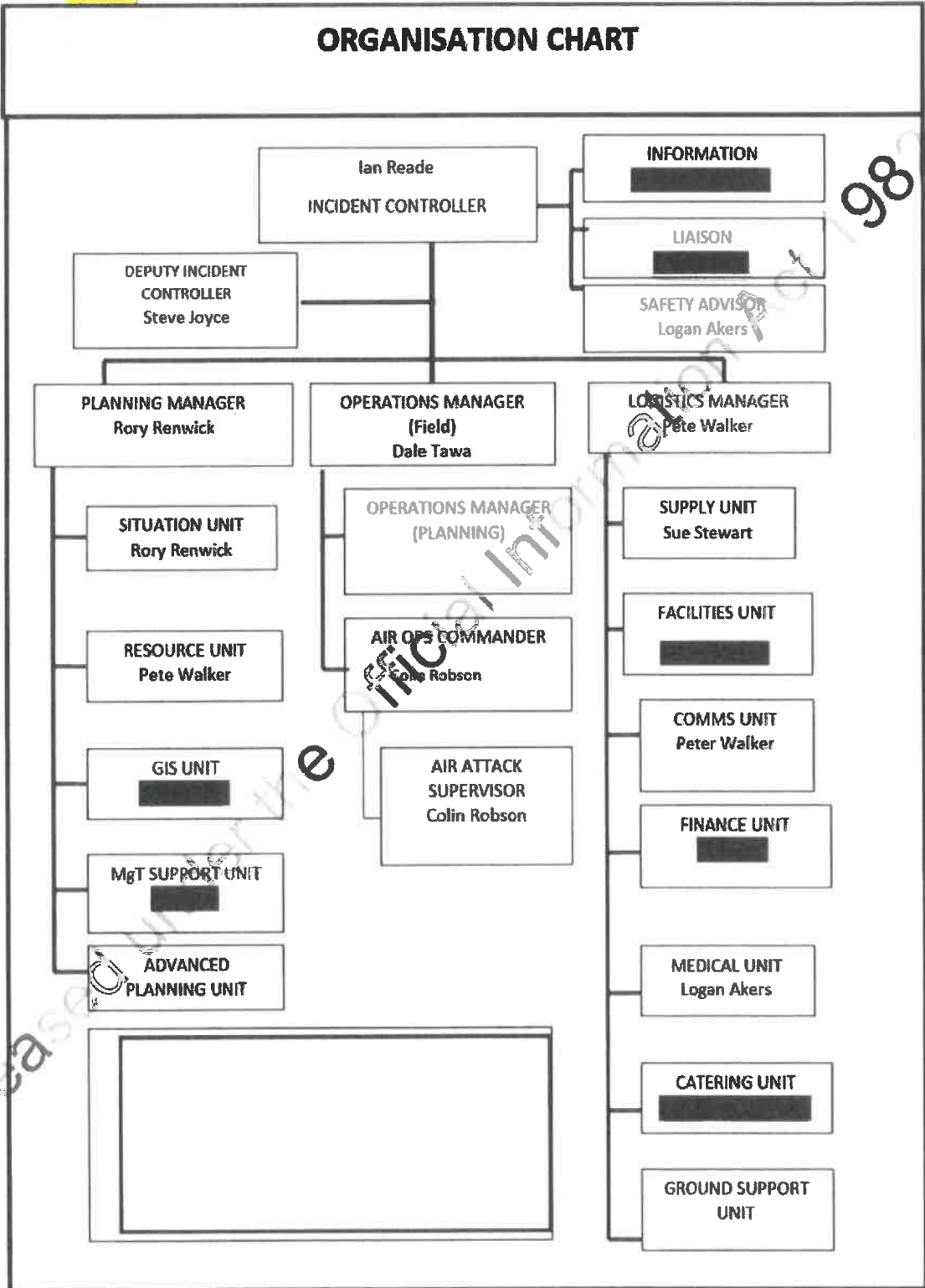


Makara Fire, Chatham Island.  
Shift period: 9<sup>th</sup> Feb 2018 0800-2000

7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Dale Tawa	[REDACTED]		Doc 5
Dep Ops / Dep Plan Manager		[REDACTED]		Doc 5
Sector Alpha Supervisor	Dale Tawa			
Sector Zulu Supervisor	Dale Tawa			
Sector Sierra Supervisor	Dale Tawa			
Air Attack Supervisor	Colin Robinson	[REDACTED]		Doc 5
Air Support Supervisor				
8. Prepared by:		Ian Reade		

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## ORGANISATION CHART





Makara Fire, Chatham Island.  
Shift period: 9<sup>th</sup> Feb 2018 0800-2000

## COMMUNICATIONS PLAN

### 3. Radio Channels Assigned To

Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		

### 4. Telephone

Assigned To	Landline	Cellphone	Fax	Comments

### 6. Other (e.g. email, Satphone, etc)

<i>Began unit available for internet and phone redundancy</i>	
FENZ SAT Phone	[REDACTED]

### 7. Prepared by:

*Peter Walker*

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Callsign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████ - Southern Helicopters	Squirrel B3	IMR	Sectors A,Z, Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	
██████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pit Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████

### 7. Air Operations Special Equip or Service

All Chathams staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

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## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watchouts
<p>L - Lookout(s)</p> <p>A - Anchor Point(s)</p> <p>C - Communication(s)</p> <p>E - Escape Route(s)</p> <p>S - Safety Zone(s)</p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

- Fatigue – Crew Boss to monitor*
- Slips and Falls – Crew briefings*
- Air Operations – Crew briefings, pilots and Air Ops monitoring*
- Weather – Crew boss and pilots to monitor - Rapid changes, electrical storms (hypo, hyper)*
- Driving – All personnel briefed*
- Duff – Air Crews advised – ground crews supplied PPE and monitor*
- Tools and Foam – Correct handling and storage – crews briefed*
- Radio communications – particularly Alpha and Sierra – air ops to monitor radio*
- PLB – RCCNZ notified of Chatham Islands activity*
- Peat Bog – ground crews briefed*
- Livestock / Bees – Ground crews briefed*
- Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored*
- Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.*

### 5. Prepared By:

Logan Akers

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<b>SECTOR ASSIGNMENT</b>						
<b>3. Sector</b> <i>Alpha</i>		<b>4. Description</b> Direct attack on the Western Flank			<b>5. Division Assigned</b>	
<b>6. Sector Supervisor</b> <i>Dale Tawa</i>		<b>Affiliation</b> FENZ		<b>Phone</b> [REDACTED]		
				<b>Radio Ch</b> DOC 5		
<b>7. Resources Assigned this period</b>						
<b>Resource/Crew</b>	<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>	<b>Drop-off Point/Time</b>	<b>Pickup Point/time</b>	
<i>Wellington</i>	[REDACTED]	+5	Van	0800	1800	
<i>Hutt</i>	[REDACTED]	5		0800	1800	
<b>8. Sector Assignment / Special Instructions</b>						
<ul style="list-style-type: none"> <li>• Hutt Crew working in southern part of sector under canopy</li> <li>• Wellington working in central part of sector under canopy</li> <li>• Continuation of perimeter containment</li> <li>• Establish drop points and GPS</li> <li>• Develop and flag ground access</li> <li>• Maintain reporting schedules</li> <li>• Re-deployment to other sectors determined by fire behaviour</li> <li>• Home safe</li> </ul>						
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager	<i>Dale Tawa</i>				DOC5	
Air Attack Supervisor	<i>Colin Robinson</i>				Fire 4	
Safety Officer	<i>Logan Akers</i>				DOC5	
<b>10. Prepared By:</b> <i>Dale Tawa</i>						

