V1.0 February 2019

Pondwatch JE

a new scheme for surveying Jersey's pondlife

Dr Rob Ward

Jersey Project Officer, Amphibian and Reptile Conservation

What is **Pondwatch**?

An **island-wide effort to record Jersey's pondlife** with the aim of detecting changes in their conservation status.

Pondwatch *replaces* the National Amphibian and Reptile Recording Scheme (NARRS) and Toadwatch.

By taking part, you will be helping us to improve our knowledge on the distribution and habitat requirements of Jersey's pond-dwelling wildlife.

(It's also a good opportunity for you to spend some time in nature too!)

What is **Pondwatch**?

A **partnership** between

Jersey Amphibian and Reptile Group (JARG)

The Government of Jersey

Jersey Biodiversity Centre (JBC)

Amphibian and Reptile Conservation (ARC)

How can you get involved?

Pondwatch is made up of 3 levels.

Choose the one that suits your experience and available time.

Level			Methods
1	30 minutes 1 survey	No experience required No training required	Visual
2	30–60 mins 5 surveys	No experience required Training is required	Visual, net, torch
3	60+ mins Many surveys	Experience required Training is required	Visual, net, torch

Why survey ponds?

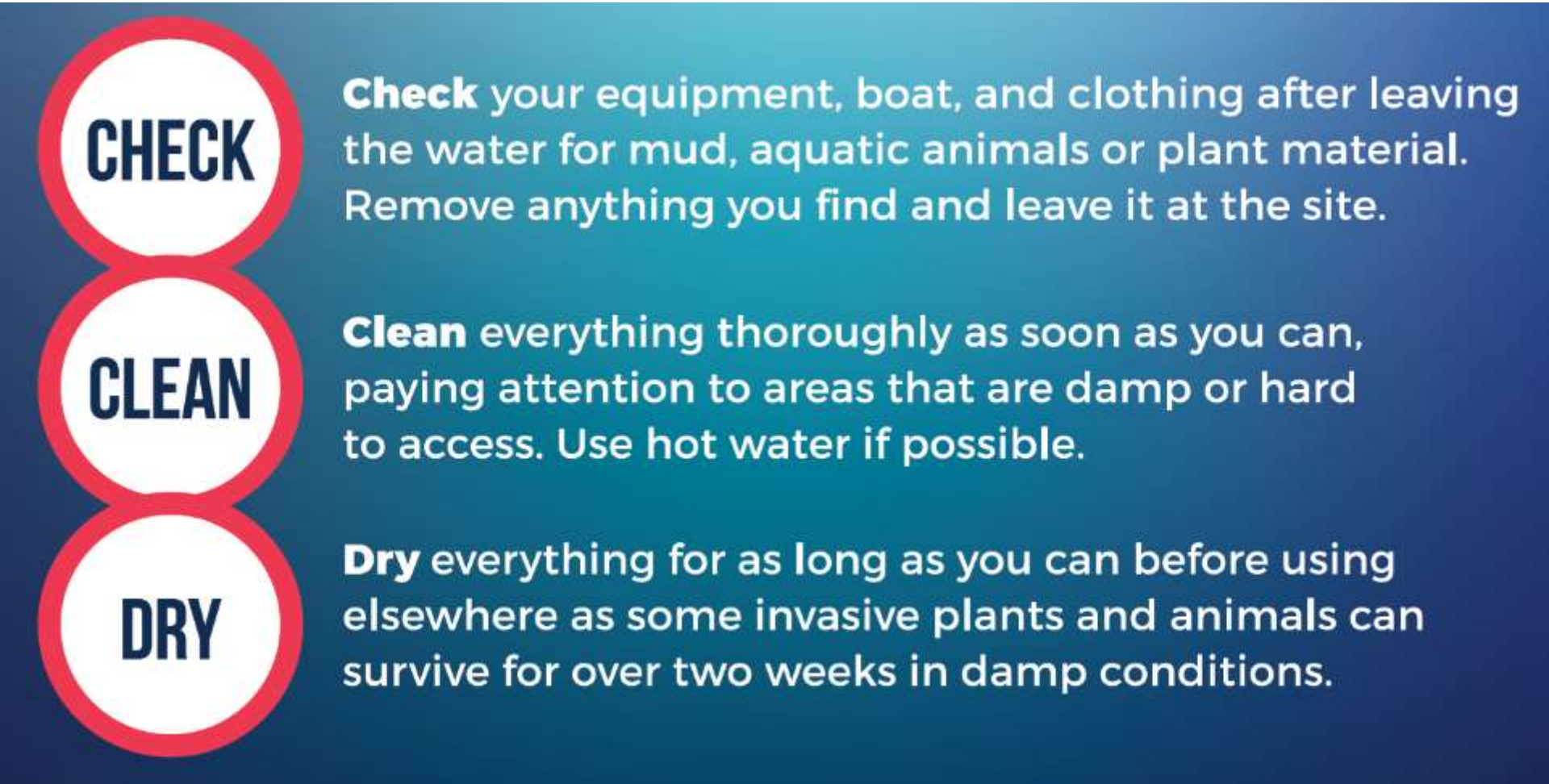
2/3 of all freshwater species use ponds

Be safe

- Assess hazards to yourself and others (including lone working)
- Especially important if it’s your first survey at a site
- **Consider**: water, trips, steep slopes, heat, cold, animals etc.
- Don’t survey if you feel unsafe!
- Regard all pond water as a possible source of disease
- Don’t immerse cuts or consume food
- Wear appropriate clothing/footwear
- Consider gloves but in any case always wash hands thoroughly afterwards

Biosecurity

- Clean equipment / footwear between sites (especially between ponds >1km apart)
- Helps prevent spread of invasive alien pond plants



What lives in ponds?

Amphibians (adults, metamorphs, larvae and eggs)

- Palmate newt (*Lissotriton helveticus*)
- Agile frog (*Rana dalmatina*)
- Toad / crapaud (*Bufo spinosus*)

***Alien* amphibians**

- Common frog (*Rana temporaria*)
- Green frog (*Pelophylax* spp.)
- Fire-bellied toad (*Bombina orientalis*)
- Great crested newt (*Triturus cristatus*)
- Japanese fire-bellied newt (*Cynops pyrrhogaster*)

Reptiles

- Grass snake (*Natrix helvetica*)

***Alien* reptiles**

- Red-eared slider (*Trachemys scripta elegans*)

What lives in ponds?

