

2023

Diversity, abundance, and distribution of ground invertebrates in Lower Sharpham Farm

Zavala Quiroga, V.

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<https://pearl.plymouth.ac.uk/handle/10026.1/21835>


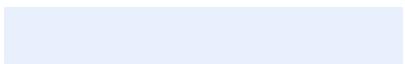
The Plymouth Student Scientist

University of Plymouth

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Appendices

Appendix 1 Risk Assessment Fieldwork

Assessment Ref. No.		Activity Assessed	Ground insect and vegetation surveys at Sharpham Trust. It consists in setting up pitfall traps on the field with salt solution and assessing the surrounding vegetation. The traps will be collected at a later date and will be taken to the lab to identify the insects. This will require five one-day visits to the site, one first visit to assess site, one to place traps, two to survey vegetation and one final visit to collect traps.								
Assessment Date	From 14/11/2022 to 14/12/2022 approx. Dates will be confirmed with supervisor		Faculty / Directorate	Science and Engineering							
Assessor	Valeria Zavala Quiroga		School / Service	SoGEES							
Version No.	1		Additional individuals involved in developing the RA								
Signature of Assessor					Signature of Academic Supervisor / Approver						
Risk Score Matrix							Risk Score and Description				
Severity							Risk Score	Risk Level	Category	Description	
Likelihood											
	Insignificant	Minor	Moderate	Major	Fatal						
Very Unlikely	1 Green	2 Green	3 Green	4 Green	5 Amber	1 – 4	Low	Acceptable	No further actions needed		
Unlikely	2 Green	4 Green	6 Amber	8 Amber	10 Red	5 – 9	Medium	Tolerable/Adequate	Should be reviewed to ensure that there is nothing else which could be done		
Possible	3 Green	6 Amber	9 Amber	12 Red	15 Red	10 – 15	High	Undesirable	Immediately review current control measures, and where appropriate decide on further actions		
Likely	4 Green	8 Amber	12 Red	16 Red	20 Red	16 - 25	Very High	Unacceptable	Stop activity and make immediate improvements		
Almost Certain	5 Amber	10 Red	15 Red	20 Red	25 Red	<i>Likelihood (L) x Severity (S) = Risk Score (RS)</i>					

What is/are the hazard(s) involved with the activity being undertaken?	Who might be harmed and how?	What are you already doing to control the risk?	Risk Score with current controls in place			What further action is necessary? (Add these actions to the action plan below).	Target Risk Score Likelihood x Severity = Risk Score		
			L	S	RS		L	S	RS
<p>Travelling to/from sampling site</p> <ul style="list-style-type: none"> • Injuries on the field or while commuting • Collision with motor vehicles. • Adverse weather conditions. • Getting lost • Injuries on transportation • Public altercation 	<p>Student and accompanying person</p> <ul style="list-style-type: none"> • Could be severely or fatally injured. • Risk of falling/tripping due to slippery ground in rainy conditions • Sunburn/heatstroke • Cuts, scrapes and bruises 	<ul style="list-style-type: none"> • Be aware of surroundings and refrain from using phones and texting while on the move. • Abort activity if weather conditions are unsatisfactory. • Contact details are shared with supervisor and contact to be made prior to and after trip via email/mobile. • Undertake prior knowledge of site before sampling • Avoid busy roads/crossing roads when possible. • Look at a map before going out to the field. • Plan fieldwork around the weather forecast. • Wear sun cream. • Have a first aid kit on hand in the field for minor injuries. • Knowledge of local medical facilities. 	2 - Unlikely	4 - Major	8 - Medium Risk	Arrange best route and type of transportation	2 - Unlikely	4 - Major	8 - Medium Risk
<p>Carrying out sampling activities within worksite area</p>	<p>Student and accompanying person</p>	<ul style="list-style-type: none"> • Suitable PPE, footwear and clothing to be worn • Visual check of terrain and avoid danger points/unstable ground. 	2 - Unlikely	3 - Moderate	6 - Medium Risk	Assess the area on arrival and choose a safe area to set up pitfall traps.	2 - Unlikely	3 - Moderate	6 - Medium Risk

