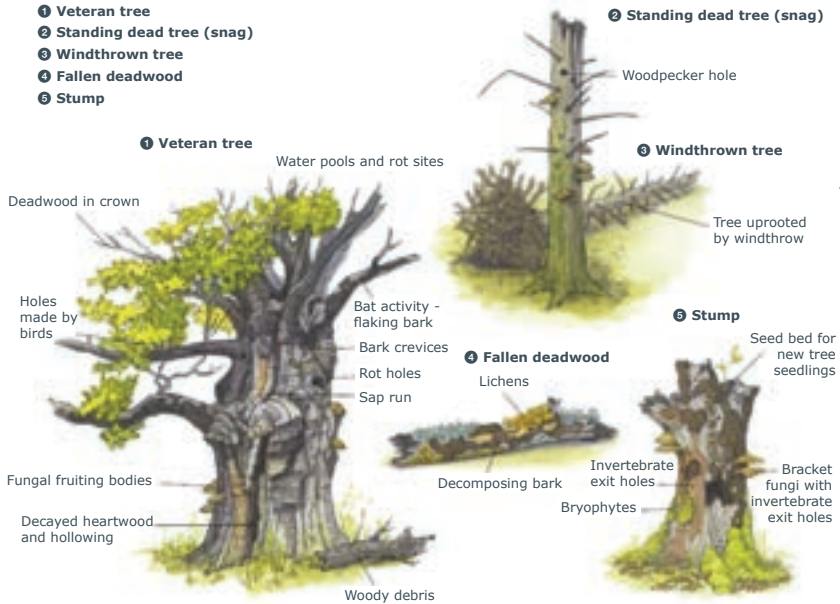




*The dead good*  
**Deadwood Survey**  
Survey Booklet

# What is deadwood?

Deadwood is a tree or part of a tree that has died and is in a state of decomposition. Here are five different types of deadwood:



## Why is deadwood dead good?

- It plays a big part in **nutrient recycling**, slowly releasing nitrogen into the soil for other plants to use
- It acts as a **carbon storage** system, capturing carbon and locking it into the ground to prevent global warming
- Fallen deadwood also helps the **stability** of woodland soil and helps prevent soil erosion
- Deadwood is an **important micro habitat** for birds, mammals, fungi, plants, amphibians, reptiles, insects, and even fish!<sup>1</sup>

# The Deadwood Survey

Is the deadwood in your woodland dead good? Find out for yourself with this simple survey. It should take no more than an hour to complete.



Any piece of woodland will do, as long as it is at least 100 square metres in area. Ancient woodland, forestry plantations, trees growing on urban wasteland, wood pasture and scrub are all fine.

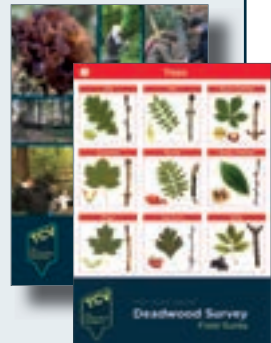
## What you will need

The Deadwood Survey pack which contains:

- This **Survey Booklet**
- The **Deadwood Field Guide**
- The folded paper **measuring tape**

Useful equipment:

- Pencil
- Camera (or smartphone)
- Collection pots and magnifier
- Plastic spoons or trowel
- Light coloured collection tray
- Coloured ribbon
- Calculator (or mobile phone with calculator)



## Carrying out the Deadwood Survey

You can do the Deadwood Survey as a group or by yourself. Before you go out to the woodland, answer questions **1-8** (page 4). Once you get outside, there are two parts to the Deadwood Survey.

**A** **How much deadwood** can you see? (pages 5-6)  
The 100 pace transect

**B** **How old is the deadwood?** (pages 7-14)  
Estimating the age of each piece



### Your safety

It is your responsibility to assess the risks when carrying out any kind of fieldwork. While taking part in the survey:

- Wear appropriate footwear and clothing based upon terrain and the weather forecast
- Don't go into the woods in stormy weather
- Cover any open cuts and wash hands thoroughly afterwards
- Take care when handling deadwood, be aware of other people's toes and fingers and don't try to lift heavy logs
- If you move any deadwood, please return it to where you found it afterwards. Deadwood is a home for many creatures and we don't want to disturb them too much
- Look out for any sharp objects in the soil, things you could trip on, and thorny plants
- Before going out to the woodland, let someone know where you will be working and what time you are expected to return
- Make sure you know what to do in an emergency. Carry a fully charged mobile phone. Make sure you can describe the location of where you will be working (ideally with a 6-figure grid reference or postcode) in case you need to summon help