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<b>SECTOR ASSIGNMENT</b>						
<b>3. Sector</b> <i>Zulu</i>		<b>4. Description</b> <i>Eastern Flank</i>		<b>5. Division Assigned</b> <i>DOC 5</i>		
<b>6. Sector Supervisor</b> <i>Dale Tawa</i>		<b>Affiliation</b> <i>FENZ</i>		<b>Phone</b> [REDACTED]		
				<b>Radio Ch</b> <i>DOC 5</i>		
<b>7. Resources Assigned this period</b>						
<b>Resource/Crew</b> <i>DOC Crew</i>		<b>Leader</b> [REDACTED]	<b># Persons</b> <i>3</i>	<b>Transport Required</b> <i>2x2 Seater LUV</i>	<b>Drop off Point/time</b>	<b>Pickup Point/time</b>
<b>8. Sector Assignment / Special Instructions</b>						
<ul style="list-style-type: none"> <li>• Air attack on small perimeter smokers</li> <li>• Reactive deployment to this sector (tasking the same as Sierra) in event of increased fire activity</li> <li>• Awatapu land owners operating in southern part of Zulu sector</li> <li>• DOC to GPS track access from existing fire break in western sector to high point feature 205 in grid square 9922</li> <li>• DOC identify suitable Drop Points within fireground and clear Heli pads if required and provide co-ordinates.</li> <li>• DOC to route mark all access for LUV within fireground boundaries and map.</li> </ul>						
<b>9. Sector Communications:</b>						
				<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager		<i>Dale Tawa</i>			<i>DOC5</i>	
Air Attack Supervisor		<i>Colin Robinson</i>			<i>Fire 4</i>	
Safety Officer		<i>Logan Akers</i>			<i>DOC5</i>	
<b>10. Prepared By:</b> <i>Dale Tawa</i>						

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<b>SECTOR ASSIGNMENT</b>						
<b>3. Sector</b> <i>Sierra</i>		<b>4. Description</b> <i>Northern Perimeter of Fire</i>			<b>5. Division Assigned</b>	
<b>6. Sector Supervisor</b> <i>Dale Tawa</i>		<b>Affiliation</b> <i>FENZ</i>		<b>Phone</b> [REDACTED]	<b>Radio Ch</b> <i>DOC 5</i>	
<b>7. Resources Assigned this period</b>						
<b>Resource/Crew</b>		<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>	<b>Drop-off Point/time</b>	<b>Pickup Point/time</b>
<b>8. Sector Assignment / Special Instructions</b>						
<ul style="list-style-type: none"> <li>• Continuation of perimeter containment to a width of 10 meters</li> <li>• Establish drop points and provide details to GIS [REDACTED]</li> <li>• Develop ground access and provide details to GIS [REDACTED]</li> <li>• Maintain reporting schedules</li> <li>• Provide recommendations to Operations for future tasking and resourcing NLT 1300hrs</li> <li>• Redeployment to other sectors determined by fire behaviour</li> <li>• Home safe</li> <li>• Trigger point activation will require reassignment following predetermined response plan</li> </ul>						
<b>9. Sector Communications</b>				<b>Phone</b>	<b>Radio Ch</b>	
<b>Operations Manager.</b>		<i>Dale Tawa</i>			<i>DOC5</i>	
<b>Air Attack Supervisor</b>		<i>Colin Robinson</i>			<i>Fire 4</i>	
<b>Safety Officer</b>		<i>Logan Akers</i>			<i>DOC5</i>	
<b>10. Prepared By:</b>		<i>Dale Tawa</i>				

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## SECTOR ASSIGNMENT

<b>3. Sector</b>	<b>4. Description</b> Incident Within Incident Response Plan	<b>5. Division Assigned</b> Safety	
Logan Akers		FENZ	3050033
			DOC 5
<b>7. Resources Assigned this period</b>			
<b>Resource/Crew</b>	<b>Leader</b>	<b># Persons</b>	<b>Transport Required</b>
Air Ops	Colin Robson	1 x Squirrel 1 x B3	Drop-off Point/time
Ground Crews	Dale Tawa	2 x 5-man crew	Pickup Point/time
Waitangi Fire Brigade	Steve Joyce	2 x Appliances	
<b>8. Sector Assignment / Special Instructions</b>			
<p><b>Injury Accident Contingency</b></p> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul> <p><b>Aircraft Incident Contingency</b></p> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>			
<b>9. Sector Communications</b>		<b>Phone</b>	<b>Radio Ch</b>
Operations Manager	Dale Tawa		DOC5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Logan Akers		DOC5
<b>10. Prepared By:</b> Logan AKers			



## MEDICAL PLAN

<b>3. First Aid Station</b>						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	DOC 5	First Aiders			
Crew Leaders	Alpha Sector	DOC 5	First Aiders			
<b>4. Transportation</b>						
Ambulance Service	Address	Phone/Radio Channel	Paramedics available with Ambulance			
Air Operations (Emergency Evac only)						
St John Ambulance	1 Hospital Road	██████████	Yes			
WestPac Rescue			Yes			
Life Flight						
<b>5. Hospitals</b>						
<b>Heli</b>		<b>Travel Time</b>		<b>Burn</b>		
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chathams Medical Centre	1 Hospital Road	██████████	20 min	10 min	No	No
<b>6. Special Emergency Procedures</b>						
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chathams Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:     Advise Logistics Manager</p>						
<b>7. Prepared by Logistics</b>						
<b>Manager / Safety Officer: ]</b> Logan Akers						
<b>8. Reviewed by Incident</b>						
<b>Controller:</b>						

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Kmh/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Friday	9/02 16:00	22	60	0	18	NE	85	4.5	350	1260
Saturday	10/02 16:00	23	60	0	26	NE	85	7.8	650	1950
Sunday	11/02 1600	20	79	12	37	NE	56	2.5	Negligible	370

**Prepared By:** *Rory Renwick*

Updated forecast – 8 February 4:15 pm NZDT

**Friday (midnight to midnight):**

- N to NE wind sustained 15 km/h or less to near 6am, increasing to 10-20 km/h by midday and beyond. Gusts 30-35 km/h possible.
- Early morning minimum temperature 13-14 degrees, increasing to a maximum temperature of 21-22 degrees.
- Early morning maximum humidity near 95%, falling to 65% in the afternoon, then increasing to near 90% by midnight.
- Slight chance of an evening shower, but any rainfall would be minimal.

**Saturday (midnight to midnight):**

- NE wind sustained 10-25 km/h, tending E-NE near/after midday and increasing to 15-30 km/h.
- Early morning minimum temperature 14-15, increasing to a maximum temperature 21-22 degrees.
- Early morning maximum humidity near 95%, falling to 65-70% in the afternoon, then increasing to near 90% by midnight.
- Chance of a couple late-day showers, with amounts less than 3 mm.

**Outlook for Sunday:**

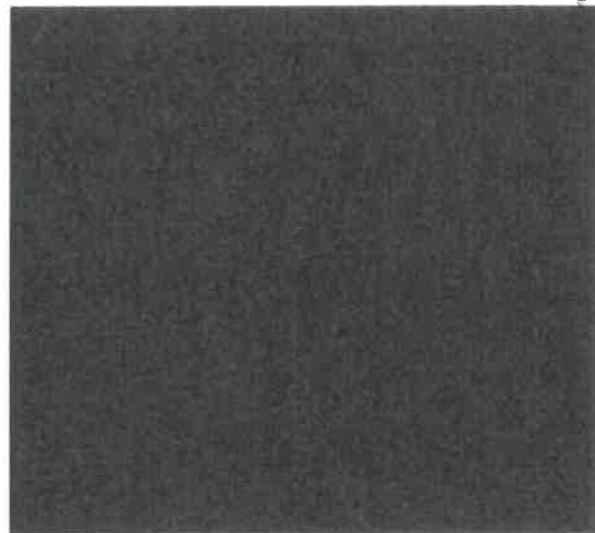
- NE wind sustained 25-40 km/h and gusts up to 50 km/h.
- Early morning minimum temperature 17-18, increasing to a maximum temperature 21-22 degrees.
- Maximum relative humidity 95-100% (largely, but not entirely, dependent on showers materialising).
- Threat for showers.





Makara Fire, Chatham Island.  
Shift period: 10<sup>th</sup> Feb 2018 0800-2000

## Incident Action Plan



**1. Approved by Incident Controller:**

Name

Signed

Date/Time

W. Keade



## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Tarehinau Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Tarahinau scrub fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying one structure and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. On Monday 4<sup>th</sup> and Wednesday the 5<sup>th</sup> there were a few flare ups near the perimeter but crews and helicopters were able to contain these. Thermal flights on Wednesday- Thursday saw numerous small hot spots on or near the perimeter on Sierra and some larger hot areas in other sectors.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour

Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.

Main focus of ground crews has been Sierra sector and northern Edge of Alpha.

Two medium helicopters carrying out bucket work and crew transport on the 4th Feb – reducing the number of visible smokers around the perimeter, focussing on the currently inaccessible areas along the cliff face in Zulu.

A local crew has done considerable mopping up around structures at the southern end of Zulu, and have been provided with some PPE and communications so they can call for assistance in the event of an incident.