<ul style="list-style-type: none"> • Uneven/difficult terrain • Slips, trips and falls • Infections or allergic reaction during sampling • Sharp objects or vegetation • Insect bites/stings • Fallen branches or holes on the ground 	<ul style="list-style-type: none"> • Injuries such as cuts, bruises and broken bones. • Lower leg/foot injuries • Head injuries • Allergic reaction 	<ul style="list-style-type: none"> • Be aware of surroundings and be careful when surveying • Wear disposable gloves if required. • Avoid drinking/eating during sampling. • Exercise good hygiene. • First-aid kit to be carried. • Knowledge of local medical facilities. • Charged mobile to be carried at all times. 							
<p>Severe weather conditions (very hot/very cold) whilst at field site:</p> <ul style="list-style-type: none"> • Hypothermia • Hyperthermia • Lightning • Down pours • Sunburn • Heatstroke 	<p>Student and accompanying person</p> <ul style="list-style-type: none"> • Could lead to a serious condition or even death. • Injuries. • Fainting/dizziness • Fatigue/weakness 	<ul style="list-style-type: none"> • Wear appropriate clothing for activity. • Eat and drink properly – keep hydrated. • Stop activity if deemed necessary and weather conditions turn severe. • Plan ahead and avoid extreme weather conditions where possible. • Check forecast and warnings beforehand 	1 - Very Unlikely	4 - Major	4 - Low Risk		1 - Very Unlikely	4 - Major	4 - Low Risk
<p>If lone working at sampling site. Unwanted attention, harassment or negative attitudes from local residents</p>	<p>Student</p> <ul style="list-style-type: none"> • Stress and the inability to continue the fieldwork 	<ul style="list-style-type: none"> • Contact details to be shared with supervisor and contact to be made prior to and after trip via email/mobile. • Undertake prior knowledge of site before sampling. 	2 - Unlikely	3 - Moderate	6 - Medium Risk	Conduct the fieldwork with someone to avoid being alone.	1 - Very Unlikely	3 - Moderate	3 - Low Risk

<p>either around worksite or whilst travelling to/from worksite:</p> <ul style="list-style-type: none"> • Intimidation • Bullying • Theft • Sexual harassment. • Verbal assault. • Physical assault. 	<ul style="list-style-type: none"> • Physical injuries. • Feeling unsafe. • Loss of items/money. 	<ul style="list-style-type: none"> • Sampling only to be carried out during working hours and always in daylight. • Minimise time at sampling location. • Ensure phone is fully charged before any trip. • Advisor will be aware of a friends contact details in case student forgets to get in touch and cannot be contacted. • Assess the risk in the sampling area on day of visit. • Do not access the sampling location if there are people/situation that makes you feel uncomfortable. • Behave responsibly and considerately. Do not wear provocative/offensive clothing • Do not block footpaths where working. • Concerning theft – be aware of valuables/property and its placement. • If not comfortable during sampling, leave site. • If deemed necessary, inform the police. 							
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Biting/stinging insects Tick bites	Student and accompanying person • Skin rashes, allergic reactions. • Infections • Sickness	<ul style="list-style-type: none"> Wear insect repellent, long sleeves and long trousers. If allergic to insect bites, carry appropriate medicine and inform supervisor. Pat down cloths regularly Be aware of surroundings 	2 - Unlikely	2 - Minor	4 - Low Risk		2 - Unlikely	2 - Minor	4 - Low Risk
Wildlife: • Chased/bitten by animals (e.g. dogs)	Student and accompanying person • Injury from animal bites/scratches. • Infections	<ul style="list-style-type: none"> Do not approach animals Place bags between yourself and animal – move away from site if animal does not retreat. 	2 - Unlikely	2 - Minor	4 - Low Risk		2 - Unlikely	2 - Minor	4 - Low Risk
COVID-19	Student and accompanying person • Unwell from contracting COVID-19 • Potential for spreading the virus	<ul style="list-style-type: none"> Follow government guidance. Maintain good hygiene – wash hands regularly. If feeling unwell, stay at home and if necessary, take an LTR test. Avoid socialising until feel better. 	2 - Unlikely	3 - Moderate	6 - Medium Risk		2 - Unlikely	3 - Moderate	6 - Medium Risk
Lab Work • Faulty equipment • Bacteria from soil	Student and accompanying person • infections	<ul style="list-style-type: none"> Gloves, safety glasses and lab coat must be worn at all times Follow safety measures Only use necessary equipment Maintain good hygiene Don't touch face with gloves 	2 - Unlikely	3 - Moderate	6 - Medium Risk		2 - Unlikely	3 - Moderate	6 - Medium Risk

