

Cape Hauy Track Visitor Risk Assessment

Cape Hauy Track – Cliffs

Assessment by: M. Bryce

Section 1 Context:

The Cape Hauy walking track has been upgraded recently from a Class 4 to Class 3 standard. This has resulted in concerns over visitor risk as the track leads visitors close to a number of cliff edges at Cape Hauy. The upgrading of the track standard has made it easier for people to access the area and consequently a larger number of visitors are expected. The track is approximately 5 km long and takes 2 hours to reach Cape Hauy (4 hours return) from Fortescue Bay. The track is advertised as one of the 60 Great Short Walks in Tasmania. Information on the walk is provided on the PWS website.

A sign at the start of the track warns of area hazards associated with the old class 4 standard track.

Walking tracks Infrastructure design including structures to prevent falling is covered in AS 2156.2-2001 *Walking tracks Part 2: Infrastructure design.* The application of AS 2156.2-2001 is guided by the PWS Risk Assessment process. The PWS risk assessment process is detailed in the Visitor Risk Management Policy (P-002).

Cape Hauy is located on the Tasman Peninsula. The track starts at Fortescue Bay within the Tasman National Park.

There are a number of cliff edges that can be accessed not far from the track they are:

Site (in order travelling west to east)	Risk Factors	Photo
Site 1 (GPS point 018) GR: 55 0581663 5223048	Cliff edge is 4 metres from the track edge. Trampling evident from the track to the cliff edge. Edge is obvious and rock is sound.	
Site 2 (GPS point 019) GR: 55 0581675 5223055	Second viewing area, cliff edge is 3 metres from the track edge. Trampling evident from the track to the cliff edge. Edge is obvious and rock is sound.	
Site 3 (GPS point 020) GR: 55 0581711 5223116	Large area 25-30 metres of exposed cliff edge 3-4 metres from the track edge. Clear that people have gone off track to access a number of vantage points on along the cliff top.	<image/>

	The point at which the track enters this site provides walkers with a edge that provides a relatively safe viewing point from behind large rocks.	
Site 4 (GPS point 021) GR: 55 0581714 5223139	Small viewing area 4m from track, 3m slot in ridge line. Stable rock edge. No new views.	
Site 5 (GPS point 023) GR: 55 0581731 5223187	Slot in ridge, exposed cliff edge 1.6 metres from the track edge. There are stones on the track edge which would prevent to some extent someone falling and rolling off the edge.	





Existing hazard signage at the start of the track. While suitable for off-track walking hazards it is no longer appropriate for the track (zone).



Site 6 – At end of the track



Photo of site 6 from top side of Site 3



Section 2 Current Situation, Controls and Risk Level Tables

The Scenario

The likely incident (sequence of events) considered for this assessment now that the track has been upgraded to class 3 is as follows:

Site 6 - A large group sitting at the end of the track (Site 6) and a person close to the cliff edge gets up after sitting for some time – unsteady they trip over their pack or someone elses and unable to recover falls off the cliff edge.

Site 5 – A person trips on the rock edge and falls of the cliff edge.

Consequence

Description	Score	Notes
Catastrophe	1000	Numerous fatalities / Damage > \$5M / Major disruption to activities
Disaster	400	Multiple fatalities / Damage \$1M to \$5M
Very Serious	150	Fatality / property damage \$500,000 to \$1M
Serious	65	Serious inury (amputation, permanent diasbility)/Damage \$5,000 to
		\$500,000
Important	25	Casualtiy treatement (disabling injury)/ Damage to \$5,000
Noticable	10	First aid treatment (minor cuts, bruises) /Minor damage.

Reasoning/Risk Factors:

The cliffs are high (60 metres +) and near vertical. The consequence is the same for sites 5 & 6 - Should someone fall off the cliff edge they would die.

Description	Score	Notes
Continuous	100	Occurs many times a day
Frequent	50	Occurs daily
Occasional	30	Occurs weekly to monthly
Infrequent	15	Occurs monthly to yearly
Rare	10	Occurs once in 10 years
Very rare	5	No occurrence yet recorded

Exposure – How often does the loss of control the event ie stumble / trip occur

Reasoning/Risk Factors:

Site 6 - Given the new track standard and usage by school and other groups it is likely that people will congregate at the end of the track . The area is not large when a group of 10 or more people spread out for lunch. Stumbling or tripping over gear is considered to occur **occasionaly.**

People may be undertaking the walk to view the Totem Pole. Views of the Totem Pole are possible from site 6 but people must stand very close to the cliff edge.