Partial National Incident Management Team from NZ arrived midday on the 3rd Feb to assist with incident management, and will be replaced by a regional team at the beginning of this shift.

### 8. Factors

Access around fire-ground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.

### 9. Predicted Incident Development

There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

10. Prepared by: RORY RENWICK





## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

General Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 20m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 20m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 20m of perimeter that can be detected from a helicopter or drone by thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 20m in Sierra Sector and areas where the canopy obscures the view of the ground from the air

Retain at least one aircraft until perimeter is secure.

5. Prepared by: Rory Renwick



## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]		Doc 5
Safety Officer	Matt Able	[REDACTED]		Doc 6
Liaison Officer	[REDACTED]	[REDACTED]		Doc 5

4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	[REDACTED]		Doc 5
Agency	MCDEM	[REDACTED]		
Agency	Enterprise Trust	[REDACTED]		

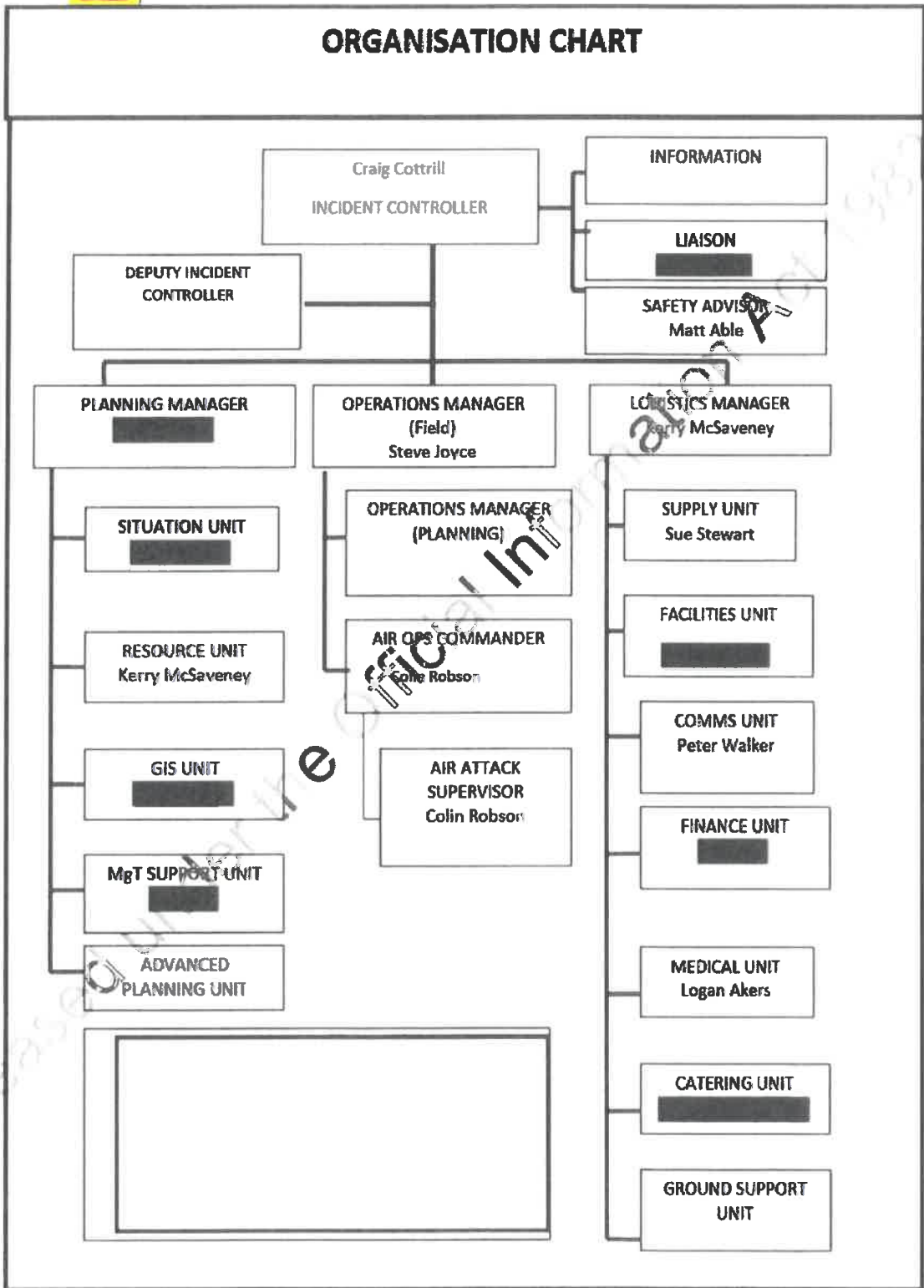
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]		Doc 5
Situations Unit	[REDACTED]			
Resources Unit	Kerry McSaveney	[REDACTED]		Doc 5

6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]		Doc 5
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Catering Unit	[REDACTED]	[REDACTED]		Doc 5
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Sector Sierra Supervisor				
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8. Prepared by:	Rory Renwick			

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## ORGANISATION CHART





## COMMUNICATIONS PLAN

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Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
Began unit available for internet and phone redundancy				
FENZ SAT Phone		[REDACTED]		
<b>7. Prepared by:</b> Peter Walker				

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor				
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters	0	Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
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██████████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch out
<p><b>L</b> - Lookout(s)  <b>A</b> - Anchor Point(s)  <b>C</b> - Communication(s)  <b>E</b> - Escape Route(s)  <b>S</b> - Safety Zone(s)</p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Fatigue – Crew Boss to monitor  
Slips and Falls – Crew briefings  
Air Operations – Crew briefings, pilots and Air Ops monitoring  
Weather – Crew boss and pilots to monitor - Rapid changes, electrical storms (hypo, hyper)  
Driving – All personnel briefed  
Dust – Air Crews advised – ground crews supplied PPE and monitor  
Foam and Foam – Correct handling and storage – crews briefed  
Radio communications – particularly Alpha and Sierra – air ops to monitor radio  
PLB – RCCNZ notified of Chatham Islands activity  
Peat Bog – ground crews briefed  
Livestock / Bees – Ground crews briefed  
Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored  
Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

### 5. Prepared By:

Logan Akers



## SECTOR ASSIGNMENT

<b>6. Sector Supervisor</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	DOC 5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Hutt	Jason Sarich	5
B			
C	Wellington	Bryan Sutton	5
D			
S			
Y			
Z			

<b>8. Sector Assignment / Special Instructions</b> <ul style="list-style-type: none"> <li>Dig hot areas down and out to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>Continuation of extinguishment of all hot spots to a width of 20m from perimeter containment</li> <li>Establish and GPS drop points</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>Re-deployment to other sectors determined by fire behaviour</li> <li>Return home safe</li> </ul>
---

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Matt Able		DOC5

<b>10. Prepared By:</b>	Dale Tawa
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<b>SECTOR ASSIGNMENT</b>					
<b>3. Sector</b>	<b>4. Description</b>		<b>5. Division Assigned</b>		
	Incident Within Incident Response Plan		Safety		
Matt Able 5	FENZ	[REDACTED]		DOC	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<p><b>Injury Accident Contingency</b></p> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advise Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul> <p><b>Aircraft Incident Contingency</b></p> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advise Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>			<b>Phone</b>	<b>Radio Ch</b>	
Operations Manager	Steve Joyce			DOC5	
Air Attack Supervisor	Colin Robinson			Fire 4	
Safety Officer	Matt Able			DOC5	
<b>10. Prepared By:</b> Logan Akers					





## MEDICAL PLAN

3. First Aid Station		Phone/Radio	Paramedics
Name	Location	Channel	available at Station
Point 106	Staging	DOC 5	First Aiders
Crew Leaders	Alpha Sector	DOC 5	First Aiders

4. Transportation	Address	Phone/Radio	Paramedics
Ambulance Service		Channel	available with Ambulance
Air Operations ( Emergency Evac only)			
St John Ambulance	1 Hospital Road	██████	Yes
WestPac Rescue			Yes
Life Flight			

5. Hospitals		Travel Time			Burn		
Heli	Hospital Name	Address	Phone	Road	Air	Unit	Pad
	Chatham's Medical Centre	1 Hospital Road	██████	20 min	10 min	No	No