Refer to scoring matrix on page ¾

Action Plan and Monitoring

This section should be completed by the Risk Assessor and discussed with Manager / Academic Supervisor		This section should be completed by the Manager / Academic Supervisor for monitor and review		
Hazard	Action required	Action assigned to	Target date	Date Completed
Adverse weather conditions	Plan fieldwork around the weather forecast and assess risk on the days of visit.			
Incidents on site	Assess the area on arrival and choose a safe area to survey from as well as being aware of surroundings while working.			
Incidents while travelling to site	Plan mode of transportation beforehand and look at route before travelling as well as avoid busy roads/crossing roads when possible.			

Review

When reviewing this risk assessment remember to move completed actions into the ‘what are you already doing.’ column, as these actions should be in place by the time you review the risk assessment. You should review your risk assessment if you think it might no longer be valid (e.g. following an incident in the workplace or if there are any significant changes to hazards, such as new work equipment, work activities, personnel etc.)

Severity Table

Severity of injury	Examples	Score
Insignificant	None or very insignificant injuries, health effects, damage or disruption to work. Short-term and/or localised environmental harm.	1
Minor	Cuts bruises, mild skin irritations, mild headaches and pains requiring minor first aid treatment. Minor property damage or disruption to work. Notable contributor to environmental harm.	2

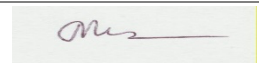
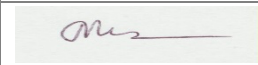
Likelihood Table

Severity of injury	Examples	Score
Very unlikely	Good control measures are in place. Controls do not rely on a person using them (i.e. personal compliance with safety rules). Controls are very unlikely to break down. People are very rarely in this area or very rarely engage in this activity.	1
Unlikely	Reasonable control measures are in place but they do rely on a person using them (some room for human error). Controls unlikely to breakdown. People are not often in this area / do not often engage in this activity.	2

Moderate	More serious injuries or ill-health requiring time off work or a hospital visit for example burns sprains, strains, short term musculoskeletal disorders, cut requiring stitches, back injuries, fractures to fingers and toes. Short term absence relating to physical or mental health issues. More serious property damage or disruption. A significant contributor to environmental harm.	3
Major	Broken limbs, amputations, long-term health problems or longer absence. Acute illness requiring medical treatment. Loss of consciousness, serious electric shock, loss of sight. Major property damage, major disruption to work. A major contributor to significant environmental harm.	4
Fatal	Injury or ill-health which leads to death either at the time, soon after the incident, or eventually, as in the case of certain occupational diseases, such as asbestos-related cancers. Catastrophic business losses. The major contributor to significant environmental harm.	5

Possible	Inadequate controls are in place, or likely to breakdown if not maintained. Controls rely on personal compliance. People are sometimes in this area or sometimes engage in this activity and situations sometimes arise from this activity.	3
Likely	Poor controls in place. Heavy reliance on personal compliance (lots of room for human error). People are often in this area / engage in this activity on a regular basis / situation often arise from this activity.	4
Almost certain	No controls in place where there should be, exposure to the hazard is expected to occur in most circumstances. The activity is considered such high risk that it will `certainly lead to injuries.	5