Invasive Non-Native Plants

- Water fern (*Azolla filiculoides*)
- New Zealand pigmyweed (*Crassula helmsii*)
- Parrot's feather (*Myriophyllum aquaticum*)
- Canadian Pondweed (*Elodea canadensis*)

Aquatic invertebrates

- Dragonflies and damselflies (Odonata)
- Water beetles (e.g. diving beetles)
- Leeches
- Snails
- Shrimp

Fish

Pondwatch Level 1

No experience or training needed

One survey, **January–May**

Spend **30 minutes** visually searching

Record any pondlife that you see

Take photos, especially if you are not sure of what you have seen

SUBMIT

Complete the survey form and **submit your results**

Pondwatch Level 2

No experience required. Training is required

Five surveys, **January–May**

Spend **30–60 minutes** surveying using visual surveys, netting or torching

Record any pondlife that you see
Take photos, especially if you are not sure of what you have seen

SUBMIT

Complete the survey form and **submit your results**

Where to survey (*Level 2*)

Your own pond, a pond you are aware of and know the landowner, a pond the Natural Environment team require monitoring or another of your choice.

Make sure you have **permission from the landowner** and it is **safe** to do so.

Landowner permission: If you have chosen a pond of your own, get permission and fill out a Landowner Survey Consent Form.


2005/02/19


2005/04/02

When to survey (*Level 2*)

Time of year: January–May

Ponds contain water and amphibians are most likely to be seen in and around the water.

Time of day: Variable depending on pond condition and methods used. We recommend surveying at different times of the day with different methods.

Number of surveys: **Five**, using multiple methods, but you can carry out more if you want.

What species? (*Level 2*)

You can record any pond-dwelling species, **BUT** we are particularly interested in observations of amphibians.

If you have received training and feel sufficiently competent, you can **opt-in** to record some **supplementary species**. These consist of two groups:

1. Invasive Non-Native (INN) aquatic plants
2. Dragonflies and damselflies (adults and nymphs)

How to survey (*Level 2*)

Equipment:

- Pondwatch JE survey form - Level 2 (available from https://groups.arguk.org/jarg)
- pen or pencil
- mobile phone (for emergencies)
- thermometer*
- small safety torch
- high powered torch**
- pond net*

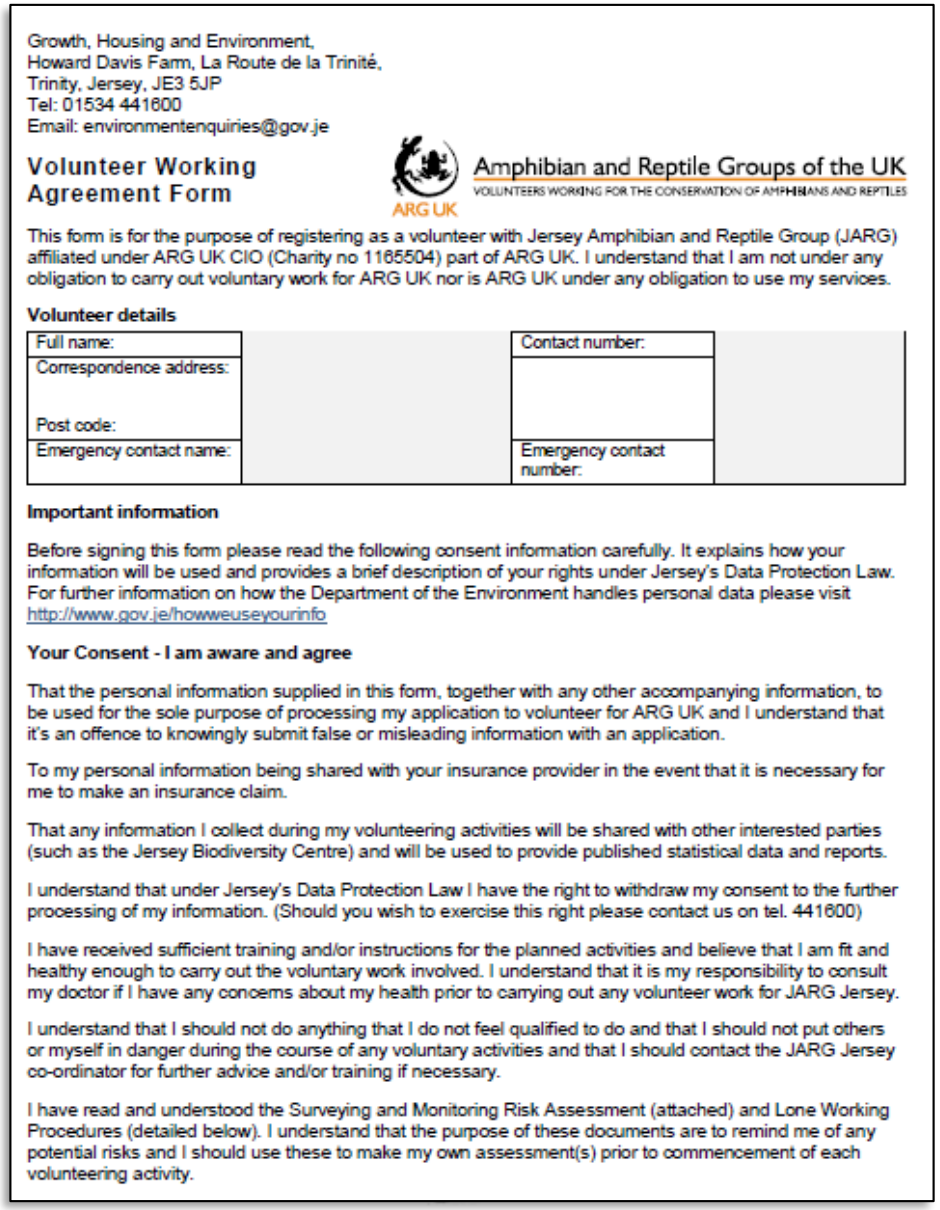
*available to borrow from Natural Environment
**available to borrow but limited availability

Optional (recommended):

- camera (a smart phone camera is fine)
- species ID guides
- map of survey site

How to survey (*Level 2*)

Step 1: Download a survey form and complete the Volunteer Working Agreement. Return the agreement to the address shown.



Growth, Housing and Environment,
Howard Davis Farm, La Route de la Trinité,
Trinity, Jersey, JE3 5JP
Tel: 01534 441600
Email: environmentenquiries@gov.je

Volunteer Working Agreement Form

ARG UK
Amphibian and Reptile Groups of the UK
VOLUNTEERS WORKING FOR THE CONSERVATION OF AMPHIBIANS AND REPTILES

This form is for the purpose of registering as a volunteer with Jersey Amphibian and Reptile Group (JARG) affiliated under ARG UK CIO (Charity no 1165504) part of ARG UK. I understand that I am not under any obligation to carry out voluntary work for ARG UK nor is ARG UK under any obligation to use my services.