Site 5 – The exposure is considered **infrequent** given the trip or slip hazards are not significant and the views are not not attractive given the other viewing areas.

Probability – Likelihood or chance that the complete sequence of events and consequence detailed above occurs:

Description	Score	Notes
Almost certain	100	Most likely and expected result/<1:10 chance
Quite possible	50	Quite possible, not unusual / 1:10 to 1:100 chance
Unusual but possible	25	Unusual but possible event / 1:100 to 1:1000 chance
Remotely possible	10	Remotely possible concidence / 1:1000 to 1:10,000 chance
Conceivable (but very unlikely)	5	Has not happened after may years / 1:10,000 to 1:100,000
		chance
Practically impossible	2	Has not yet happened anywhere / > 1:100,000 chance

Reasoning/Risk Factors:

Site 6 - Someone triping or stumbling leading to a fall is considered **unsual but possible**. The cliffs are vertical and solid dolerite – the edges are obvious and people would exercise care. The ground is stable the rock generally not slippery. Due to the track upgrading the people will concregate at the viewing area at the end of the track where previously they would have spread out to numerous viewing areas. The track currently gets up to 5,000 persons per annum and this could double as a result of the track upgrading and promotion.

Site 5 – Due to the fact that the ground slopes up from the track to the cliff edge, and the cliff edgeis 1.6m away from the edge of the track the probability of tripping/stumbling and falling over the cliff edge is considered **remote**.

RSF Acceptable Risk Rating

The acceptable level of risk is dependent on the recreational setting. The more remote the recreational setting the greater level of risk.

RSF Acceptable Risk	Score:	RSF Name:
Levels:		
Severe	30,000	Bushcamping Backcountry – Basic, Bushcamping Remote;
		Easy Access Camping - Basic
Substantial	10,000	Day Use Get Away – Basic, Bushcamping Backcountry; Easy
		Access Camping - Basic
Moderate	3,000	Day Use Comfort – Mid & Complex; Day Use Get Away – Mid
		or Basic, Easy Access Camping – Basic, Mid or Complex
Neutral	1,000	Day Use Comfort – Visitor Centres, Easy Access Camping –
		Mid or Complex.

Reasoning	The Cape Hauy track has recently been upgraded from a Class 4/T3 track to highest level of Class 3/T1. The track zone is the track surface and ground 2 metres from the track edge.
RSF Zone:	Day Use Get Away - Mid
	Refer to attached PWS ROS analysis, page 5. The analysis is undertaken to ensure the site characteristics and level and type of use are consistent.
Notes/Comments:	Generally the recreational setting characteristics are consistent. The only issues may be the use of the track by large groups – particularly school groups and the level of experience they may have. The advantage is that large groups are often supervisied.

Existing Risk Level and Recommended Response:

Response	Final Risk Level
Risk acceptable – monitor hazard on regular basis	Less than: 10
Imminent corrective action required – program control works	11 - 30
Urgent corrective action required – mitigate hazard as soon as possible	31 - 100
Critical corrective action required – cease visitor activity – mitigate hazard	Greater than: 101
immediately	

Overall Risk Level – Existing Controls

Site 6

Risk Level: 38

Risk Rating: Urgent and requires mitigation as soon as possible.

Discussion:

Control actions are considered in Section 3

Site 5

Risk Level: 8 Risk Rating: Acceptable

Section 3 - Control Options and Actions:

Control Options in order of priority	Options/Notes	Control Actions:
1. Elimination e.g. Avoid the risk - remove the hazard, deny access or prohibit the activity	Track has just been upgraded and is promoted as one of Tasmania's 60 Great Walks.	None identified
2. Substitution/Isolation e.g. promote another area that is safer that offers a similar experience, restrict access, install handrails barriers	Rerouting the track to ensure that it is not within 2 metres of any unprotected cliff edge will ensure that persons inadvertently falling/slipping or tripping from the track will not fall off a cliff. The site at the end of the track provides the largest relatively flat viewing area. Good views of the Totem Pole are also possible from the site (site 6).	1. Rerouting track to avoid unprotected cliff edges within 2 metres of the track. <i>Rerouting has been undertaken where</i> <i>practical.</i>
 3. Engineering – modify the hazard to: 1. reduce the consequence of occurrence 2. reduce likelihood of occurrence 	Installation of barriers/fences at all sites that can be accessed off- track in the area would be very difficult, expensive and difficult to do without causing significant visual impact. Considering similar situations in the State (Maria Island, Fluted Cape – Bruny Island) barriers are not installed for similar reasons. It would be difficult to determine where these barriers should go as the area of coastal cliffs that can be accessed would be many hundreds of metres long. With the upgrading of the track to Class 3 it is important to consider treatment of any cliff edge within 2 metres of the track edge in accordance with AS 2156.2-2001 where the risk is assessed as unacceptable. The current risk level associated with site 5 is assessed as acceptable. However the site at the end of the track (site 6) should be treated. A type C handrail is the minimum recommended, as specified in AS2165.2. Consideration was given to the installation of a Type A handrail however the need to minimise visiual impact is a an important factor in the	2. Install at a minimum a type C handrail at the end of the track (site 6) as specified in AS2165.2.

Control Options in order of priority	Options/Notes	Control Actions:
4. Administration	use of a Type C handrail. The difference in effective risk treatement is illustrated on page 17. Installation of a Type C handrail rathern than a Type A handrail still acheives a risk reduction to an acceptable level. Current information provided via a 60 Great Short Walks	3. Installation of new hazard warning signs
	brochure and PWS Website warn people of the hazardous cliffs and recommends that that children be supervised, and the walk not be undertaken by children under the age of 14. The current hazard sign at the start of the track makes no mention of the supervision requirements or age recommendation and should be updated. An additional sign should be installed prior to the first cliff edge (Site 1) to warn people of the dangers of cliffs, the risks of leaving the track and the need to supervise children. People may choose to leave the track to access different vantage points. However people will be reminded that by doing so they are accessing areas that pose a severe hazard. The motivation for people to leave the track to some extent is influenced by the information and people wanting to view the Totem Pole. This feature is difficult to view. The provision of a perimeter rail at site 6 will allow people to get a good view of the Totem Pole safely. A hazard sign is needed just prior to off-track access points to cliff edges warning of unprotected cliff edges.	 at the start of the track and prior to the first cliff edge (Site 1) encountered by walkers. 4. Signs must warn walkers of the dangers associated with leaving the track. 5. Where possible control information to ensure that unrealistic viewing expectations are not created e.g. views of the Totem Pole from sea level.

Section 4 Risk Level Tables – assuming control actions (Section 3) are implemented

Cliffs within 2metres of track edge
Cliffs greater than 2 metres from the track

this.

Consequence

Description	Score	Notes
Catastrophe	1000	Numerous fatalities / Damage > \$5M / Major disruption to activities
Disaster	400	Multiple fatalities / Damage \$1M to \$5M
Very Serious	150	Fatality / property damage \$500,000 to \$1M
Serious	65	Serious inury (amputation, permanent diasbility)/Damage \$5,000 to \$500,000
Important	25	Casualtiy treatement (disabling injury)/ Damage to \$5,000
Noticable	10	First aid treatment (minor cuts, bruises) /Minor damage.
Reasoning/Risk Factors:		Should someone fall they would die none of the controls will change

Exposure – How often does the loss of control the event ie stumble / trip occur

Description	Score	Notes
Continuous	100	Occurs many times a day
Frequent	50	Occurs daily
Occasional	30	Occurs weekly to monthly
Infrequent	15	Occurs monthly to yearly
Rare	10	Occurs once in 10 years
Very rare	5	No occurrence yet recorded

Reasoning/Risk Factors: With the upgrade to the track standard the surface will be more even minising the chance of trips/stumbles, particularly at site 5. However there are no plans to change the natural rock surface at the end of the track – site 6. Hence the exposure has not changed.

With regard to the off-track zones, the exposure is considered to have been reduced as thre will be warnings to people of the dangers and it is expected that persons will excercise greater care. Also the numbers accessing off-track cliff tops will have been reduced because a safe viewing area will be established at site 6.