Appendix 2 Risk Assessment Laboratory

Assessment Ref. No.	LP & HP microscopy RA Davy 2 South & 702 JA 2022-06-09					Activity Assessed	Use of stereo and compound microscopes in Davy 201, 203, 205 207 suite, 209 and 702				
Assessment Date	09/06/2022					Faculty / Directorate	Faculty of Science and Engineering				
Assessor	Jane Akerman					School / Service	School of Biological and Marine Sciences				
Version No.	03					Additional individuals involved in developing the RA	n/a				
Signature of Assessor						Signature of Academic Supervisor / Approver					
Risk Score Matrix						Risk Score and Description					
Likelihood	Severity						Risk Score	Risk Level	Category	Description	
		Insignificant	Minor	Moderate	Major	Fatal					
	Very Unlikely	1 Green	2 Green	3 Green	4 Green	5 Amber	1 – 4	Low	Acceptable	No further actions needed	
	Unlikely	2 Green	4 Green	6 Amber	8 Amber	10 Red	5 – 9	Medium	Tolerable/Adequate	Should be reviewed to ensure that there is nothing else which could be done	
	Possible	3 Green	6 Amber	9 Amber	12 Red	15 Red	10 – 15	High	Undesirable	Immediately review current control measures, and where appropriate decide on further actions	
	Likely	4 Green	8 Amber	12 Red	16 Red	20 Red	16 - 25	Very High	Unacceptable	Stop activity and make immediate improvements	
Almost Certain	5 Amber	10 Red	15 Red	20 Red	25 Red	<i>Likelihood (L) x Severity (S) = Risk Score (RS)</i>					

What is/are the hazard(s) involved with the activity being undertaken?	Who might be harmed and how?	What are you already doing to control the risk?	Risk Score with current controls in place			What further action is necessary? (Add these actions to the action plan below).	Target Risk Score Likelihood x Severity = Risk Score		
			L	S	RS		L	S	RS
Transmission of COVID-19 between building users	Staff, students and others	Lab users instructed not to come to campus if experiencing symptoms of COVID-19. Staff &	2 - Unlikely	4 - Major	8 - Medium Risk	Review all local and activity based risk assessments. Ensure all preventative	2 - Unlikely	4 - Major	8 - Medium Risk

		<p>students to frequently sanitise hands via wash basins or hand sanitiser. Lab users to book laboratory space prior to entering the building to prevent overcrowding.</p> <p>Staff & students to clean benches and any equipment with an appropriate disinfectant before they start work and again after they have finished.</p> <p>Ventilation to be maintained in all communal areas either via open windows (provided this does not breach any containment rules) or mechanical means. Staff & students who are not comfortable or confused with operations/instructions to speak to their school technical manager.</p> <p>Staff & students to retain awareness of the risk at all times.</p>				<p>measures are followed and report any breaches</p> <p>.</p>			
Using microscope for extended periods of time with poor posture	Microscope user may develop eye or back strain or other repetitive strain injury	Height and backrest adjustable chairs provided in Davy 205 for extended periods of microscope use. All staff and students undertake health and safety online training, including safe use of DSE, which can be applied to microscope use. Users instructed during compulsory lab inductions to set microscope and chair at correct height and position prior to use and to take regular breaks.	2 - Unlikely	3 - Moderate	6 - Medium Risk	<p>Review all local and activity based risk assessments.</p> <p>Ensure all preventative measures are followed and report any breaches</p> <p>.</p>	2 - Unlikely	3 - Moderate	6 - Medium Risk

		Adequate lighting provided in all laboratories and maintained by Estates.							
Faulty electrical equipment and spillage of liquids when using microscope light sources	Electrocution of microscope user and/or electrical fire affecting all building users	Annual PAT testing of electrical items and regular checks by technical staff for loose wiring and other faults. Electrical supply fitted with trip switches. Users instructed to handle liquids with care to avoid spillages, paper towels provided in all labs and chemical spill kit available in Davy 204a. Fire safety and evacuation procedures in place and outlined during compulsory lab inductions.	2 - Unlikely	4 - Major	8 - Medium Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	2 - Unlikely	4 - Major	8 - Medium Risk
Breakages to glassware such as watch glasses, specimen tubes, slides, cover slips etc.	Minor cuts to microscope user and/or other lab users	Induction procedure outlines safe handling of glassware and immediate reporting of breakages to technical staff for prompt disposal. Provision of dustpan and brush in all laboratories and glass bins provided in Davy 204 and 702. Emergency contact details displayed in all labs. Injuries reported to first aid trained staff. Provision of first aid kits in Davy 202 and LABplus.	3 - Possible	2 - Minor	6 - Medium Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	3 - Possible	2 - Minor	6 - Medium Risk
Unsafe use of sharp manipulation tools such as forceps, scalpels, mounted needles etc.	Minor cuts or moderate scalpel injury of microscope user and/or other lab users	Induction procedure outlines safe use and storage of sharp tools and reporting of injuries to first aid trained staff. Covers provided for scalpel blades and sharps bins in Davy 203, 205 and LABplus. Emergency contact details	3 - Possible	3 - Moderate	9 - Medium Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	3 - Possible	3 - Moderate	9 - Medium Risk