Volunteer details

Full name:		Contact number:	
Correspondence address: Post code:			
Emergency contact name:		Emergency contact number:	

Important information

Before signing this form please read the following consent information carefully. It explains how your information will be used and provides a brief description of your rights under Jersey's Data Protection Law. For further information on how the Department of the Environment handles personal data please visit http://www.gov.je/howweuseyourinfo

Your Consent - I am aware and agree

That the personal information supplied in this form, together with any other accompanying information, to be used for the sole purpose of processing my application to volunteer for ARG UK and I understand that it's an offence to knowingly submit false or misleading information with an application.

To my personal information being shared with your insurance provider in the event that it is necessary for me to make an insurance claim.

That any information I collect during my volunteering activities will be shared with other interested parties (such as the Jersey Biodiversity Centre) and will be used to provide published statistical data and reports.

I understand that under Jersey's Data Protection Law I have the right to withdraw my consent to the further processing of my information. (Should you wish to exercise this right please contact us on tel. 441600)

I have received sufficient training and/or instructions for the planned activities and believe that I am fit and healthy enough to carry out the voluntary work involved. I understand that it is my responsibility to consult my doctor if I have any concerns about my health prior to carrying out any volunteer work for JARG Jersey.

I understand that I should not do anything that I do not feel qualified to do and that I should not put others or myself in danger during the course of any voluntary activities and that I should contact the JARG Jersey co-ordinator for further advice and/or training if necessary.

I have read and understood the Surveying and Monitoring Risk Assessment (attached) and Lone Working Procedures (detailed below). I understand that the purpose of these documents are to remind me of any potential risks and I should use these to make my own assessment(s) prior to commencement of each volunteering activity.

How to survey (*Level 2*)

Step 2: Visit your chosen pond during the day to familiarise yourself with the site and assess any risks. Update the risk assessment as necessary.

Step 3: Fill in your contact details on the form.

Pondwatch JE – Level 2 survey form 20__

Have you completed a Volunteer Working Agreement Form? **Y / N** *(delete as appropriate)*

Have you attended survey training? **Y / N** *(delete as appropriate)*

Contact details

Name

Address

Tel

Email

Can we contact you if necessary? **Yes / No**

How to survey (*Level 2*)

Step 4: Record the pond details (name, location, type and construction).

Pond details

Pond name		Pond grid reference	
Pond location *(address or description)*		Post code	

Have you completed a Landowner Survey Consent Form? **Y / N** *(delete as appropriate)*

Type of pond (**tick** one)

- ☐ Formal garden pond
- ☐ Wild garden pond
- ☐ Fish pond
- ☐ Farm pond
- ☐ School pond
- ☐ Golf course pond
- ☐ Natural pond
- ☐ Reservoir

Pond construction (**tick** one)

- ☐ Liner
- ☐ Preformed plastic
- ☐ Concrete
- ☐ Clay
- ☐ Other _____

How to survey (*Level 2*)

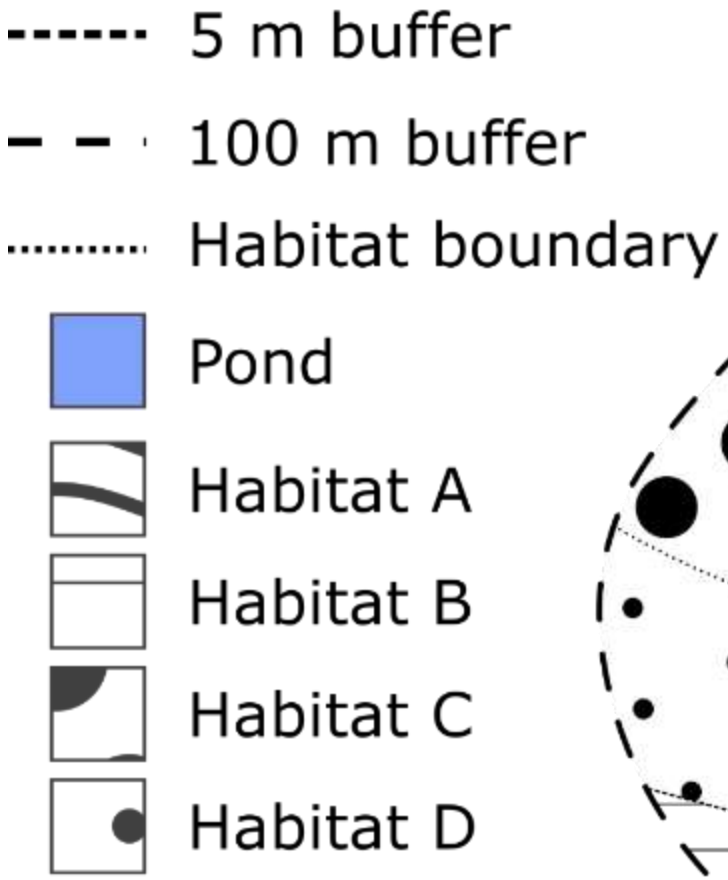
Step 5: Carry out a pond **habitat suitability assessment**.

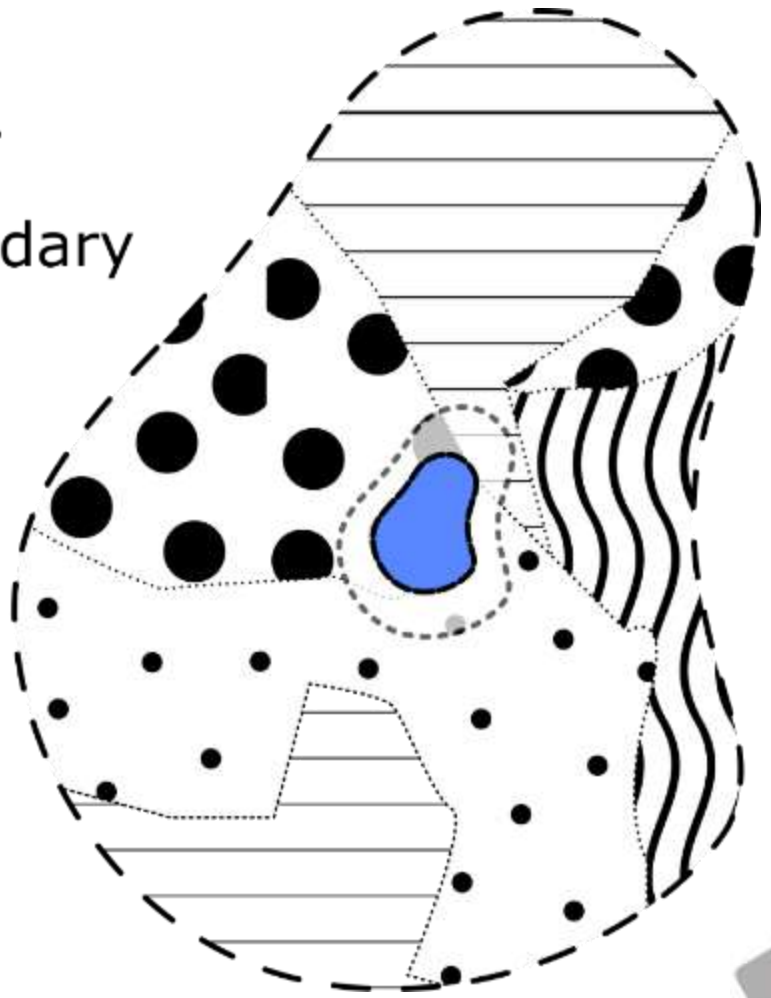
Pond habitat suitability assessment (refer to *survey manual*)