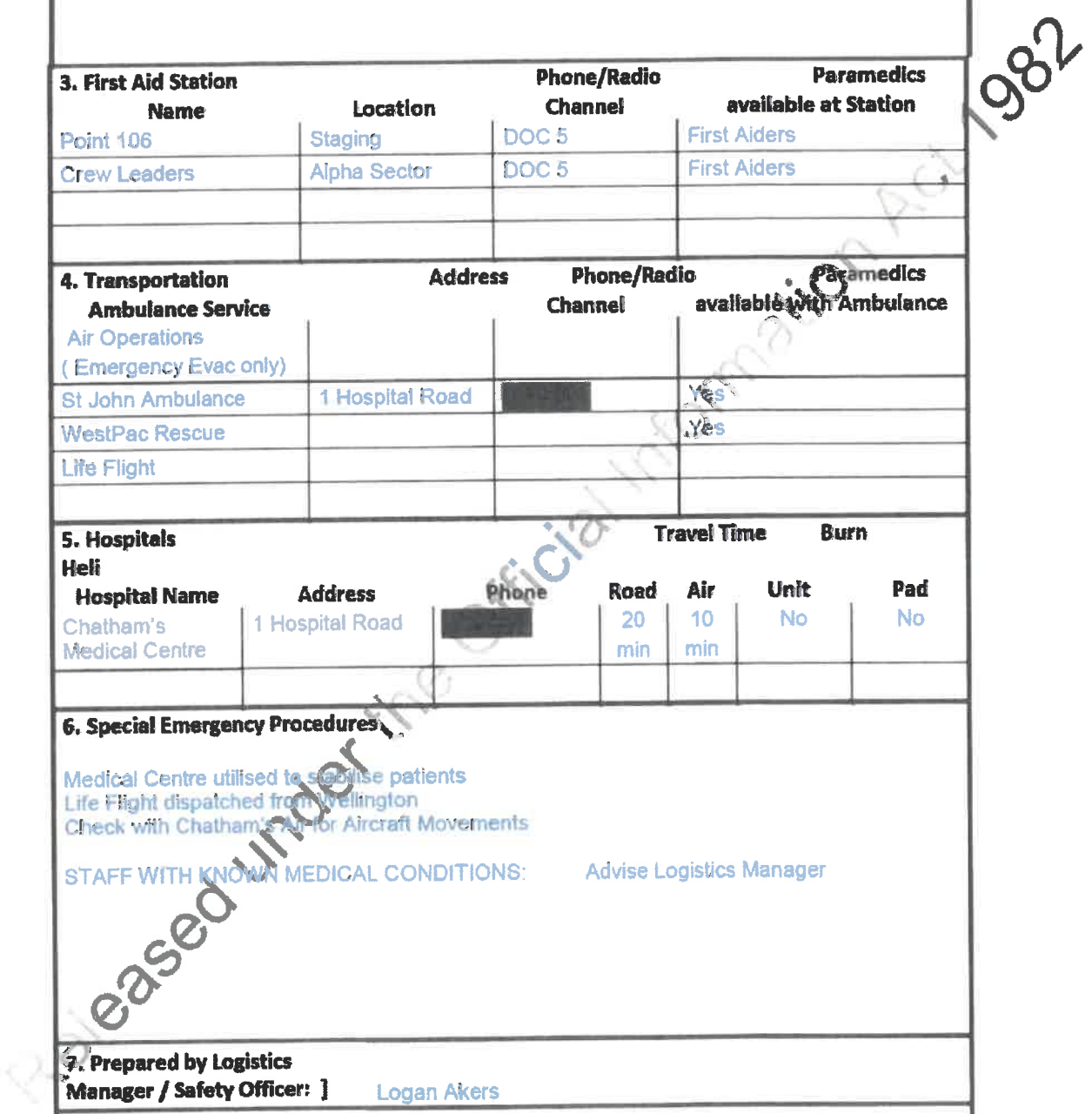
**6. Special Emergency Procedures**

Medical Centre utilised to stabilise patients  
 Life Flight dispatched from Wellington  
 Check with Chatham's Air for Aircraft Movements

STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager

**7. Prepared by Logistics**  
 Manager / Safety Officer: ]      Logan Akers

**8. Reviewed by Incident**  
 Controller:



## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Saturday	10/02	21	65	0.2	21	NE	83	4.6	340	1108
Sunday	11/02	19	85	20	38	NE	46	2	Negligible	370
Monday	12/02	20	80	0.8	43	N	70	5	380	1341

Prepared By: [Rory Renwick](#)

Updated forecast – 9 February 4:10 pm NZDT

### Saturday (midnight to midnight):

- NE wind sustained 15-20 km/h in the morning, then tending NE to ENE in the afternoon and increasing to 20-30 km/h. Gusts to 40 km/h.
- Early morning minimum temperature 14-15, increasing to a maximum temperature of 21-22 degrees.
- Early morning maximum humidity near 95%, falling to 75% in the afternoon, then increasing to near 95% by midnight.
- Showers developing in the afternoon and continuing into the evening. Rainfall of 10-15 mm possible by midnight.

### Sunday (midnight to midnight):

- ENE wind sustained 20-30 km/h in the morning, thereafter tending NE and increasing to 25-35 km/h. Gusts up to 50 km/h.
- Early morning minimum temperature 16-17 degrees, increasing to a maximum temperature of 21-22 degrees.
- Maximum relative humidity 95% early morning, decreasing to 75-80% in the afternoon, then increasing to near 100% by midnight.
- Threat for showers continues until midday, then clearing. Additional amounts of 5-10 mm possible.

### Outlook for Monday:

- NE wind sustained 25-45+ km/h, may tend N-NW late afternoon into the evening.
- Early morning minimum temperature 17-18, increasing to a maximum temperature 21-22 degrees.
- Maximum relative humidity 95-100%.
- Isolated showers possible.

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## Incident Action Plan

### MAKARA FIRE



**1. Approved by Incident Controller:**

Name

Craig Cottrill

Signed

Date/Time

10/2/18 20:00



## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Tarehinau Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Tarahinau scrub (*Dracophyllum*) fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Siana for protection of structures.

Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.

The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned out today, the second IMT is in place until about Friday of next week.

### 8. Factors

Access around fire-ground difficult due to risk of peat tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.

### 9. Predicted Incident Development

There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

### 10. Prepared by:

██████████

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## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