More general safety information is available from the Royal Society for the Prevention of Accidents [www.rosopa.com](http://www.rosopa.com)



# The survey starts here

## Introductory questions

1. Name of community group/individual

---

2. Email address (optional)

---

3. Are you part of an environmental group  
(such as a Community Woodland group)?

yes

no

4. Have you carried out an environmental  
survey before?

yes

no

5. Name of woodland

---

6. Location

---

7. Grid reference (if known)

---

8. Size of woodland in hectares (if known)

---

# A

## How much deadwood?

### The 100 pace transect

Walk 100 paces into the woodland (or measure 100 metres) in any direction.

Mark the start by putting a stick in the ground or tying a coloured ribbon to a tree. Try to walk in a straight line. This 100 pace walk is called a **transect**.

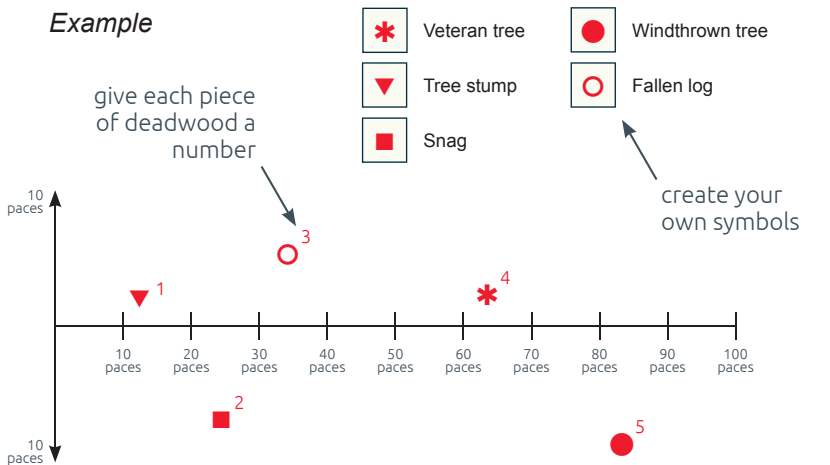
Look for **large pieces of deadwood\*** along the transect. Check up to 10 metres away on either side of the transect. Use page 6 to help you draw a map of how much deadwood there is.

\* A large piece of deadwood is more than 20cm in diameter and 2 metres long. You can use the paper tape measure in your survey pack to check.



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### Example



1 pace = 1 metre

# Your results for the 100 pace transect

1 pace = 1 metre

100 paces  
90 paces  
80 paces  
70 paces  
60 paces  
50 paces  
40 paces  
30 paces  
20 paces  
10 paces

10 paces 10 paces

**Key for different types of deadwood\*\***  
(create your own symbols)

- Veteran tree
- Tree stump
- Snag
- Windthrown tree
- Fallen log

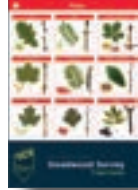
\*\* see colour illustrations on page 1

Photocopy this page, or use extra sheets, if you are doing more than one transect

# B

## How old is the deadwood? Estimating the age of each piece

Use pages 8-14 to record information about each piece of deadwood. There is space for up to 5 pieces. Photocopy more sheets if you need them. **See the Field Guide for photographs and identification tips.**



### Example

About the piece of deadwood	
1	Is the deadwood standing up or lying down on the ground? Tick (✓) <input checked="" type="checkbox"/> Standing <input type="checkbox"/> Lying
2	Measure the <b>diameter</b> of the piece of deadwood Answer in cm <b>64cm</b>
3	Measure the <b>length</b> of the piece of deadwood Answer in cm <b>97cm</b>
4	What tree species is the deadwood from? Look at nearby trees if unsure <b>Birch</b>

see coloured section 1 of Field Guide (red)

Looking on the surface of the piece of deadwood	
5	Are there any holes in the deadwood? Tick (✓) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6	What is growing on the surface of the deadwood? Tick as many as you see (✓) <input checked="" type="checkbox"/> Moss <input type="checkbox"/> Lichen <input type="checkbox"/> Fern <input type="checkbox"/> Ivy <input checked="" type="checkbox"/> Bracket fungus <input type="checkbox"/> Mushroom
7	What animals can you see on the surface of the deadwood? Make a list <b>Spiders, Birds, Robber flies</b>

see coloured section 2 of the Field Guide (yellow) ... and so on

Looking inside the piece of deadwood	
8	Push a pencil into the deadwood. How deep does it go? Answer in cm <b>5cm</b>
9	How soft is the deadwood? Tick (✓) <input checked="" type="checkbox"/> Hard <input type="checkbox"/> Soft and spongy <input type="checkbox"/> Crumbly
10	What animals can you see inside the deadwood? Make a list <b>Centipedes, Woodlice, Ground beetles</b>
11	What colour is the wood rot? Tick (✓) or describe <input type="checkbox"/> Red <input type="checkbox"/> White <i>or other colour</i> <b>Brown</b>