Pond area (m^2) when water is at its highest level. *(Look for where wetland vegetation (e.g. rushes) stops).*		
Number of years in ten pond dries up. **Never** dries; **Rarely** dries: no more than two years in any ten-year period, or only in drought; **Sometimes** dries: dries between three years in ten to most years; **Dries annually**. Estimate or ask landowner. (*Choose one option*)	**1 = Never** (0/10) **2 = Rarely** (1–2/10) **3 = Sometimes** (3+/10) **4 = Annually** (10/10)	
Water quality. **Bad** = clearly polluted, only pollution-tolerant invertebrates, no submerged plants; **Poor** = low invertebrate diversity, few submerged plants; **Moderate** = moderate invertebrate diversity; **Good** = abundant and diverse invertebrate community. (*Choose one option*)	**1 = Bad** **2 = Poor** **3 = Moderate** **4 = Good**	
% perimeter shaded. Percentage perimeter shaded (to at least 1 m from shore). Estimate.		
Waterfowl impact. **Major** = severe impact of waterfowl i.e. little or no evidence of submerged plants, water turbid, pond banks showing patches where vegetation removed, evidence of provisioning waterfowl; **Minor** = waterfowl present, but little indication of impact on pond vegetation, pond still supports submerged plants and banks are not denuded of vegetation; **None** = no evidence of waterfowl impact (moorhens may be present). (*Choose one option*)	**1 = Major** **2 = Minor** **3 = None**	
Fish presence. **Major** = dense populations of fish known to be present; **Minor** = small numbers of crucian carp, goldfish or stickleback known to be present; **Possible** = no evidence of fish, but local conditions suggest that they may be present; **Absent** = no records of fish stocking and no fish revealed during survey(s). (*Choose one option*)	**1 = Major** **2 = Minor** **3 = Possible** **4 = Absent**	
Number of ponds. Number of ponds within 1 km not separated by barriers to dispersal. Check with Natural Environment or use a map (e.g. Google Maps satellite) to estimate. (*Optional*)		
Terrestrial habitat. **None** = clearly no suitable habitat within immediate pond locale; **Poor** = habitat with poor structure that offers limited opportunities for foraging and shelter (e.g. amenity grassland); **Moderate** = offers opportunities for foraging and shelter, but may not be extensive; **Good** = extensive habitat that offers good opportunities for foraging and shelter completely surrounds pond e.g. rough grassland, scrub or woodland. (*Choose one option*)	**1 = None** **2 = Poor** **3 = Moderate** **4 = Good.**	
Aquatic vegetation. Percentage of pond surface occupied by aquatic vegetation (March–May). Estimate.		

How to survey (*Level 2*)

Step 6: Record the 3 most dominant habitats **around** the pond.





Habitat classifications

18 categories (Sources: UK Habitat Classification Working Group, 2018; UK Habitat Classification Field Key 2018) – find out more at http://ecountability.co.uk/ukhabworkinggroup-ukhab/

'Level 3' habitat categories for all surveys.

Level 1	Level 2
Terrestrial	Grassland
	Woodland and forest
	Heathland and shrub
	Wetland
	Cropland
	Urban
	Sparsely vegetated land
Freshwater	Rivers and lakes

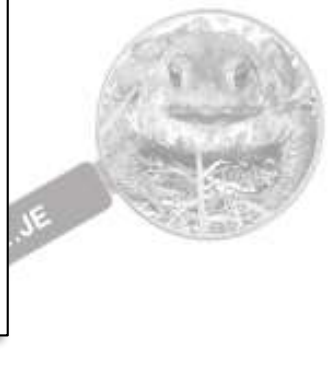
Tick the **3 most dominant** in each buffer width

Surrounding habitat assessment

Tick the three most dominant habitat types falling within 0–5 m and 0–100 m of the pond perimeter (the maximum water level) used to assess calculate the pond area.

0–5m	0–100m	**Habitat** and *definition*
		Acid grassland; *Grasses and herbs on [illegible] deficient soils (pH < 5.5).*
		Calcareous grassland; *Grasses and herbs on shallow, well-drained calcare[illegible] soils.*
		Neutral grassland; *Grasses and herbs on neutral soils (pH 4.5–6.5).*
		Modified grassland; *Fast-growing grasses on fertile, neutral soils. Often dominated by rye-grass Lolium spp. and white clover Trifolium repens.*
		Broadleaved mixed and yew woodland; *Broadleaved and yew trees > 5 m high when mature with distinct canopy, where these trees exceed 20% of tree cover.*
		Coniferous woodland; *Coniferous trees (except yew) > 5 m high when mature with distinct canopy, where these trees exceed 80% of tree cover.*
		Dwarf shrub heath; *> 25% of plant species are from heath family.*
		Hedgerows; *Boundary line of shrubs, that at one time were continuous.*
		Dense scrub; *Patches of shrubs < 5 m high with continuous (> 90%) cover.*
		Bog; *Rain fed inundated / waterlogged habitats where peat has formed in the past.*
		Fen marsh and swamp; *Inundated / waterlogged habitats where water is supplied by ground water or slow-moving rainwater flows through and peat does not form.*
		Arable and horticulture; *Arable cropland (incl. orchards), commercial horticultural land, freshly-ploughed land, annual leys, rotational set-aside and fallow.*
		Built-up areas and gardens; *Urban and rural settlements, man-made built structures, waste and derelict ground, urban parkland and urban transport infrastructure (e.g. roads).*
		Inland rock; *Natural and artificial exposed rock surfaces (e.g. inland cliffs, caves, screes, quarries).*
		Supralittoral rock; *Region of rocky shore including cliffs and slopes immediately above the highest water level in the 'splash zone'.*
		Supralittoral sediment; *Region of shore immediately above the highest water level in the 'splash zone'.*
		Standing open water and canals; *Natural systems (e.g. lakes and pools), as well as man-made waters (e.g. reservoirs, canals, ponds, gravel pits).*
		Rivers and streams; *Rivers and streams from bank top to bank top, or extent of mean annual flood.*

Level 3 habitat categories



How to survey (*Level 2*)

Carry out **five** survey visits (if possible) between **January and May** following the next set of steps.