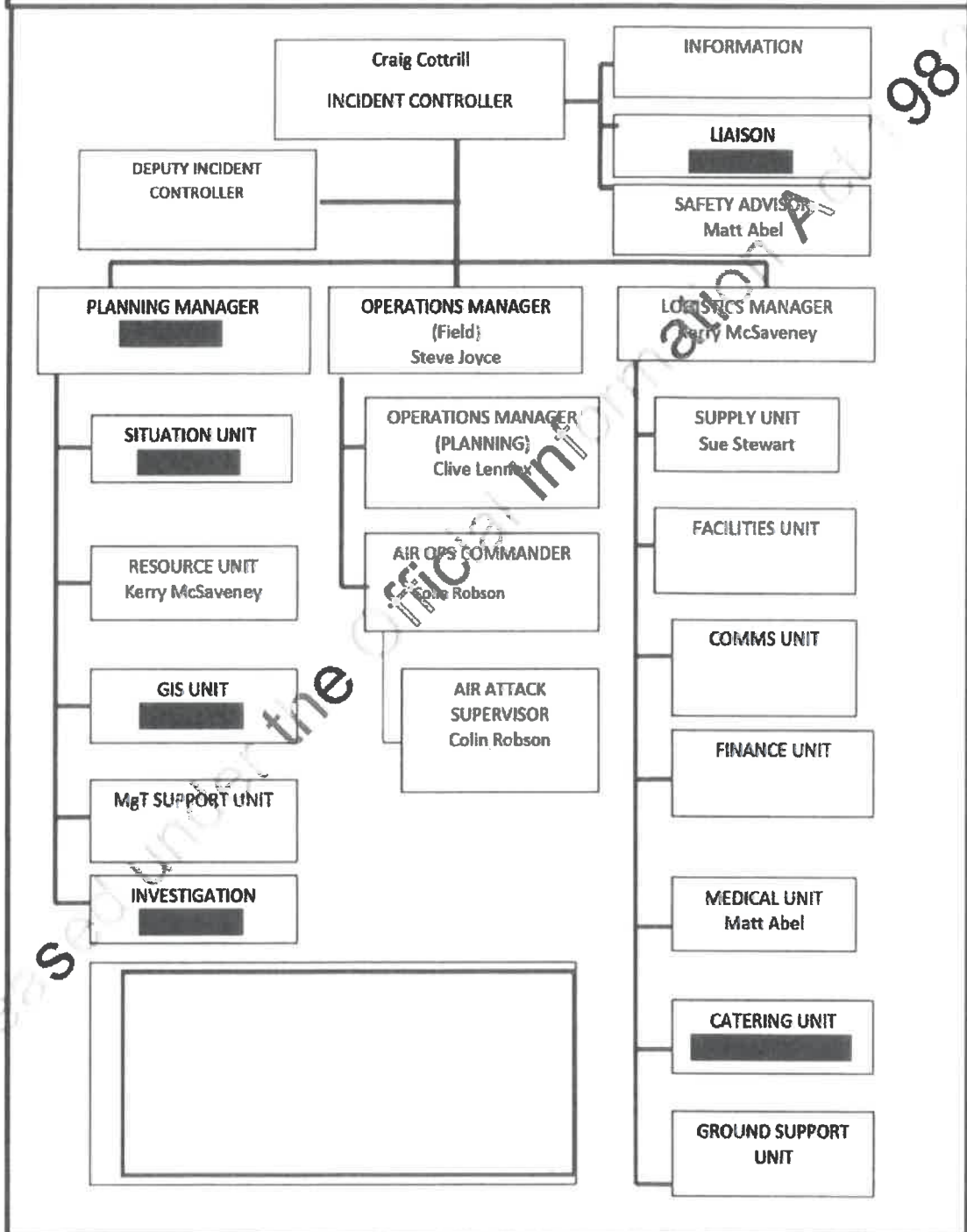


## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]		Doc 5
Safety Officer	Matt Able	[REDACTED]		Doc 5
Liaison Officer	[REDACTED]	[REDACTED]		Doc 5
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	[REDACTED]		Doc 5
Agency	Chatham Islands Council	[REDACTED]		
Agency	Enterprise Trust	[REDACTED]		
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]		Doc 5
Situations Unit	[REDACTED]			
Resources Unit	Kerry McSaveney	[REDACTED]		Doc 5
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]		Doc 5
Supply Unit	Sue Stewart (NZ based)		[REDACTED]	
Catering Unit	[REDACTED]	[REDACTED]		Doc 5
Facilities Unit				
Finance Unit		[REDACTED]	[REDACTED]	
Communications Unit	Kerry McSaveney			
Medical Unit	Matt Able	[REDACTED]		Doc 5
7. Operations Section		Phone	Cell Phone	Radio Ch
Operations Manager	Steve Joyce	[REDACTED]		Doc 5
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	Colin Robinson	[REDACTED]		Doc 5
8. Prepared by:		Jamie Cowan		



## ORGANISATION CHART





<b>COMMUNICATIONS PLAN</b>				
<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
Began unit available for internet and phone redundancy				
FENZ SAT Phone				
<b>7. Prepared by:</b> Kerry McSaveney				

Released under the Official Information Act 1982



## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████████ - Southern Helicopters	Squirrel B3	IMR	Sectors A-Z Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	
██████████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

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## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed in strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Crew boss and pilots to monitor - Rapid changes.

Fatigue – Crew Boss to monitor with rest periods

Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks)

Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring

Driving – All personnel briefed

Dust – Air Crews advised – ground crews supplied PPE and monitor

Fuels and Foam – Correct handling and storage – crews briefed

Radio communications – air ops to monitor radio, PLBs issued to crews

PLB – RCCNZ notified of Chatham Islands activity

Peat Bog – ground crews briefed and made aware of tomos

Livestock- wild bulls and pigs

Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

Chainsaw only to be operated by unit standard qualified personnel

### 5. Prepared By:

Matt Abel



## SECTOR ASSIGNMENT

<b>6. Sector Supervisor</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	DOC5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Helos monitor		
B	Hutt	Jason Sarich	5
C	Wellington	Bryan Sutton	8
D			
S			
Y			
Z			

- 8. Sector Assignment / Special Instructions**
- Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.
  - Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment
  - Establish and GPS drop points
  - Develop and flag ground access
  - Maintain reporting schedules, on commencement of work and twice during each day.
  - Re-deployment to other sectors determined by fire behaviour
  - Use helicopter for water if necessary.
  - Use helicopter to recon fire line.

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Matt Able		DOC5

**10. Prepared By:** Steve Joyce

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<b>SECTOR ASSIGNMENT</b>					
<b>3. Sector</b>	<b>4. Description</b> Incident Within Incident Response Plan		<b>5. Division Assigned</b> Safety		
Matt Abel <span style="float: right;">FENZ</span> <span style="float: right;">DOC 5</span>					
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop-off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<b>Injury Accident Contingency</b> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul>					
<b>Aircraft Incident Contingency</b> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> </ul> Advice Incident Controller of aircraft incident.					
<b>9. Sector Communications</b>					
Operations Manager	Steve Joyce		<b>Phone</b>	<b>Radio Ch</b> DOC5	
Air Attack Supervisor	Colin Robinson			Fire 4	
Safety Officer	Matt Abel			DOC5	
<b>10. Prepared By:</b> Matt Abel					



## MEDICAL PLAN

3. First Aid Station						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	DOC 5	First Aiders			
Crew Leaders	Alpha Sector	DOC 5	First Aiders			
4. Transportation						
Ambulance Service		Address	Phone/Radio Channel			
Paramedics available with Ambulance						
Air Operations (Emergency Evac only)						
St John Ambulance	1 Hospital Road		Yes			
WestPac Rescue			Yes			
Life Flight						
5. Hospitals						
Heli		Travel Time		Burn		
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No
6. Special Emergency Procedures						
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>						
7. Prepared by Logistics						
<b>Manager / Safety Officer: ]</b> Matt Able						
8. Reviewed by Incident						
<b>Controller:</b>						

1982

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## WEATHER AND FIRE BEHAVIOUR PREDICTION

		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Sunday	11/02	22	85	15	35	NE	50	1	Negligible	Negligible
Monday	12/02	22	80	10	40	NE-NW	46	1	Negligible	Negligible
Tuesday	13/02	23	80	5	35	WNW	42	1	Negligible	Negligible

Prepared By: [REDACTED]

### Updated forecast – 10 February 4:10 pm NZDT

#### Sunday (midnight to midnight):

- NE wind sustained 20-30 km/h in the morning, thereafter increasing to 25-35 km/h. Gusts up to 50 km/h.
- Early morning minimum temperature 17-18 degrees, increasing to a maximum temperature of 21-22 degrees.
- Maximum relative humidity near 100% early morning, decreasing to 85% in the afternoon, then increasing to near 100% by midnight.
- Threat for rain continues until midday, then clearing. Additional amounts of 10-15 mm possible.

#### Monday (midnight to midnight):

- NNE wind in the morning becoming NNW in the afternoon. Sustained winds 35-40 km/h with gusts up to 60 km/h.
- Early morning minimum temperature 17-18, increasing to a maximum temperature of 22 degrees.
- Early morning relative humidity of 95-100%, falling to 80% in the afternoon.
- Morning showers possible with rainfall up to 10 mm.

#### Outlook for Tuesday:

- NW wind becoming WNW at 25-35 km/h.
- Maximum temperature near 23 degrees.
- Minimum relative humidity near 80%.
- Early morning rain possible, then clearing.