Probability - Likelihood or chance that the complete sequence of events and

consequence detailed above occurs:

Description	Score	Notes
Almost certain	100	Most likely and expected result/<1:10 chance
Quite possible	50	Quite possible, not unusual / 1:10 to 1:100 chance
Unusual but possible	25	Unusual but possible event / 1:100 to 1:1000 chance
Remotely possible	10	Remotely possible concidence / 1:1000 to 1:10,000
		chance
Conceivable (but very unlikely)	5	Has not happened after may years / 1:10,000 to
		1:100,000 chance
Practically impossible	2	Has not yet happened anywhere / > 1:100,000
		chance

Reasoning/Risk Factors:

Persons would have to climb a barrier to get access to the cliff edge and even if they did it is likely they would be aware of the danger involved. The type c barrier is provides sufficent protection from falls while minimising the visual impact.

For cliffs outside to the 2 metre track corridor, persons will be advised of the dangers of leaving the track to get to cliff edges that are unprotected. There are numerous sites but generally the rock is sound and not slippery. The scenario of someone stumbling and falling over an unprotected cliff is considered unusual but possible. A lower number of people would do this particularly when safe viewing areas are to be provided from the main track.

Recreational Z	Cones (RSF)	and Acceptable	Risk Rating
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RSF Acceptable Risk	Score:	RSF Name:
Levels:		
Severe	30,000	Bushcamping Backcountry – Basic, Bushcamping Remote;
		Easy Access Camping - Basic
Substantial	10,000	Day Use Get Away – Basic, Bushcamping Backcountry; Easy
		Access Camping - Basic
Moderate	3,000	Day Use Comfort – Mid & Complex; Day Use Get Away – Mid
		or Basic, Easy Access Camping – Basic, Mid or Complex
Neutral	1,000	Day Use Comfort – Visitor Centres, Easy Access Camping –
		Mid or Complex.

Reasoning: Following the upgrade of the track surface there are now two distinct zones in the area: one being the Track Zone and the other being the Off-Track Zone. Prior to upgrading the track utilised the natural rock surface and was not well defined or marked. Hence to the users it was difficult to determine if you were on the track or not; that is, there was very little differences between the on-track or off-track conditions. The following classifies the two zones terms of RSF Zone and acceptable risk level.

Track Zone includes areas within 2m of track edges	As a result of the Cape Hauy track being recently upgraded from a Class 4 track to Class 3 this has changed the RSF Zoning. The zone incorporates the track and 2 metres either side of the track.			
	RSF Zone:	Day Use Get Away – Mid		
	Acceptable Risk Level:	Moderate		
	Refer to attached PWS ROS analysis page 15			
Off-Track Zone (areas greater than 2m from track edge)	The upgrading of the track allows a greater definition the track from the surronding environment. The RSF classification for the surronding environment is to a la extent determined by visitation. While the overall number of users will increase this increase will to a la degree be catered for on the track and within 2 metr of the track edge. There is unlikely to be a large increase in the number of people going off track. RSF Zone: Day Use Get Away – Mi			

Overall Risk Level – Recommended Control Actions Implemented:					
Site 6	Risk Level: 8				
	Risk Rating:	Acceptable.			
Off-Track Zone (cliffs greater than 2m from track edge)	Risk Level:	6			
	Risk Rating:	Acceptable.			

Discussion

All control actions must be implemented for the risk reduction strategy to be effective.

Subject to the implementation of the control actions (detailed in section 3) the risk levels for cliffs within 2 metres of the track and off the track are acceptable.

Approval

Prepared by: M. Bryce (Director Operations)

Date: 7 September 2012

Approved:

Peter Mooney

General Manager Parks and Wildlife Service

Date:

ROS Se	tting Analysis: C	ape Hauy Tra	ick Zone					23-Feb-12
		Recreation S	Settings	(Reserves Standards Framework)				
	Recreation Zoning:	Visitor	Services	Services Recre		Self - Reliant Recreation		Wilderness
		Day Use - Comfort Easy-Access Camping	Day Use - Comfort Easy-Access Camping	Day-Use Get Away Easy-Access Camping	Day-Use Get Away Bushcamping Backcountry	Bushcamping Backcountry	Bushcamping Remote	Not Managed for visitor Service
	RSF:			Bushcamping Backcountry				
		Visitor Services	Mid	Mid	Basic	Basic		
		Complex		Basic	Mid			
				Complex				
Access	Difficulty	Very Easy	Moderate - Very Easy	Moderate	Moderate - Difficult	Difficult	Very Difficult	
	Roads	Class 1-2 2WD Sealed	Class 2-3 2WD	Class 3-4 4x4 FPC	Class 4 4x4 FPC	No	No	No
	Tracks	Class 1 W1 - W2	Class 2 W2-T1	Class 3 T1-T2	Class 4 T2-T3	Class 5 T3-T4	Class 6 T4-R	R2
Management	Modifications	Obvious, extensive mod	lifications	Some modifications	Limited modifications	Not noticable		No modifications
	Facilities	Many comfort conveniences/facilities Some		comfort conveniences/fa	comfort conveniences/facilities Limited - Safety and site proctection only			No facilities
	Control of use	Many on-site control fac	cilities So	ome on site control facilit	ies Lin	nited on site control facili	ties.	No on-site all off-site.
	Maintenance	Regular, frequent - staff	presence obvious		Occassional maintenance - not noticable			Nil
Physical	Naturalness	Highly modified natural	environment Pi	rimarily natural environm	rily natural environment High degree of naturalness			Very High
	Impact	Obvious impact someting	mes extensive Mode	erate level of impact - noticable Local limited impact		Local limited impact		No sign of human impact.
	Space	Limited natural areas						Large - minimum 2,000 ha
Social	Level of use (Social Interaction)	High (Frequent) Greater than 100,000 per year	100,000 - 10,000 per year	Occassional 10,000 - 5,000 per year	5,000 - 1,000 per year	Low (Infrequent) 1,000 - 250 per year	250 - 100 per year	Highly unlikely Less than 100 per year
	Туре	Large groups, formal ga	therings Me	dium - small groups ma	m - small groups max 13 Individuals - small groups - 2-4			
	Rec. Setting Risk Level	Neutral	Neutral - Moderate	Moderate	Moderate - Substantial	Substantial - Severe	Severe	Severe
	Level of outdoor recreation experience	Novice					Experienced	Very Experienced

ROS Se	OS Setting Analysis: Cape Hauy Outside Track Zone (greater than 2 metres of track edge)							23-Feb-12
		Recreation S	Settings	(Reserves Standards Framework)				
	Recreation Zoning:	: Visitor Services		Recreation		Self - Reliant Recreation		Wilderness
		Day Use - Comfort	Day Use - Comfort	Day-Use Get Away	Day-Use Get Away	Bushcamping Backcountry	Bushcamping Remote	Not Managed for visitor Service
		Easy-Access Camping	Easy-Access Camping	Easy-Access Camping	Bushcamping Backcountry			
	RSF:			Bushcamping Backcountry				
		Visitor Services	Mid	Mid	Basic	Basic		
		Complex		Basic	Mid			
				Complex				
Access	Difficulty	Very Easy	Moderate - Very Easy	Moderate	Moderate - Difficult	Difficult	Very Difficult	
		Class 1-2	Class 2-3	Class 3-4	Class 4	No	No	No
	Roads	2WD Sealed	2WD	4x4 FPC	4x4 FPC			
		Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	R2
	Tracks	W1 - W2	W2-T1	T1-T2	Т2-Т3	Т3-Т4	T4-R	
Management	Modifications	Obvious, extensive mod	lifications	Some modifications	Limited modifications	Not noticable		No modifications
	Facilities	Many comfort conveniences/facilities Some		comfort conveniences/facilities Limited - Safety and site proctection			tion only	No facilities
	Control of use	Many on-site control fac	cilities S	ome on site control facili	e on site control facilities Limited on site control facilities.			No on-site all off-site.
	Maintenance	Regular, frequent - staff presence obvious Occassional maintenance - not noticable					Nil	
Physical	Naturalness	Highly modified natural environment Primarily natural environment High degree of natural networks and the second s				SS	Very High	
	Impact	Obvious impact sometin	mes extensive Mod	erate level of impact - not	ticable Local limited impact			No sign of human impact.
	Space	Limited natural areas						Large - minimum 2,000 ha
Social	Level of use (Social Interaction)	of use (Social High (Frequent) action) Greater than 100,000 per year		Occassional 10,000 - 5,000 per year 5,000 - 1,000 per year		Low (Infrequent) 1,000 - 250 per year	250 - 100 per year	Highly unlikely Less than 100 per year
	Туре	Large groups, formal ga	therings Me	edium - small groups ma	um - small groups max 13 Individuals - small groups -			
	Rec. Setting Risk Level	Neutral	Neutral - Moderate	Moderate	Moderate - Substantial	Substantial - Severe	Severe	Severe
	Level of outdoor recreation experience	Novice	·				Experienced	Very Experienced