Step 7: At the start of each survey record the visit number, date, the start time, air temperature, whether or not there is bright moonlight (night surveys only) and if wind is disturbing the water. Also record the water clarity, rainfall (choosing the most recent applicable option) and which (if any) supplementary species you are recording.

Survey conditions

Visit no.:	**Date:**	**Water clarity** (1–3, *choose one option*). **1** = good, pond bottom visible; **2** = intermediate, bottom visible in shallows; **3** = turbid, bottom not visible.	**1 = good** **2 = intermediate** **3 = turbid**	
Start time: *(24h)*	**End time:** *(24h)*			
Air temperature (°C):		**Rain** (0–3, *choose one option*).	**0 = none** **1 = yesterday** **2 = earlier today** **3 = during survey**	
Bright moonlight:	Yes / No			
Wind disturbing water:	Yes / No	**% shoreline surveyed:**		

Supplementary species *(which other species are you surveying for?)*

Invasive Non-Native (INN) plants	Yes / No	**Dragonflies and damselflies**	Yes / No

How to survey (*Level 2*)

Step 8: Spend 30–60 minutes using any of the following three methods to survey the pond, aiming to use all three methods across your multiple survey visits.

Visual search (daytime): walk around the pond edge looking for all lifestages (including eggs).

Netting: Carried out from the pond bank at 2m intervals. Agitate the net through vegetation at the pond edge, in an arc spanning 2 metres. Move to the next 2-metre stretch and repeat.

Torchlight survey (night time): Consider risks carefully. If done on same day as netting, do **before** netting. Count amphibians seen in the 2m stretch in front of you. Move to the next 2-metre stretch and repeat.

How to survey (*Level 2*)

Step 9: Record your sightings, including as much information as possible.

Amphibian spawn and tadpoles can be difficult to count, so instead you can record a range (e.g. 10–20) or simply tick the box to indicate they were seen.

What did you see? *For tadpoles and spawn, write down a range (e.g. <10, 10–20 etc.).

Species	Lifestage	Sex	Quantity*	Certainty (C=certain, U=uncertain)

Invasive non-native plants *(delete as appropriate)*

Water fern (*Azolla filiculoides*)	Y / N	Parrot's feather (*Myriophyllum aquaticum*)	Y / N
New Zealand pigmyweed (*Crassula helmsii*)	Y / N	Canadian Pondweed (*Elodea canadensis*)	Y / N

How to survey (*Level 2*)

Step 10: Record the end time, percentage of shoreline surveyed (and netted if applicable) and indicate which methods were used.

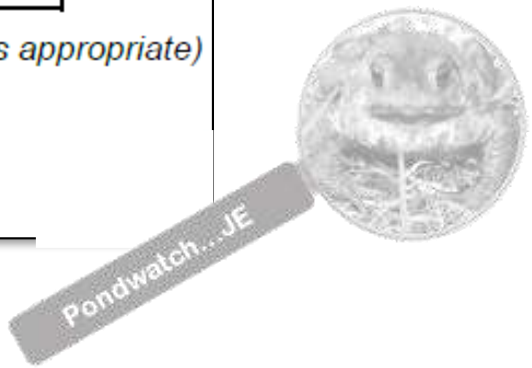
What method(s) did you use?	Visual	Y / N	Net	Y / N	% shoreline netted:	Torch	Y / N

Step 11: Once you have completed all of your surveys, record any supplementary information, including the date you first saw spawn in your pond (if applicable), if toads have been run over on nearby roads and if a grass snake has been seen in the pond.

Supplementary information

When did you first see spawn in this pond this year?		
Do migrating toads get run over on nearby roads?	Yes / No	*(delete as appropriate)*
Have you seen a grass snake in the pond?	Yes / No	
Have you carried out water quality tests at this pond?	Yes / No	

Step 12: Submit your results!



Identifying amphibians

Palmate newt

< 9 cm,
often much smaller

Palmate ♂

Palmate ♀

Two pale tubercles/nodules

Comparing newts and lizards

Agile frog

< 9 cm

Toad / crapaud

< 8 cm (males)
< 12 cm (females)

Toad / crapaud

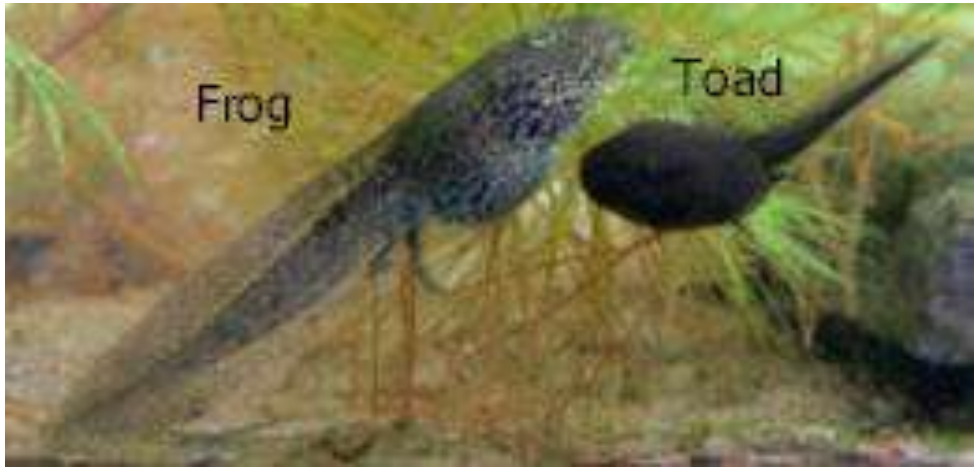
< 8 cm (males)
< 12 cm (females)