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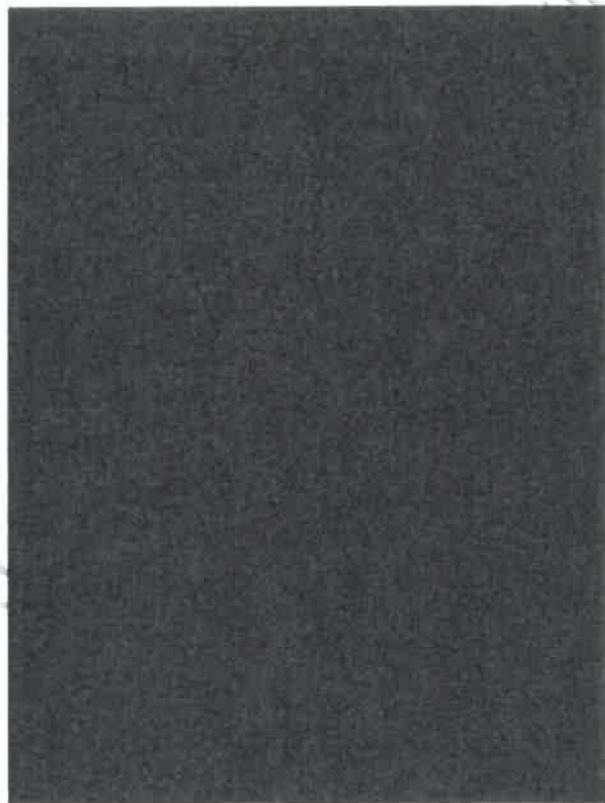




Makara Fire, Chatham Island.  
Shift period: 12<sup>th</sup> Feb 2018 0600-2000

## Incident Action Plan

### MAKARA FIRE



#### 1. Approved by Incident Controller:

Name

Signed

Date/Time

Craig Cottrill

10/2/18 20:00



## SITUATION REPORT

**3. Location**

South Western end Chatham Island

**4. Vegetation**

Tarehinau Scrub / peat /

**5. NZTM Grid Ref.****6. Assessment**

Vegetation in Tarahinau scrub (Dracophyllum) fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.

**7. Action taken**

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb. and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Sigma for protection of structures.

Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.

The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10<sup>th</sup>. 2<sup>nd</sup> IMT is in place until about Friday of next week.

**8. Factors**

Access around fire-ground difficult due to risk of peat tomor's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.

**9. Predicted Incident Development**

There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

10. Prepared by: XXXXXXXXXX

## INCIDENT OBJECTIVES AND STRATEGIES

### 3. INCIDENT OBJECTIVE(S)/AIM MISSION: (SMART, Specific, Measureable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

### 4. STRATEGY/ STRATEGIES: (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

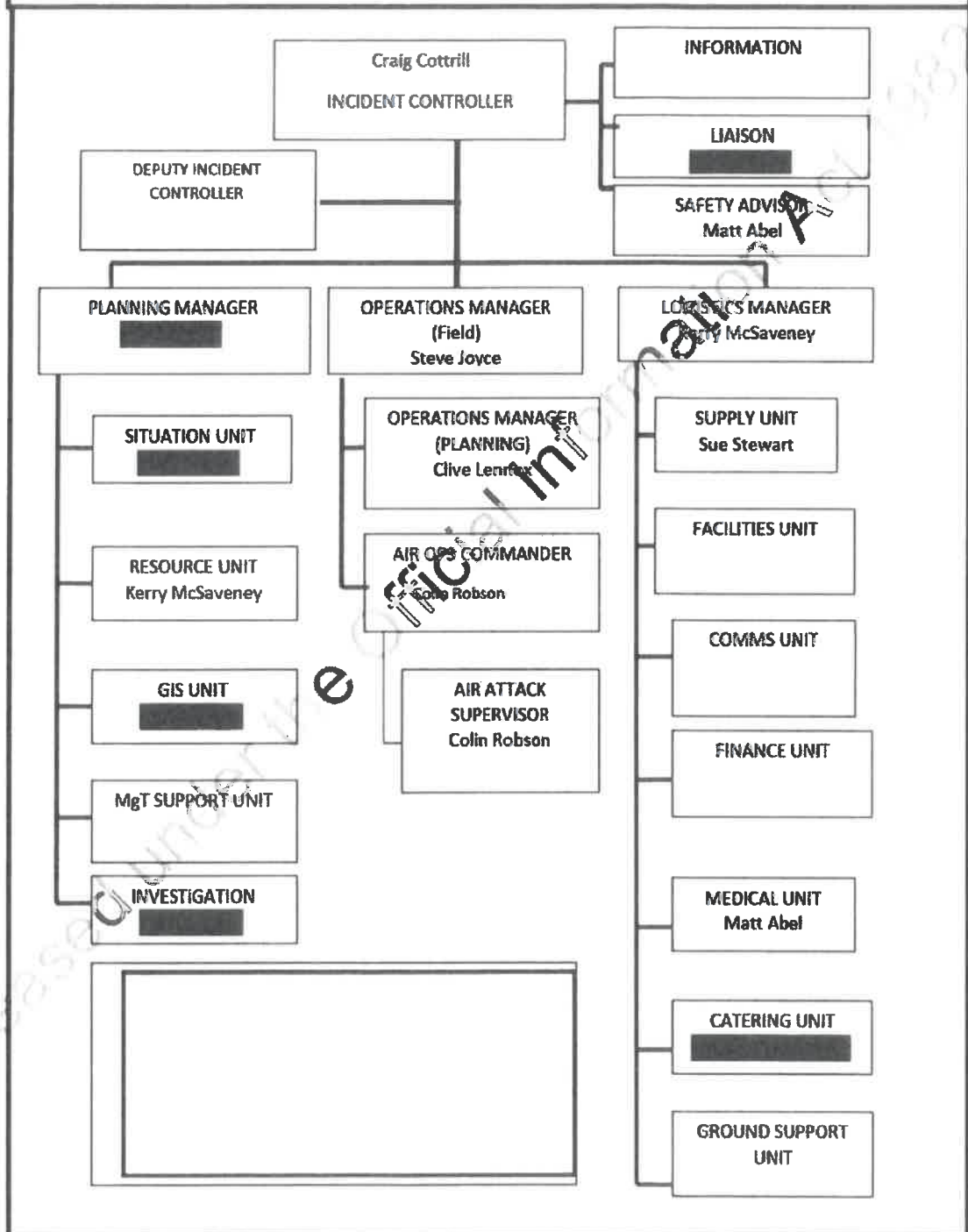
Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]

## ORGANISATION LIST

3. Incident Control		Phone	Cell Phone	Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]		Doc 5
Safety Officer	Matt Able	[REDACTED]		Doc 6
Liaison Officer	[REDACTED]	[REDACTED]		Doc 5
4. Agency Representative		Phone	Cell Phone	Radio Ch
Lead Agency	FENZ	[REDACTED]		Doc 5
Agency	Chatham Islands Council	[REDACTED]		
Agency	Enterprise Trust	[REDACTED]		
5. Planning/Intel Section		Phone	Cell Phone	Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]		Doc 5
Situations Unit	[REDACTED]			
Resources Unit	Kerry McSaveney	[REDACTED]		Doc 5
6. Logistics Section		Phone	Cell Phone	Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]		Doc 5
Supply Unit	Sue Stawan (NZ based)		[REDACTED]	
Catering Unit	[REDACTED]	[REDACTED]		Doc 5
Facilities Unit				
Finance Unit		[REDACTED]	[REDACTED]	
Communications Unit	Kerry McSaveney			
Medical Unit	Matt Able	[REDACTED]		Doc 5
7. Operations Section				
Operations Manager	Steve Joyce	[REDACTED]		Doc 5
Sector Alpha Supervisor				
Sector Zulu Supervisor				
Sector Sierra Supervisor				
Air Attack Supervisor	Colin Robinson	[REDACTED]		Doc 5
8. Prepared by:	[REDACTED]			

## ORGANISATION CHART





## COMMUNICATIONS PLAN

<b>3. Radio Channels</b>				
Assigned To	Function	Channel	Frequency	System
Command	Management	Doc 5		
Tactical	Tactics	Doc 15		
Ground to Air	Air Ops	Fire 4		
Air to Air	Pilots	119.1		
<b>4. Telephone</b>				
Assigned To	Landline	Cell phone	Fax	Comments
<b>6. Other (e.g. email, Sat phone, etc.)</b>				
Began unit available for internet and phone redundancy				
FENZ SAT Phone		[REDACTED]		
<b>7. Prepared by:</b>				
Kerry McSaveney				

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## AIR OPERATIONS PLAN

### 3. Personnel and Communications

Position	Name	Affiliation	Phone	Radio Chan
Air Div. Commander	Colin Robson	FENZ - Wellington		Fire 4 DOC 5
Air Attack Supervisor	Steve Phillips	FENZ - Wellington		Fire 4 DOC 5
Air Support Supervisor				
Lead Helicopter Pilot	██████████	Southern Helicopters		Fire 4 DOC 5
Lead Fixed-Wing Pilot				

### 4. Air Resource Assignments

Pilot Name/ Company	Aircraft Type	Reg or Call sign	Assignment	Tactical Freq/Chan	Telephone Numbers
██████ - Southern Helicopters	Squirrel B3	IMR	Sectors A-Z, Redeployment of ground crews for structure protection on activation of trigger points	Fire 4	
██████ - Garden City		HGU		Fire 4	

### 5. Location of Filling Points/Service Areas

Name	Grid Reference
Chatham Airport	Various dipping points within fire ground

### 6. Safety Notes / Hazards / Radio Coverage Limitations

Power lines running East West on Owenga Road. Small Cessna fixed wing operating from airport from Pitt Island. Normal airport operations domestic from Tuuta airfield. 0600 thermal flight with ██████████

### 7. Air Operations Special Equip or Service

All Chatham's staff to transfer fuel from their tanker to Helo's following CAA standards.