Use your answers from questions 7, 9 and 10 to estimate the stage of decay

Conclusions: stage of decay	
12	Can you estimate the <b>stage of decay</b> of the piece of deadwood Tick (✓) <input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4



## Your results for deadwood piece one

About the piece of deadwood		
1	Is the deadwood standing up or lying down on the ground? Tick (✓)	<input type="checkbox"/> Standing <input type="checkbox"/> Lying
2	Measure the <b>diameter</b> of the piece of deadwood Answer in cm	
3	Measure the <b>length</b> of the piece of deadwood Answer in cm	
4	What tree species is the deadwood from? Look at nearby trees if unsure	1

see coloured section of the Field Guide



Looking on the surface of the piece of deadwood		
5	Are there any holes in the deadwood? Tick (✓)	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	What is growing <b>on the surface</b> of the deadwood? Tick as many as you see (✓)	<input type="checkbox"/> Moss <input type="checkbox"/> Lichen <input type="checkbox"/> Fern <input type="checkbox"/> Ivy <input type="checkbox"/> Bracket fungus <input type="checkbox"/> Mushroom
7	What animals can you see <b>on the surface</b> of the deadwood? Make a list	4

Looking inside the piece of deadwood		
8	Push a pencil into the deadwood. How deep does it go? Answer in cm	
9	How soft is the deadwood? Tick (✓)	<input type="checkbox"/> Hard <input type="checkbox"/> Soft and spongy <input type="checkbox"/> Crumbly
10	What animals can you see <b>inside the deadwood</b> ? Make a list	4
11	What colour is the wood rot? Tick (✓) or describe	<input type="checkbox"/> Red <input type="checkbox"/> White <i>or other colour</i> .....

Conclusions: stage of decay		
12	Can you estimate the <b>stage of decay</b> of the piece of deadwood Tick (✓)	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <span style="background-color: #4b618c; color: white; text-align: center; font-weight: bold; padding: 5px;">5</span>

Use your answers from questions 7, 9 and 10 to estimate the stage of decay

## Your results for deadwood piece **two**

About the piece of deadwood	
1	Is the deadwood standing up or lying down on the ground? Tick (✓) <input type="checkbox"/> Standing <input type="checkbox"/> Lying
2	Measure the <b>diameter</b> of the piece of deadwood Answer in cm
3	Measure the <b>length</b> of the piece of deadwood Answer in cm
4	What tree species is the deadwood from? Look at nearby trees if unsure

see coloured section of the Field Guide



**1**

Looking on the surface of the piece of deadwood	
5	Are there any holes in the deadwood? Tick (✓) <input type="checkbox"/> Yes <input type="checkbox"/> No
6	What is growing <b>on the surface</b> of the deadwood? Tick as many as you see (✓) <input type="checkbox"/> Moss <input type="checkbox"/> Lichen <input type="checkbox"/> Fern <input type="checkbox"/> Ivy <input type="checkbox"/> Bracket fungus <input type="checkbox"/> Mushroom
7	What animals can you see <b>on the surface</b> of the deadwood? Make a list

**2**

**3**

**4**

Looking inside the piece of deadwood	
8	Push a pencil into the deadwood. How deep does it go? Answer in cm
9	How soft is the deadwood? Tick (✓) <input type="checkbox"/> Hard <input type="checkbox"/> Soft and spongy <input type="checkbox"/> Crumbly
10	What animals can you see <b>inside the deadwood</b> ? Make a list
11	What colour is the wood rot? Tick (✓) or describe <input type="checkbox"/> Red <input type="checkbox"/> White <i>or other colour</i> _____

**4**

Conclusions: stage of decay	
12	Can you estimate the <b>stage of decay</b> of the piece of deadwood Tick (✓) <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