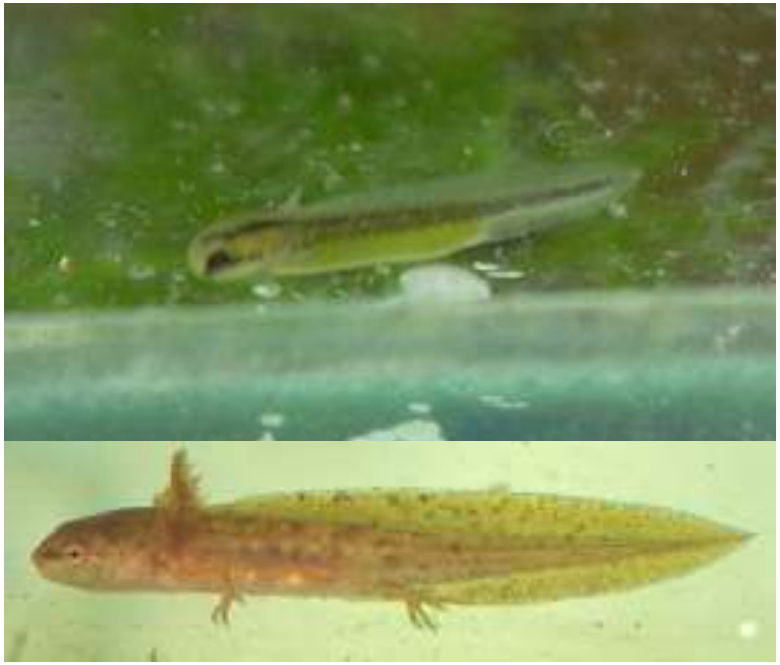
Comparing frogs and crapauds

Alien amphibians

Amphibian eggs

Amphibian tadpoles





Amphibian calls

Listen to calls at
http://www.karch.ch/karch/de/home/amphibien/amphibienrufe.html

What does the toad say?

Identifying Invasive Non-Native Plants

Resources

GB non-native species secretariat (http://www.nonnativespecies.org)

Includes **Species Identification sheets** and an **E-learning** course (*Module 2b. Identification of Invasive Freshwater Plants*).

Water fern (*Azolla filiculoides)*

NNSS
GB non-native species secretariat

Key ID Features

Usually green but often has a reddish tinge and can be completely red when exposed to stresses

Water fern (*Azolla filiculoides)*

Forms dense mats but can also be present as a few fronds amongst emergent or other floating vegetation

Water fern (*Azolla filiculoides)*

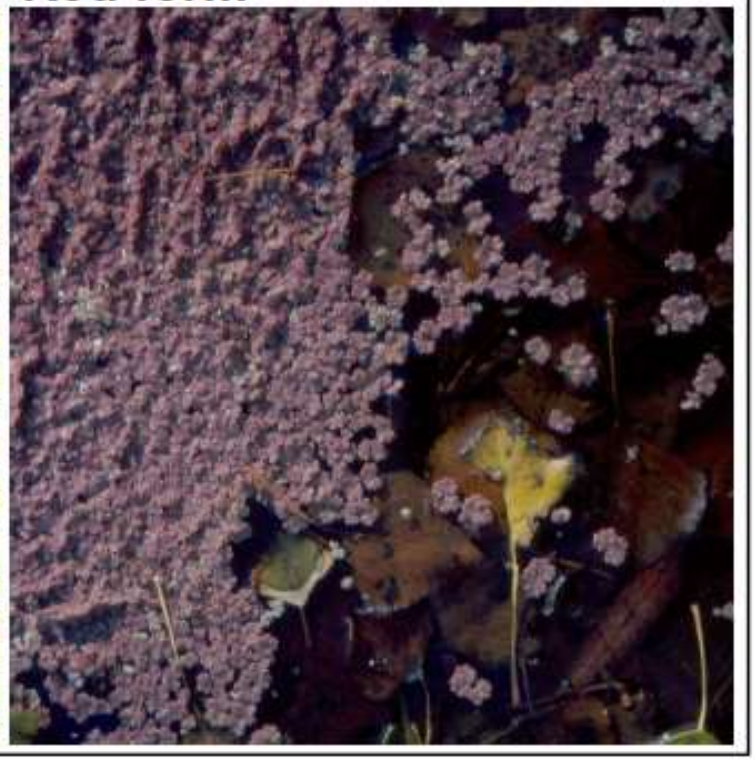
NNSS
GB non-native species secretariat

Identification throughout the year

Plants can be present year round, but often die back in winter. Colour can vary considerably through the year. Green in spring/ summer often turns red during cold weather in autumn/winter.