		displayed in all labs. Provision of first aid kits in Davy 202 and LABplus.							
Exposure to preservation and/or mounting chemicals	Injury or ill health of microscope user and/or other lab users	COSHH forms completed and copies held in laboratory information folder prior to using chemicals. COSHH forms for ethanol , IDA and 10% formalin accessible to SoBMS technical staff by clicking embedded hyperlinks. Appropriate measures for handling and storage conducted according to COSHH regulations, including use of appropriate PPE and adherence to safety signage. Accidental release and exposure reported to first aid trained staff. Emergency contact details displayed in all labs. Provision of appropriate PPE, eyewash stations, hand washing facilities, and adequate ventilation in all labs. Chemical spill kit housed in Davy 204a.	2 - Unlikely	2 - Minor	4 - Low Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	2 - Unlikely	2 - Minor	4 - Low Risk
Slips, trips and falls	Injury of microscope user and/or other lab users	Walkways and other transit areas kept as free of clutter as possible. Bag storage area provided in Davy 205. Compulsory lab inductions instruct users to handle liquids with care to avoid spillages, to transport liquids in small quantities in sealed containers and to report spillages and obstructions to technical staff	2 - Unlikely	3 - Moderate	6 - Medium Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	2 - Unlikely	3 - Moderate	6 - Medium Risk

		immediately. Chemical spill kit housed in Davy 204a and paper towels provided in all labs. Regular checks by technical staff to remove unnecessary clutter.							
Other injury, ill health, fire or other cause for evacuation	Injury or ill health of microscope user and/or other lab users, smoke inhalation and or burns to lab users	Technical staff monitor lab users during working hours and ensure labs are locked at the end of the working day. Fire safety and evacuation procedures in place and outlined during compulsory lab inductions. Face coverings to be worn if possible during fire evacuation. Emergency contact details displayed in all labs, including details of multiple first aid trained staff. Defibrillator available in south end foyer of Davy Building. Access restricted to Davy Building and all laboratories outside of normal working hours.	2 - Unlikely	4 - Major	8 - Medium Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	2 - Unlikely	4 - Major	8 - Medium Risk
Lone working by staff and/or postgraduates	Injury or ill health of lone workers	Lone working avoided where possible. Lone workers must undertake fire marshal training, risk assess their activities in relation to lone working, carry mobile phones and inform a household member of their whereabouts. Access to building outside of working hours restricted and granted on a case-by-case basis, once approved by DOS or other appropriate individual.	2 - Unlikely	4 - Major	8 - Medium Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	2 - Unlikely	4 - Major	8 - Medium Risk

Inappropriate workplace conditions	Lab users may experience ill health	Adequate lighting and appropriate heating/cooling maintained. Window openers, window blinds and heating/cooling controls provided. Toilet facilities and access to drinking water in Davy 204 and SoGEES technical office provided.	2 - Unlikely	2 - Minor	4 - Low Risk	Review all local and activity based risk assessments. Ensure all preventative measures are followed and report any breaches	2 - Unlikely	2 - Minor	4 - Low Risk
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Refer to scoring matrix on page 34

Appendix 3 Coordinates Table

Table 8: Pitfall traps coordinates of farmed (9) and rewilded field (18).

