



**SUBJECT:** Forest Segway  
**WRITTEN BY:** Operations  
 Team/Health and Safety Team

**RISK ASSESSMENT REF:** FS 01/2023/V3

		Risk Matrix						
Risk rating guidance	Likelihood (L)	5	5	10	15	20	25	Likelihood (L) x Severity (S) = Risk Rating (RR).
		4	4	8	12	16	20	
		3	3	6	9	12	15	
		2	2	4	6	8	10	
		1	1	2	3	4	5	
			1	2	3	4	5	
		Severity (S)						
Acceptability of risk guidance	<b>High-risk: 15 – 25</b>	High-risk activities should cease immediately. Further effective control measures to mitigate risks must be introduced.						
	<b>Medium-risk: 8 – 12</b>	Medium-risks are an acceptable level based on the reduced likelihood after sufficient control measures are implemented.						
	<b>Low-risk: 1-6</b>	Low-risks are largely acceptable. Where it is reasonable to do so, efforts should be made to reduce risks further.						
Guidance. When completing a risk assessment, you should:	<ol style="list-style-type: none"> <li>1. Identify the persons at risk and the significant hazards.</li> <li>2. Calculate an initial RR for the activity.</li> <li>3. Identify risk control measures that reduce the risks to an acceptable level.</li> <li>4. Calculate a revised RR - you should consider how much safer the task will be if the control measures are followed. Here, you should consider changing both the likelihood (L) and the severity (S) ratings.</li> </ol>							
<b>Note.</b> Ideally, you should look to reduce the risks so that the task can be classified as "low-risk".								

Likelihood	Definition	Points rating
<b>Inevitable</b>	If the work continues as it is, there is almost 100% certainty that an accident will happen, for examples: A broken stair or broken rung on a ladder, Bare, exposed electrical conductors, Unstable stacks of heavy boxes	<b>5</b>
<b>Highly likely</b>	Will happen more often than not. Additional factors could precipitate an incident but it is still likely to happen without this additional factor.	<b>4</b>
<b>Possible</b>	The accident may occur if additional factors precipitate it, but it is unlikely to happen without them.	<b>3</b>
<b>Unlikely</b>	This incident or illness might occur but the probability is low and the risk minimal.	<b>2</b>
<b>Remote possibility</b>	There is really no risk present. Only under freak conditions could there be any possibility of an accident or illness. All reasonable precautions have been taken - This should be the normal state of the workplace.	<b>1</b>

Severity	Definition	Points rating
<b>Very high</b>	Causing multiple deaths and widespread destruction eg. fire, course/building collapse.	<b>5</b>
<b>High</b>	Causing death, serious injury or permanent disability to an individual.	<b>4</b>
<b>Moderate</b>	Temporary disability causing injury (to member of the public, contractor or employees) or disease capable of keeping an employee off work for seven days or more and reportable under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995).	<b>3</b>
<b>Slight</b>	Minor injury (to member of the public, contractor or employee), which would allow the individual to continue work after first aid treatment on site or at a local surgery. The duration of the stoppage or treatment is such that the normal flow of work is not seriously interrupted.	<b>2</b>
<b>Nil</b>	Very minor injury, bruise, graze, no risk of disease.	<b>1</b>

**The Review Process.** This risk assessment will be reviewed when it is suspected that the assessment is no longer valid or there has been a significant change. In addition, it will be reviewed annually.



SER	HAZARD	L	S	RR	WHO MIGHT BE HARMED	CONTROL MEASURES	FURTHER CONTROL MEASURES: reviewed annually to formulate Risk Reduction Plan	L	S	RR
1	<b>Injury through Manual Handling of Segway</b>	3	3	9	Staff	<ul style="list-style-type: none"> <li>Follow manual handling training given during training.</li> <li>Segway will only be lifted by minimum of two people.</li> <li>Avoid or minimise lifting or moving Segway's by adapting site operations, such as ramps into containers.</li> <li>Inactive Segway must be wheeled one at a time.</li> </ul>		1	3	3
2	<p><b>Segway fails to function as expected.</b> Segway will not function correctly if:</p> <ul style="list-style-type: none"> <li>The rider is too light or too heavy.</li> <li>The wheels lose traction with the ground.</li> <li>Too much power is requested from the Segway or it is ridden with insufficient power in the battery.</li> <li>The Segway is not correctly maintained.</li> </ul>	2	3	6	Customers	<ul style="list-style-type: none"> <li>Only people between 7 and 18.4 stone may ride the Segway – Scales are available at site.</li> <li>Instructors are trained on how to ride the Segway in accordance with manufacturer's instructions, which have been included in the <b>Forest Segway Operational policies, Training package, the Safety Rules and Advice</b> and the <b>Safety Brief</b>.</li> <li>A Disclaimer, Safety Rules and a Safety Brief are provided to customers in accordance with the above.</li> <li>The Segway will give a warning – audible and through vibration – if the rider is riding in an inappropriate manner or the machine has detected a fault. All riders are trained to recognise these warnings and how to respond.</li> <li>Segway will not be ridden where it is judged that surface conditions could cause the Segway wheels to lose traction.</li> <li>The Segway will be rotated on charge throughout the day to ensure all units have sufficient power for the session.</li> <li>The Segway will initially be ridden in training mode until such a time that an instructor deems the rider competent.</li> </ul>		1	3	3