**5**

Use your answers from questions **7, 9 and 10** to estimate the stage of decay

## Your results for deadwood piece **three**

About the piece of deadwood		
1	Is the deadwood standing up or lying down on the ground? Tick (✓)	<input type="checkbox"/> Standing <input type="checkbox"/> Lying
2	Measure the <b>diameter</b> of the piece of deadwood Answer in cm	
3	Measure the <b>length</b> of the piece of deadwood Answer in cm	
4	What tree species is the deadwood from? Look at nearby trees if unsure	<b>1</b>

see coloured section of the Field Guide



Looking on the surface of the piece of deadwood		
5	Are there any holes in the deadwood? Tick (✓)	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	What is growing <b>on the surface</b> of the deadwood? Tick as many as you see (✓)	<input type="checkbox"/> Moss <input type="checkbox"/> Lichen <input type="checkbox"/> Fern <input type="checkbox"/> Ivy <input type="checkbox"/> Bracket fungus <input type="checkbox"/> Mushroom
7	What animals can you see <b>on the surface</b> of the deadwood? Make a list	<b>4</b>

Looking inside the piece of deadwood		
8	Push a pencil into the deadwood. How deep does it go? Answer in cm	
9	How soft is the deadwood? Tick (✓)	<input type="checkbox"/> Hard <input type="checkbox"/> Soft and spongy <input type="checkbox"/> Crumbly
10	What animals can you see <b>inside the deadwood</b> ? Make a list	<b>4</b>
11	What colour is the wood rot? Tick (✓) or describe	<input type="checkbox"/> Red <input type="checkbox"/> White <i>or other colour</i> .....

Conclusions: stage of decay		
12	Can you estimate the <b>stage of decay</b> of the piece of deadwood Tick (✓)	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <b>5</b>

Use your answers from questions **7, 9 and 10** to estimate the stage of decay

## Your results for deadwood piece **four**

About the piece of deadwood	
1	Is the deadwood standing up or lying down on the ground? Tick (✓) <input type="checkbox"/> Standing <input type="checkbox"/> Lying
2	Measure the <b>diameter</b> of the piece of deadwood Answer in cm
3	Measure the <b>length</b> of the piece of deadwood Answer in cm
4	What tree species is the deadwood from? Look at nearby trees if unsure

see coloured section of the Field Guide



**1**

Looking on the surface of the piece of deadwood	
5	Are there any holes in the deadwood? Tick (✓) <input type="checkbox"/> Yes <input type="checkbox"/> No
6	What is growing <b>on the surface</b> of the deadwood? Tick as many as you see (✓) <input type="checkbox"/> Moss <input type="checkbox"/> Lichen <input type="checkbox"/> Fern <input type="checkbox"/> Ivy <input type="checkbox"/> Bracket fungus <input type="checkbox"/> Mushroom
7	What animals can you see <b>on the surface</b> of the deadwood? Make a list

**2**

**3**

**4**

Looking inside the piece of deadwood	
8	Push a pencil into the deadwood. How deep does it go? Answer in cm
9	How soft is the deadwood? Tick (✓) <input type="checkbox"/> Hard <input type="checkbox"/> Soft and spongy <input type="checkbox"/> Crumbly
10	What animals can you see <b>inside the deadwood</b> ? Make a list
11	What colour is the wood rot? Tick (✓) or describe <input type="checkbox"/> Red <input type="checkbox"/> White <i>or other colour</i> _____

**4**

Conclusions: stage of decay	
12	Can you estimate the <b>stage of decay</b> of the piece of deadwood Tick (✓) <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Use your answers from questions **7, 9 and 10** to estimate the stage of decay

## Your results for deadwood piece **five**

### About the piece of deadwood

1	Is the deadwood standing up or lying down on the ground? Tick (✓)	<input type="checkbox"/> Standing <input type="checkbox"/> Lying	see coloured section of the Field Guide ↓
2	Measure the <b>diameter</b> of the piece of deadwood Answer in cm		
3	Measure the <b>length</b> of the piece of deadwood Answer in cm		
4	What tree species is the deadwood from? Look at nearby trees if unsure		

### Looking on the surface of the piece of deadwood

5	Are there any holes in the deadwood? Tick (✓)	<input type="checkbox"/> Yes <input type="checkbox"/> No	2
6	What is growing <b>on the surface</b> of the deadwood? Tick as many as you see (✓)	<input type="checkbox"/> Moss <input type="checkbox"/> Lichen <input type="checkbox"/> Fern <input type="checkbox"/> Ivy <input type="checkbox"/> Bracket fungus <input type="checkbox"/> Mushroom	3
7	What animals can you see <b>on the surface</b> of the deadwood? Make a list		4

### Looking inside the piece of deadwood

8	Push a pencil into the deadwood. How deep does it go? Answer in cm		
9	How soft is the deadwood? Tick (✓)	<input type="checkbox"/> Hard <input type="checkbox"/> Soft and spongy <input type="checkbox"/> Crumbly	
10	What animals can you see <b>inside the deadwood</b> ? Make a list		4
11	What colour is the wood rot? Tick (✓) or describe	<input type="checkbox"/> Red <input type="checkbox"/> White <i>or other colour</i> .....	