TRAP	LAT	LONG	ALT (FT A.S.L)
9.1	50° 24'35.43516"	W 3°39'56.38788"	265
9.2	50° 24'35.18532"	W 3°39'57.40416"	221
9.3	50° 24'35.11476"	W 3°39'57.83724"	218
9.4	50° 24'34.96104"	W 3°39'57.93948"	218
9.5	50° 24'35.27424"	W 3°39'58.15512"	231
9.6	50° 24'35.46036"	W 3°39'57.9852"	220
9.7	50° 24'36.65988"	W 3°39'57.80124"	181
9.8	50° 24'37.47888"	W 3°39'58.49424"	186
9.9	50° 24'37.41408"	W 3°39'58.64508"	186
9.10	50° 24'37.4274"	W 3°39'58.68756"	183
9.11	50° 24'37.45908"	W 3°39'58.86792"	182
9.12	50° 24'37.51092"	W 3°39'58.82292"	178
9.13	50° 24'40.3146"	W 3°40'1.06176"	127
9.14	50° 24'40.26672"	W 3°40'1.37568"	103
9.15	50° 24'40.25772"	W 3°40'1.52328"	102
9.16	50° 24'40.3326"	W 3°40'2.45172"	108
9.17	50° 24'40.46256"	W 3°40'2.44776"	89
9.18	50° 24'40.49784"	W 3°40'2.34876"	91
18.1	50° 24'39"	W 3°39'50"	98
18.2	50° 24'38.82348"	W 3°39'50.26032"	103
18.3	50° 24'38.61864"	W 3°39'49.89456"	70
18.4	50° 24'38.84508"	W 3°39'49.6188"	93
18.5	50° 24'39.16332"	W 3°39'49.72824"	99
18.6	50° 24'39.39444"	W 3°39'49.97016"	88
18.7	50° 24'41.81796"	W 3°39'51.99264"	52
18.8	50° 24'41.55084"	W 3°39'51.67764"	75
18.9	50° 24'41.58396"	W 3°39'51.66072"	94
18.10	50° 24'41.37876"	W 3°39'51.13836"	99
18.11	50° 24'41.98644"	W 3°39'51.29856"	68
18.12	50° 24'41.98824"	W 3°39'51.2964"	77
18.13	50° 24'44.6058"	W 3°39'58.24512"	48
18.14	50° 24'44.59536"	W 3°39'58.15512"	53
18.15	50° 24'44.41032"	W 3°39'58.8322"	60
18.16	50° 24'44.226"	W 3°39'57.29652"	55
18.17	50° 24'44.73144"	W 3°39'57.58128"	24
18.18	50° 24'44.70372"	W 3°39'57.70476"	40

Appendix 4 Invertebrate identification worksheet

Table 9: Raw data example of invertebrate identification found in each trap.

Species	Trap Samples (example of the first 6 traps)					
	18.1.1	18.1.2	18.1.3	18.1.4	18.1.5	18.1.6
Order Coleoptera Beetles						
Sp. A Family Staphylinidae rove beetle ocypus olens	2	4				
Sp. B looks like A but much smaller	1	2	2			1
Sp. C head bigger than torax	1		1		1	1
Sp. D beetle larvae	1		2	3	3	1
Sp. E similar to A but bigger torax		1				
Sp. F honey color elytra carabidae		2	6	2		
Sp. G B but curved body		2		3	1	
Sp. H tiny beetle		3	1	1	2	
Sp. I brownish big torax big body			2	1	2	
Sp. J similar to C but yellowish					1	
Sp K larvae					1	1
Order Isopoda Woodlice						
Sp. A shiny	2	2		2	1	
Sp. B striped red/gray		2	1	2	1	
Order Pseudoscorpiones False scorpions						
Sp. A	1					
Order Polydesmida Millipede						
Sp. A flat backed	1	2		1		
Order Opiliones Harvest Spider						
Sp. A bigger brown	1					
Sp. B black with two gold dots	3	1		1	2	2
Order Araneae Spiders						
Sp. A white bum	1					
Sp B big eyes brownish				1		
Sp C brown/black				1		
Sp D Black				2		
Sp E white/translucent with two black dots					1	1
Sp F big yellow/brownish torso and legs						1
Class Acari Mites						
Order Mesostigmata						
Sp. A	4	1		1	1	
Sp. B double outer circle		1				
Order Oribatida						
Sp A black	1		1			
Class Collembola Springtails						
Order Entomobryomorpha						
Sp. A yellowish	1	2	1	2	1	
Sp. B hairy	1					
Sp D like A but black gray spots				1		
Sp E white/transparent	15	14	9	8	12	10
Order Symphyleona						
Sp C tiny big head long antenna	3			1		
Order Poduromorpha						
Sp F long body short antenna						
Sp G larvae			1			
Order Hemiptera Bugs						
Sp. A	1					
Sp B yellow						
Order Stylommatophora Slugs and snails						
Sp. A slug		1	2	3		1
Sp. B spotted slug				1		
Sp. A flat snail		1				
Sp. B spiral snail						
Order Diptera True flies						
Sp. A		2		1		
Sp. B fly larvae	1			1		
Sp. C tiny stripped pointy bum				1		
Order Amphipoda Sandhoppers and scuds						
Sp A orange				3		