8. Prepared By: Colin Robson

## SAFETY PLAN

### 3. General Safety Points

LACES	Fire Orders	Watch outs
<p><b>L - Lookout(s)</b></p> <p><b>A – Anchor Point(s)</b></p> <p><b>C – Communication(s)</b></p> <p><b>E – Escape Route(s)</b></p> <p><b>S – Safety Zone(s)</b></p>	<ol style="list-style-type: none"> <li>1. Fight fire aggressively but provide for safety first.</li> <li>2. Initiate all action based upon current and expected fire behaviour.</li> <li>3. Recognise current weather conditions and obtain forecasts.</li> <li>4. Ensure instructions are given and understood.</li> <li>5. Obtain current information on fire status.</li> <li>6. Remain in Communication with crew members, your supervisor and adjoining forces.</li> <li>7. Determine safety zones and escape routes.</li> <li>8. Establish lookouts in potentially hazardous situations.</li> <li>9. Retain control at all times.</li> <li>10. Stay alert, keep calm, think clearly, act decisively.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fire not scouted and sized up.</li> <li>2. In country not seen in daylight.</li> <li>3. Safety zones and escape routes not identified.</li> <li>4. Unfamiliar with weather and local factors influencing fire behaviour.</li> <li>5. Uninformed on strategy, tactics and hazards.</li> <li>6. Instructions and assignments not clear.</li> <li>7. No communications link with crew members or supervisor.</li> <li>8. Constructing fireline without safe anchor point.</li> <li>9. Constructing fireline downhill with fire below.</li> <li>10. Attempting frontal assault on fire.</li> <li>11. Unburned fuel between you and the fire.</li> <li>12. Cannot see main fire, not in contact with anyone who can.</li> <li>13. On hillside where rolling material can ignite fuel below.</li> <li>14. Weather is getting hotter and drier.</li> <li>15. Wind increases and/or changes direction.</li> <li>16. Getting frequent spot fires across the line.</li> <li>17. Terrain and fuels make escape to safety zones difficult.</li> <li>18. Taking a nap near the fire line.</li> </ol>

### 4. Specific Safety Points

Weather – Crew boss and pilots to monitor - Rapid changes.

Fatigue – Crew Boss to monitor with rest periods

Slips, Trips and Falls – Crew briefings, made aware of burnt small stick (punji sticks)

Air Operations – Crew pre-flight briefings, pilots and Air Ops monitoring

Driving – All personnel briefed

Dust – Air Crews advised – ground crews supplied PPE and monitor

Fuels and Foam – Correct handling and storage – crews briefed

Radio communications – air ops to monitor radio, PLBs issued to crews

PLB – RCCNZ notified of Chatham Islands activity

Peat Bog – ground crews briefed and made aware of tomos

Livestock- wild bulls and pigs

Non FENZ resources – Operating on the fire ground. Assistance provided, welfare monitored

Off road driving (4x4 and LUV) – restricted to DOC and other qualified personnel.

Chainsaw only to be operated by unit standard qualified personnel

**5. Prepared By:**

Matt Abel



## SECTOR ASSIGNMENT

<b>6. Sector Supervisor</b>	<b>Affiliation</b>	<b>Phone</b>	<b>Radio Ch</b>
Steve Joyce	FENZ	[REDACTED]	DOC 5

7. Resource Allocation			
Sector	Crew / Resource	Leader (s)	# Persons
A	Helos monitor		
B	Hutt	Jason Sarich	5
C	Wellington	Bryan Sutton	3
D			
S			
Y			
Z			

8. Sector Assignment / Special Instructions
<ul style="list-style-type: none"> <li>Dig out hot areas to cold earth and if available mix with water by poking nozzle right into the ground.</li> <li>Continuation of extinguishment of all hot spots to a width of 30m from perimeter containment</li> <li>Establish and GPS drop points</li> <li>Develop and flag ground access</li> <li>Maintain reporting schedules, on commencement of work and twice during each day.</li> <li>Re-deployment to other sectors determined by fire behaviour</li> <li>Use helicopter for water if necessary.</li> <li>Use helicopter to recon fire line.</li> </ul>

9. Sector Communications		Phone	Radio Ch
Operations Manager.	Steve Joyce		DOC 5
Air Attack Supervisor	Colin Robinson		Fire 4
Safety Officer	Matt Able		DOC5

<b>10. Prepared By:</b>	Steve Joyce
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SECTOR ASSIGNMENT					
<b>3. Sector</b>		<b>4. Description</b>		<b>5. Division Assigned</b>	
		Incident Within Incident Response Plan		Safety	
Matt Abel		FENZ		DOC 5	
<b>7. Resources Assigned this period</b>					
Resource/Crew	Leader	# Persons	Transport Required	Drop off Point/time	Pickup Point/time
Air Ops	Colin Robson	1 x Squirrel 1 x B3			
Ground Crews	Steve Joyce	2 x 5-man crew			
Waitangi Fire Brigade	Steve Joyce	2 x Appliances			
<b>8. Sector Assignment / Special Instructions</b>					
<p><b>Injury Accident Contingency</b></p> <ul style="list-style-type: none"> <li>• Provide First Aid</li> <li>• Pass Priority message requesting assistance</li> <li>• Senior person "ON SCENE" assumes responsibility for the "New" incident</li> <li>• Advice Incident Controller of secondary incident.</li> <li>• Most appropriate Senior person "OFF SCENE" assumes responsibility for the "Existing" incident</li> <li>• Formal K45 returning sector command at conclusion of "New" incident and resumption of normal operations.</li> </ul> <p><b>Aircraft Incident Contingency</b></p> <ul style="list-style-type: none"> <li>• Second aircraft immediately tracks to "Last Known Location" Confirm status and location of effected aircraft.</li> <li>• If necessary, Pass Priority Message before landing to render immediate assistance or diverting to pick up nearest Fire Crew resources and returning to scene.</li> <li>• Advice Incident Controller of aircraft incident.</li> </ul>					
<b>9. Sector Communications</b>					
<b>Operations Manager</b>	Steve Joyce		<b>Phone</b>	<b>Radio Ch</b>	
<b>Air Attack Supervisor</b>	Colin Robinson			DOC5	
<b>Safety Officer</b>	Matt Abel			Fire 4	
				DOC5	
<b>10. Prepared By:</b> Matt Abel					



<b>MEDICAL PLAN</b>						
<b>3. First Aid Station</b>						
Name	Location	Phone/Radio Channel	Paramedics available at Station			
Point 106	Staging	DOC 5	First Aiders			
Crew Leaders	Alpha Sector	DOC 5	First Aiders			
<b>4. Transportation</b>						
Ambulance Service		Address	Phone/Radio Channel	Paramedics available with Ambulance		
Air Operations ( Emergency Evac only)						
St John Ambulance		1 Hospital Road		Yes		
WestPac Rescue				Yes		
Life Flight						
<b>5. Hospitals</b>						
Heli		Address		Travel Time		Burn
Hospital Name	Address	Phone	Road	Air	Unit	Pad
Chatham's Medical Centre	1 Hospital Road		20 min	10 min	No	No
<b>6. Special Emergency Procedures</b>						
<p>Medical Centre utilised to stabilise patients            Life Flight dispatched from Wellington            Check with Chatham's Air for Aircraft Movements</p> <p>STAFF WITH KNOWN MEDICAL CONDITIONS:      Advise Logistics Manager</p>						
<b>7. Prepared by Logistics</b>						
<b>Manager / Safety Officer: ]</b> Matt Able						
<b>8. Reviewed by Incident</b>						
<b>Controller:</b>						

WEATHER AND FIRE BEHAVIOUR PREDICTION										
		Temp	RH	Rain mm	Wind Km/hr	Wind Dir	FFMC	ISI	Grass EROS 75% cured m/hr	Scrub EROS m/hr
Monday	12/02	22	90	15	40	NE-NW	30	0	Negligible	Negligible
Tuesday	13/02	23	80	5	30	NNW	61	0	Negligible	Negligible
Wednesday	14/02	22	65	0	20	SW	78	1	70	600
Prepared By: [REDACTED]										

Updated forecast – 11 February 4:15 pm NZDT

**Monday (midnight to midnight):**

- NNE wind in the morning becoming N in the afternoon. Sustained winds 35-40 km/h increasing to 40-45 km/h by late morning. Gusts 65-70 km/h possible.
- Early morning minimum temperature 17-18, increasing to a maximum temperature of 22 degrees.
- Early morning relative humidity of 95-100%, falling to 80-85% in the afternoon.
- Early morning rain likely, with additional rain possible late in the day. Total rainfall of 10-20 mm possible.