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					<ul style="list-style-type: none"> <li>Weekly Inspections are undertaken by trained instructors and are recorded to ensure all units are fully functional.</li> <li>The Segway itself will not fully activate unless all internal systems are functioning correctly. An error code will be displayed on the electronic 'key'.</li> </ul>			
<p><b>Falling from a Segway.</b> Segway are safe and stable when ridden correctly over appropriate surfaces. However, a fall could result from;</p> <p>Lack of understanding or capability with regards to how to control the Segway when</p> <ul style="list-style-type: none"> <li>Avoiding other forest users</li> <li>Stepping off in an emergency</li> <li>Riding off designated trails/trail boundaries</li> </ul> <p><b>Riding the Segway in an incorrect manner.</b></p> <ul style="list-style-type: none"> <li>Riding too close together</li> <li>Turning too sharply</li> <li>Not listening to instructions</li> <li>Not looking up</li> <li>Not looking forward</li> <li>Overtaking</li> <li>Racing</li> <li>Swerving</li> <li>Not following the set route</li> </ul> <p><b>Riding into obstacles</b> (most likely with just one wheel) fence/obstacle another Segway</p>	3	3	9	Staff + Customers	<p>The Segway will only be ridden by people that have been appropriately trained by a competent and trained Segway Instructor.</p> <ul style="list-style-type: none"> <li>They will be ridden under close supervision until the Instructor has deemed the rider competent to be lead onto the trails</li> <li>All riders will be briefed that deliberate misuse and inappropriate riding of the Segway will result in curtailment of the Session</li> <li>Anyone suspected of being under the influence of alcohol and/or drugs will not be permitted to ride a Segway.</li> <li>The Segway route will be designed so that the Segway are only ridden on appropriate surfaces and along appropriate routes.</li> <li>Any trail used, where an instructor does not lead the participants, will be checked by a trained Instructor, during opening checks. They will principally check for any debris/damage likely to affect safe operation of the Segway.</li> <li>All other routes used will be led and dynamically assessed by appropriately trained instructors.</li> <li>All riders will wear a helmet, which conforms to standard EN1078 and will be inspected visually prior to use and formally after a dismount/incident. All helmets are marked with an identification number and a recorded inspection is carried out on a monthly basis</li> <li>Correct Riding procedures and techniques are covered in the Safety Rules and Advice and the Safety Brief.</li> <li>If a rider requires assistance during the session, they can use the emergency whistle provided.</li> </ul>	1	3	3



						<ul style="list-style-type: none"> <li>• Group speed is dictated by the Lead Instructor. When not led by an instructor the unit remains in training mode to limit the speed.</li> <li>• There is vehicular access to the main trails in case of emergency.</li> <li>• Unattended Segway will be de-activated – with Operating Key kept separately.</li> <li>• All Instructors are first aid trained and carry a first aid kit, two-way radio and mobile phone.</li> </ul>				
4	<p><b>Segway colliding with a pedestrian or other forest user.</b></p> <ul style="list-style-type: none"> <li>• Transition from training area to main riding trails may go through some narrow trails.</li> <li>• On the main riding trails.</li> </ul>	2	3	6	Staff, Customers, Members of the Public	<ul style="list-style-type: none"> <li>• Following the safety brief, only competent people will be permitted to ride the Segway. They will be assessed by the instructor and must demonstrate control of riding the Segway forwards, turning, appropriate use of speed , correct behaviour and the ability to step on and off the unit correctly</li> <li>• Following the Safety Brief, Customers will be led by an instructor, initially in the training mode.</li> <li>• All free ride trails start from a central hub and are signposted to be one-way trails. “No Entry” signs are located at the exit of each trail.</li> <li>• Instructors will lead groups on existing trails, which have been assessed and they are familiar with – selecting and assessing the trails and suitability for the group as they ride.</li> <li>• “Give Way” signs are located at the junction of all free ride trails.</li> </ul>		1	3	3

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	<p><b>Getting lost –</b></p> <ul style="list-style-type: none"> <li>Participants could be separated from the rest of group</li> <li>Poor visibility</li> </ul>	1	2	2	Customers	<ul style="list-style-type: none"> <li>On free ride trails signs will be in place.</li> <li>Free ride trails will be one-way and signposted.</li> <li>An instructor will be stationed at the central hub whilst riders are on the free ride trails</li> <li>Each participant will be trained during the Safety Brief in:                             <ul style="list-style-type: none"> <li>where their whistles are and when to use them in order to attract the attention of an instructor.</li> </ul> </li> <li>All instructors will carry a two-way radio and be in contact with each other and base, where possible. Each group will have a mobile phone to contact base in case of an emergency.</li> </ul> <p>An instructor will accompany all customers in a ratio of at least 1:10</p> <ul style="list-style-type: none"> <li>With groups of 10 or less the lead instructor will stop regularly to ensure the group are together</li> <li>With groups exceeding 10, a second instructor will ride at the back to ensure no one is left behind and assist with supervision of the group.</li> </ul>		1	2	2
6	<p><b>Solo Riding/lone working</b></p> <p>The risks of riding a Segway remain a constant. However, with lone working the consequences may be greater but can be mitigated with the proper preparation.</p>	1	3	3	Staff	<ul style="list-style-type: none"> <li>A planned route or area, with an estimated return time must be logged with someone who can assist if necessary. (FC, bike hire, etc)</li> <li>A means of communication – e.g. mobile phone, FC radio.</li> <li>First aid/emergency kit to be carried.</li> <li>Segway must be ridden at appropriate speeds for the terrain and weather conditions.</li> </ul>		1	3	3

Refs: Manufacturers Instructions, Go Ape TTA Generic Risk Assessment

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