Appendix 5 Biodiversity Index

Table 10: Shannon Wiener Biodiversity Index calculation for overall rewilded field.

Species	Rewilded	pi	ln	pi*ln	sum	H
Coleoptera	134	0.23971377	-1.42830967	-0.3423855	-1.81566451	1.82
Isopoda	72	0.12880143	-2.04948335	-0.26397639		
Pseudoscorpiones	1	0.00178891	-6.32614947	-0.0113169		
Polydesmida	4	0.00715564	-4.93985511	-0.0353478		
Opiliones	20	0.03577818	-3.3304172	-0.11915625		
Araneae	18	0.03220036	-3.43577772	-0.11063327		
Mesostigmata	18	0.03220036	-3.43577772	-0.11063327		
Oribatida	2	0.00357782	-5.63300229	-0.02015385		
Entomobryomorpha	228	0.4078712	-0.89680384	-0.36578046		
Symphyleona	9	0.01610018	-4.1289249	-0.06647643		
Poduromorpha	4	0.00715564	-4.93985511	-0.0353478		
Hemiptera	2	0.00357782	-5.63300229	-0.02015385		
Stylommatophora	25	0.04472272	-3.10727365	-0.13896573		
Diptera	12	0.02146691	-3.84124282	-0.0824596		
Amphipoda	3	0.00536673	-5.22753718	-0.02805476		
Opisthoptera	5	0.00894454	-4.71671156	-0.04218883		
Lithobiomorpha	1	0.00178891	-6.32614947	-0.0113169		
Hymenoptera	1	0.00178891	-6.32614947	-0.0113169		
Total	559					

Table 11: Shannon Wiener Biodiversity Index calculation for overall farmed field.

Species	Farmed	pi	ln	pi*ln	sum	H
Coleoptera	132	0.44444444	-0.81093022	-0.36041343	-1.86636779	1.87
Isopoda	6	0.02020202	-3.90197267	-0.07882773		
Pseudoscorpiones	1	0.003367	-5.69373214	-0.01917082		
Polydesmida	0	0				
Opiliones	2	0.00673401	-5.00058496	-0.03367397		
Araneae	21	0.07070707	-2.6492097	-0.18731786		
Mesostigmata	9	0.03030303	-3.49650756	-0.10595477		
Oribatida	5	0.01683502	-4.08429423	-0.06875916		
Entomobryomorpha	63	0.21212121	-1.55059741	-0.3289146		
Symphyleona	11	0.03703704	-3.29583687	-0.12206803		
Poduromorpha	1	0.003367	-5.69373214	-0.01917082		
Hemiptera	1	0.003367	-5.69373214	-0.01917082		
Stylommatophora	14	0.04713805	-3.05467481	-0.14399141		
Diptera	10	0.03367003	-3.39114705	-0.11418004		
Amphipoda	2	0.00673401	-5.00058496	-0.03367397		
Opisthoptera	9	0.03030303	-3.49650756	-0.10595477		
Lithobiomorpha	1	0.003367	-5.69373214	-0.01917082		
Hymenoptera	9	0.03030303	-3.49650756	-0.10595477		
Total	297					