Green form

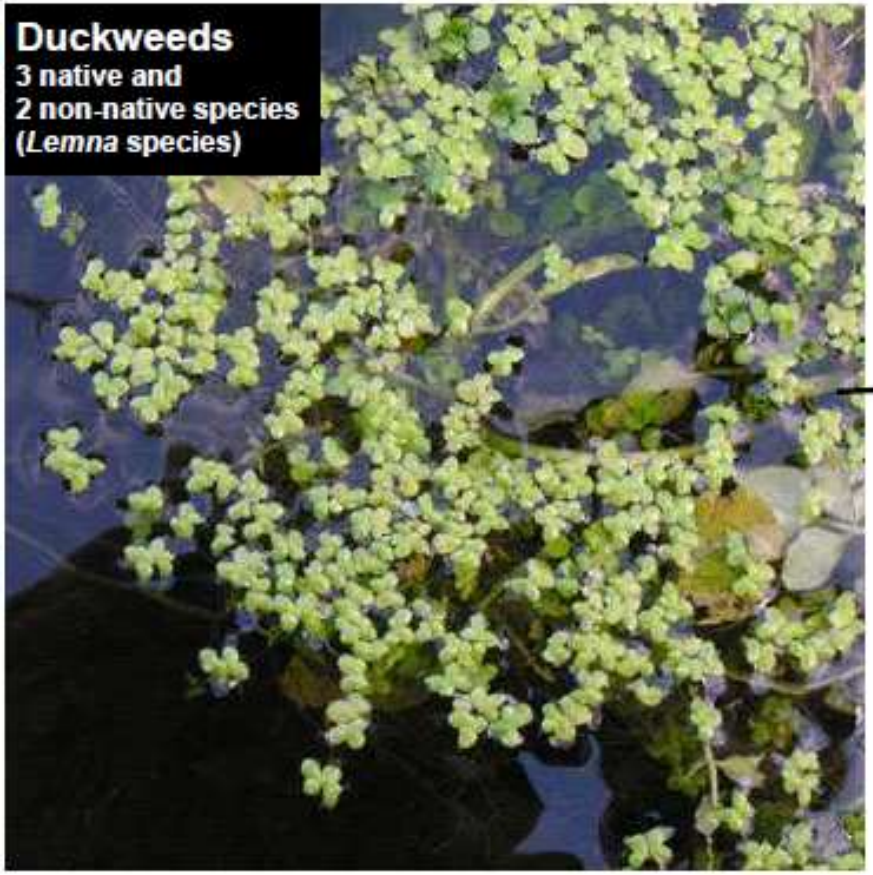
Red form



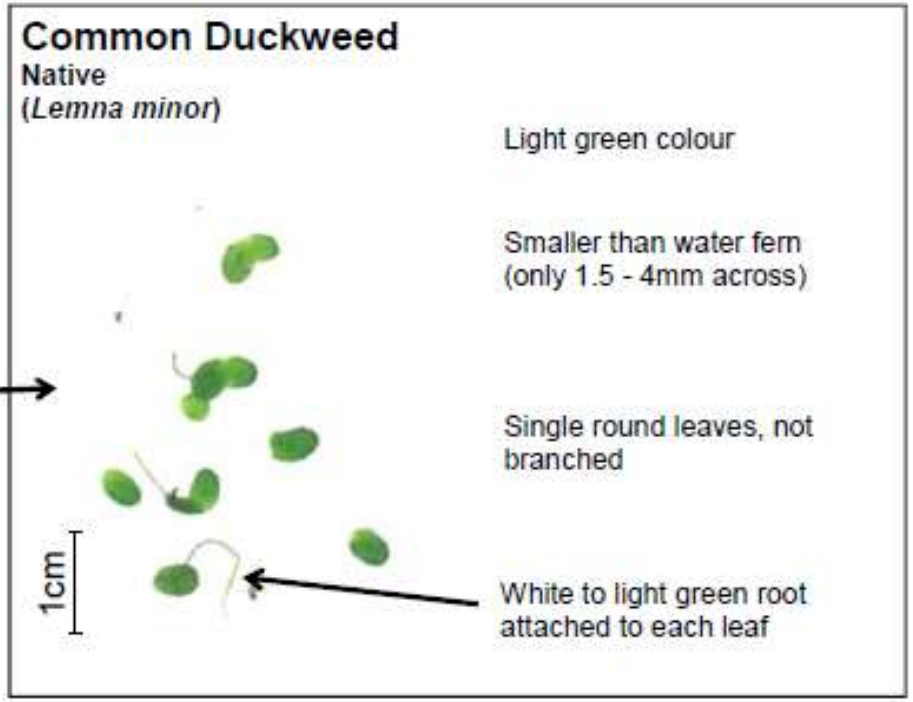
Pondwatch..JE

Water fern (*Azolla filiculoides*) – similar species

NNSS
GB non-native species secretariat

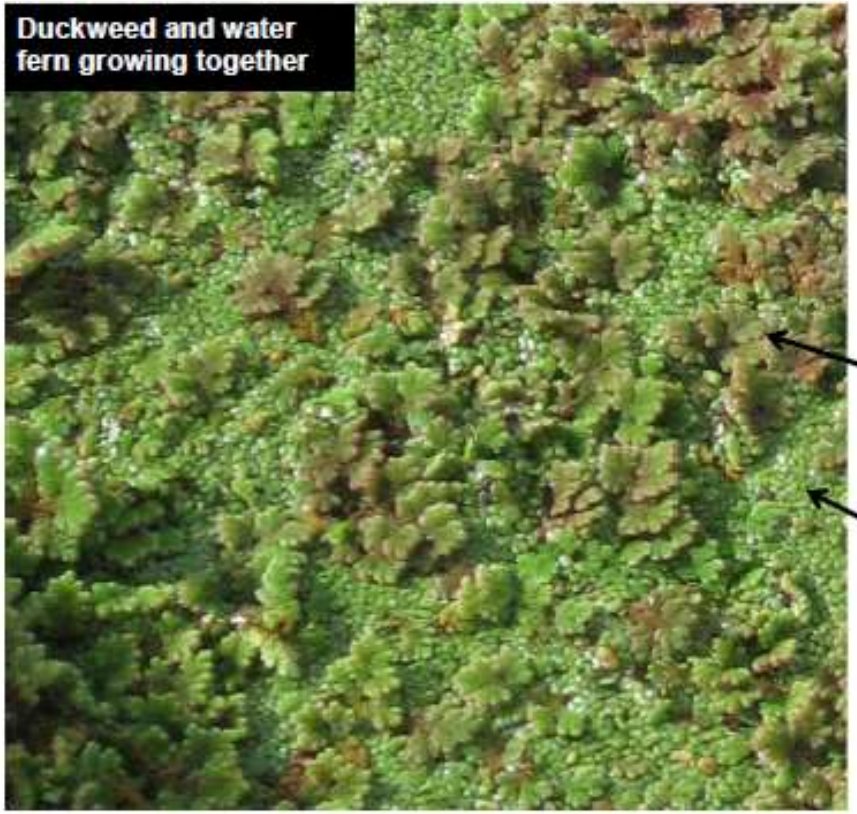


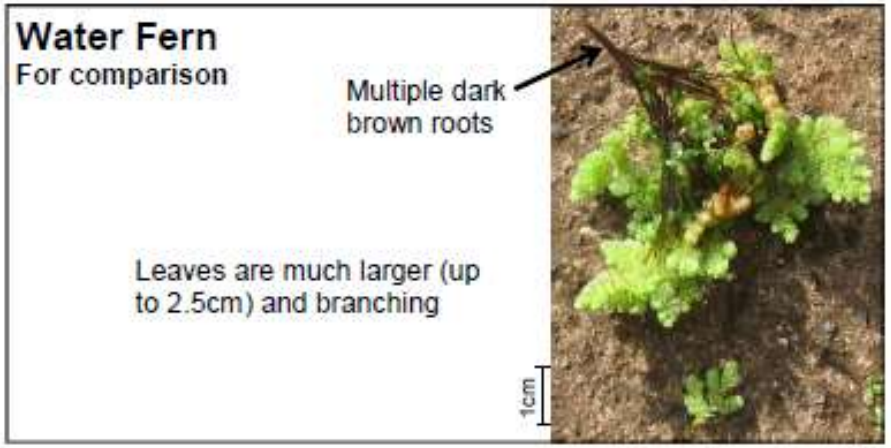
Common Duckweed
Native
(*Lemna minor*)