### Conclusions: stage of decay

12	Can you estimate the <b>stage of decay</b> of the piece of deadwood Tick (✓)	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	5 ←
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Use your answers from questions **7, 9 and 10** to estimate the stage of decay

## Send us your results

We would love to hear what you found on the survey including what wildlife and insects you discovered.

You can email us a scanned copy or photograph of your results to **deadwood@tcv.org.uk**

Or send your paper copy (or photocopy) to us at The Conservation Volunteers, Unit M1, 143 Charles Street, Glasgow, G21 2QA.

Thank you for taking part in The Dead Good Deadwood Survey!

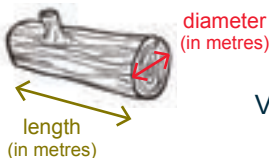
## Optional extra calculations

The UK Forestry Standard for deadwood

Woodlands come in many shapes and sizes. So, measurements of the amount of deadwood are given in the volume of deadwood per hectare (1 hectare = 10,000 square metres). **Scottish Forestry** advises that **each hectare of woodland should contain at least 20 cubic metres of deadwood (excluding stumps).**<sup>2</sup>

**A healthy woodland should have at least three standing and three fallen pieces of deadwood per hectare**

1. Find the **VOLUME** of each piece of deadwood in cubic metres.



$$\text{VOLUME} = \text{length} \times (\text{diameter} \div 2)^2 \times 3.14$$

2. Add together the volume of each piece of deadwood in your 100 pace transect. This will give the total volume in 2000 m<sup>2</sup>.
3. To find out how much deadwood is in 1 hectare (10,000 m<sup>2</sup>), you need to multiply this by 5. This will give you the total volume of deadwood in cubic metres.

# What do your results mean?

In the past deadwood was taken away for firewood. More recently deadwood has been removed by people who think it threatens the health of living trees. Some people have also cleared away deadwood because they think it is untidy.

We now know that a good volume of deadwood is actually a sign of a healthy woodland. It is also better if the different pieces of deadwood are at different stages of decay.

How valuable is your woodland as a deadwood habitat?		
Low value	Medium value	High value
Less than 10% of stems dead/decaying	11-20% of stems dead/decaying	More than 20% of stems dead/decaying
Less than 1 veteran tree per 100 paces)	About 1 veteran tree per 100 paces)	More than 1 veteran tree per 100 paces)

Around one fifth of the UK's woodland species depend on deadwood for some part of their life-cycle. These species include mammals, hole-nesting birds (like nuthatches), many invertebrates (like beetles and hoverflies), fungi, lichens and mosses.

## Creating deadwood habitats

What can you do if there is not much deadwood in your woodland?

- If you fell the trees for firewood or timber, leave a few logs on the ground, and don't remove the tree stumps
- If you like deadwood but worry it is unsafe (like loose branches near footpaths), gather it up and build a habitat pile. This can be anything from a log pile to a purpose-built bug hotel
- If there are few snags, or few old trees with big hollows, then put up bird and bat boxes. These boxes mimic a hollow tree<sup>5</sup>

Trees are valuable in their own right, so don't kill living trees just to make new deadwood habitat. Avoid bringing deadwood into the woodland from elsewhere. This risks spreading pests and diseases.



Need some help to identify a plant or animal you've found? Try uploading a photo to the iSpot website  
[www.ispotnature.org](http://www.ispotnature.org)



Want to share wildlife sightings with the wider community? Report your observations at the iRecord website  
[www.brc.ac.uk/irecord](http://www.brc.ac.uk/irecord)



The Dead Good Deadwood Survey has been produced as part of TCV's Scotland Counts, a project supported by Scottish Forestry, Scottish Natural Heritage and the Scottish Government. Scotland Counts aims to ensure that every individual and community in Scotland has the opportunity to develop skills and confidence to understand their local environment through Citizen Science.



This pack has been developed by Jess Owen, Amanda Malcolm, Dominic Hall, Graham Burns, Tim Lewis and Amy Styles. Text and concept © TCV 2019. Images in this booklet © TCV unless otherwise shown. All rights reserved.

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