**Tuesday (midnight to midnight):**

- NNW wind becoming WNW in the afternoon. Sustained winds 25-35 km/h with gusts up to 50 km/h.
- Morning minimum temperature near 17 degrees, increasing to 24 degrees in the afternoon.
- Morning relative humidity near 100%, falling to 85% in the afternoon.
- Early morning showers possible, then clearing. Rainfall up to 5 mm.

**Wednesday Outlook:**

- W wind becoming SW at 15-25 km/h.
  - Morning minimum temperature near 16 degrees, increasing to 20-21 degrees in the afternoon.
  - Morning relative humidity near 100%, falling to 80% in the afternoon.
- No rainfall expected.

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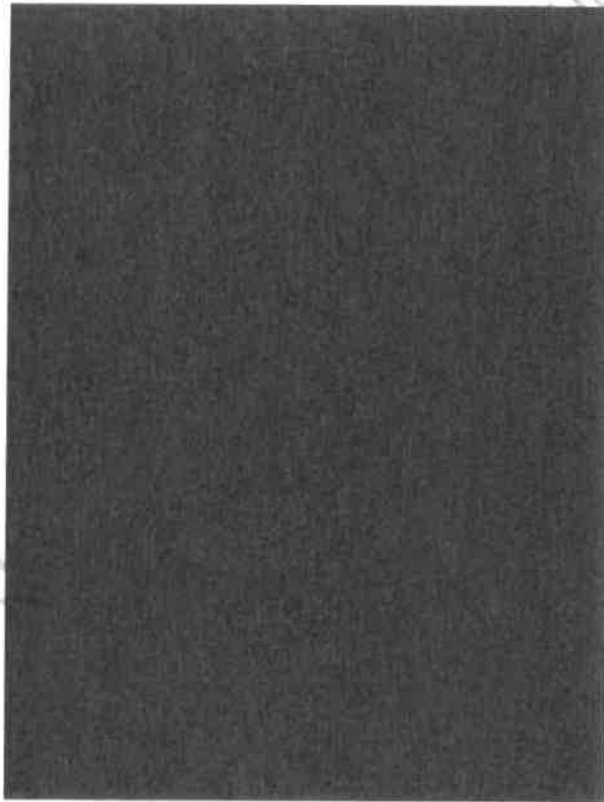




Makara Fire, Chatham Island.  
Shift period: 13<sup>th</sup> Feb 2018 0600-2000

## Incident Action Plan

MAKARA FIRE



**1. Approved by Incident Controller:**

Name	Signed	Date/Time
Craig Cottrill		12/2/18 17:00



## SITUATION REPORT

### 3. Location

South Western end Chatham Island

### 4. Vegetation

Tarehinau Scrub / peat /

### 5. NZTM Grid Ref.

### 6. Assessment

Vegetation in Tarehinau scrub (Dracophyllum) fuels with areas of Peat, started on the 1<sup>st</sup> Feb and ran until rain stopped the spread of fire late on the night of the 2<sup>nd</sup> burning a total of around 2440ha, destroying two structures (huts) and burning up to another, both near the southern coastal end of the fire-ground. No further fire spread was experienced during Saturday Sunday. Small flare ups near the perimeter are common, these are easily contained by helicopters. Thermal camera flights are still identifying numerous small hot spots on or near the perimeter in most sectors.

37mm of rain in the past 48 hours.

### 7. Action taken

Public was evacuated from Waitangi Wharf Owenga Road as a precaution on the evening of 2nd Feb, and were allowed back into the area the following day once rain moderated fire behaviour.

Local machinery has mulched fuel breaks in Sector Zulu/Sierra, for protection of structures.

Two medium helicopters are continuing to support ground crews with transport and bucket work. Ground crews are focusing on blacking out to 30m from the perimeter. All tracks have been marked and helipads cut.

The first Incident Management Team from NZ arrived midday on the 3rd Feb and transitioned on the 10<sup>th</sup>. 2<sup>nd</sup> IMT is in place until about Friday of this week.

Crew stood down due to bad weather for 12<sup>th</sup> February.

### 8. Factors

Access around fire-ground difficult due to risk of peat Tomo's meaning access restricted to tracks with assistance of local guides.

Obtaining resources that are not available on the island will take 2-4 days to arrive.

Weather – See separate weather / fire behaviour predictions at back of IAP.

Thermal image camera monitoring has revealed a much higher number of hot areas than previously estimated. This has led to a revision of the objectives especially the completion time.

### 9. Predicted Incident Development

There is a high degree of confidence that further fire spread will be prevented and the objectives below will be achieved.

Possible cyclone approaching the Chathams next week.

10. Prepared by: XXXXXXXXXX



## INCIDENT OBJECTIVES AND STRATEGIES

**3. INCIDENT OBJECTIVE(S)/AIM MISSION:** (SMART, Specific, Measurable, Achievable Relevant, Time bound)

Ensure safety of all responders

Protect life of residents

Minimise loss of property (especially properties along Waitangi Wharf Owenga Road)

Minimise loss of other values. (especially Taiko Trust Ecological area, and Tuuta/Rangaika Reserve)

Specific objectives

To secure the entire perimeter (estimated 40km long) by extinguishing all burning material within 30m of perimeter by the 28th February

Then patrol on days of elevated fire danger, until significant rain reduces drought codes.

**4. STRATEGY/ STRATEGIES:** (Plan of Action to meet Incident Objectives)

Treatment of all burning material within 30m of perimeter will be achieved by:

- Targeted extinguishment of all burning material within 30m of perimeter, detected from a helicopter or thermal camera in areas where canopy does not obscure view of the ground and
- Cold trail and black out perimeter to a width 30m in areas where the canopy obscures the view of the ground from the air.

Retain at least one aircraft until perimeter is secure.

5. Prepared by: [REDACTED]



## ORGANISATION LIST

<b>3. Incident Control</b>			
		Phone	Cell Phone Radio Ch
Incident Controller	Craig Cottrill	[REDACTED]	Doc 5
Safety Officer	Matt Able	[REDACTED]	Doc 5
Liaison Officer	[REDACTED]	[REDACTED]	Doc 5
<b>4. Agency Representative</b>			
		Phone	Cell Phone Radio Ch
Lead Agency	FENZ	[REDACTED]	Doc 5
Agency	Chatham Islands Council	[REDACTED]	
Agency	Enterprise Trust	[REDACTED]	
<b>5. Planning/Intel Section</b>			
		Phone	Cell Phone Radio Ch
Planning/Intel Manager	[REDACTED]	[REDACTED]	Doc 5
Situations Unit	[REDACTED]		
Resources Unit	Kerry McSaveney	[REDACTED]	Doc 5
<b>6. Logistics Section</b>			
		Phone	Cell Phone Radio Ch
Logistics Manager	Kerry McSaveney	[REDACTED]	Doc 5
Supply Unit	Sue Stewart (NZ based)		[REDACTED]
Catering Unit	[REDACTED]	[REDACTED]	
Facilities Unit			
Finance Unit		[REDACTED]	[REDACTED]
Communications Unit	Kerry McSaveney		
Medical Unit	Matt Able	[REDACTED]	Doc 5
<b>7. Operations Section</b>			
		Phone	Cell Phone Radio Ch
Operations Manager	Steve Joyce	[REDACTED]	Doc 5
Sector Alpha Supervisor			
Sector Zulu Supervisor			
Sector Sierra Supervisor			
Air Attack Supervisor	Colin Robinson	[REDACTED]	Doc 5
<b>8. Prepared by:</b>		[REDACTED]	

## ORGANISATION CHART