Water fern (*Azolla filiculoides*) – similar species

NNSS
GB non-native species secretariat





Pondwatch..JE

New Zealand pigmyweed (*Crassula helmsii)*

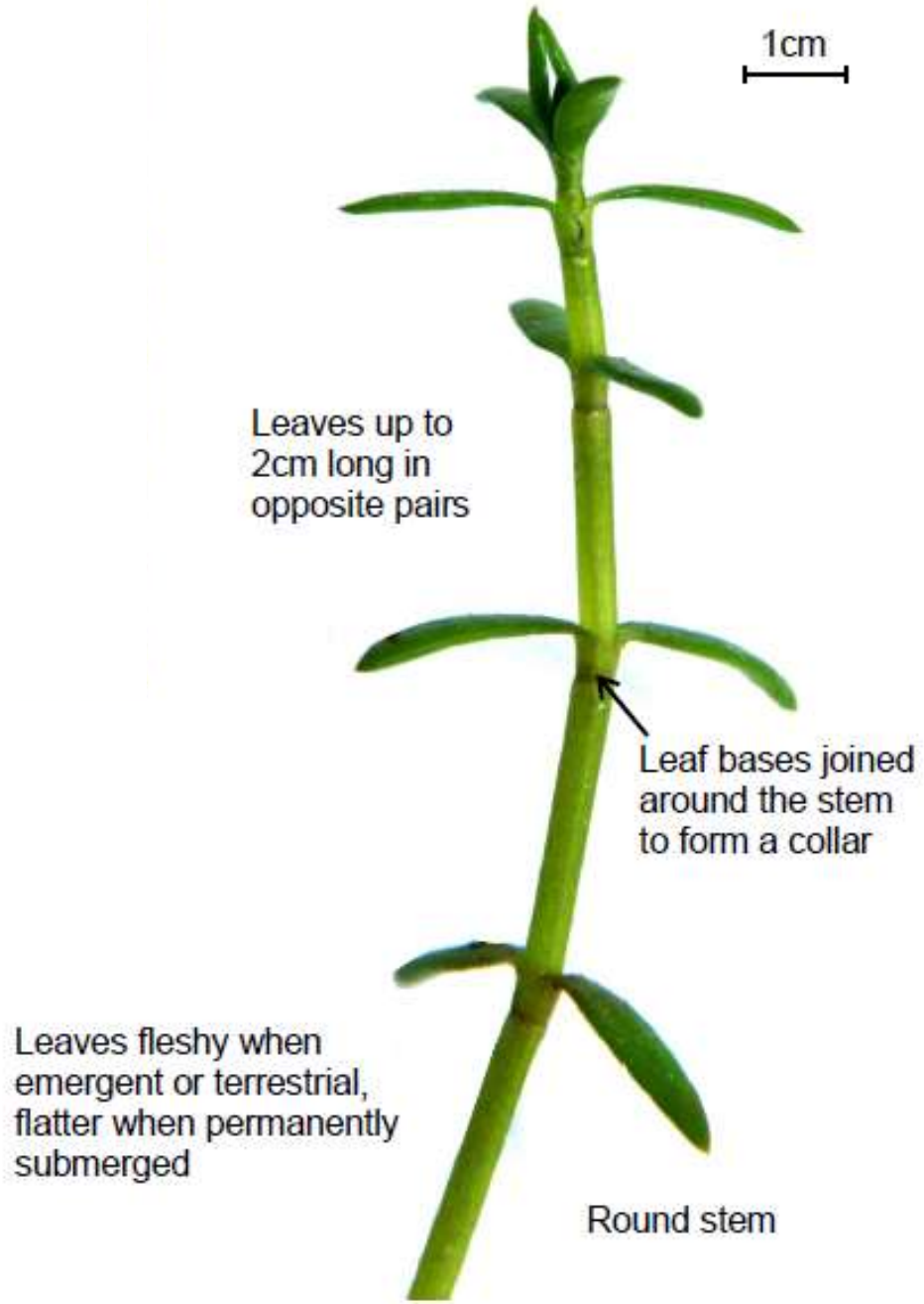
NNSS
GB non-native species secretariat

Key ID Features

Forms dense mats within the water body

- Forms dense mats within the water body
- Flowers very small, often absent, whitish-green to slightly pink
- Flowers have 4 petals

New Zealand pigmyweed (*Crassula helmsii)*



- Leaves up to 2 cm long in opposite pairs
- Leaf bases joined around the stem to form a collar
- Leaves fleshy when emergent or terrestrial, flatter when permanently submerged
- Round stem

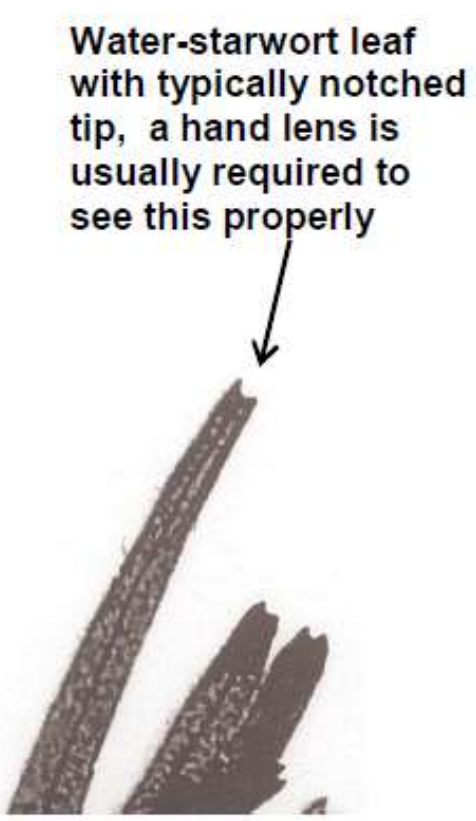
New Zealand pigmyweed (*Crassula helmsii)*

Identification of different forms

- *Terrestrial (left)*: Growing away from water's edge or left stranded as water level falls, creeping stems and aerial, fleshy leaves.
- *Emergent (middle)*: Densely packed leaves in water, intermediate between terrestrial and submerged form (occurs in water <0.6m deep.)
- *Submerged (right)*: Elongated stems with leaves sparse and flat, able to form extensive mats on bed of water body.

New Zealand pigmyweed (*Crassula helmsii)* – similar species

A group of species known as water-starworts are most likely to be confused with New Zealand pigmyweed. Water-starworts are distinguished from New Zealand pigmyweed by their non-fleshy leaves, which are usually notched at the tip (hold up to light or use hand lens), and lack of collar at leaf base.



New Zealand pigmyweed (*Crassula helmsii)* – similar species

NNSS
GB non-native species secretariat

New Zealand pigmyweed collar around stem at base of leaves

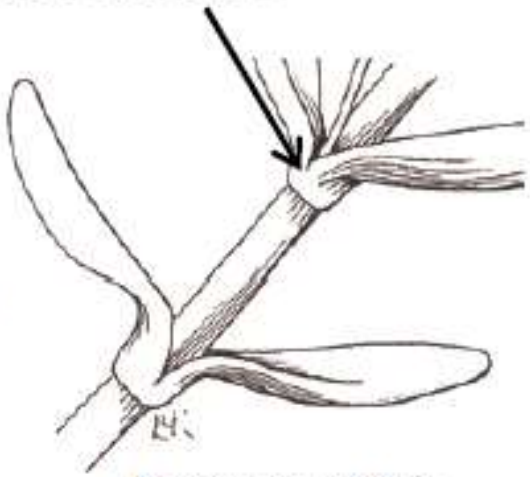


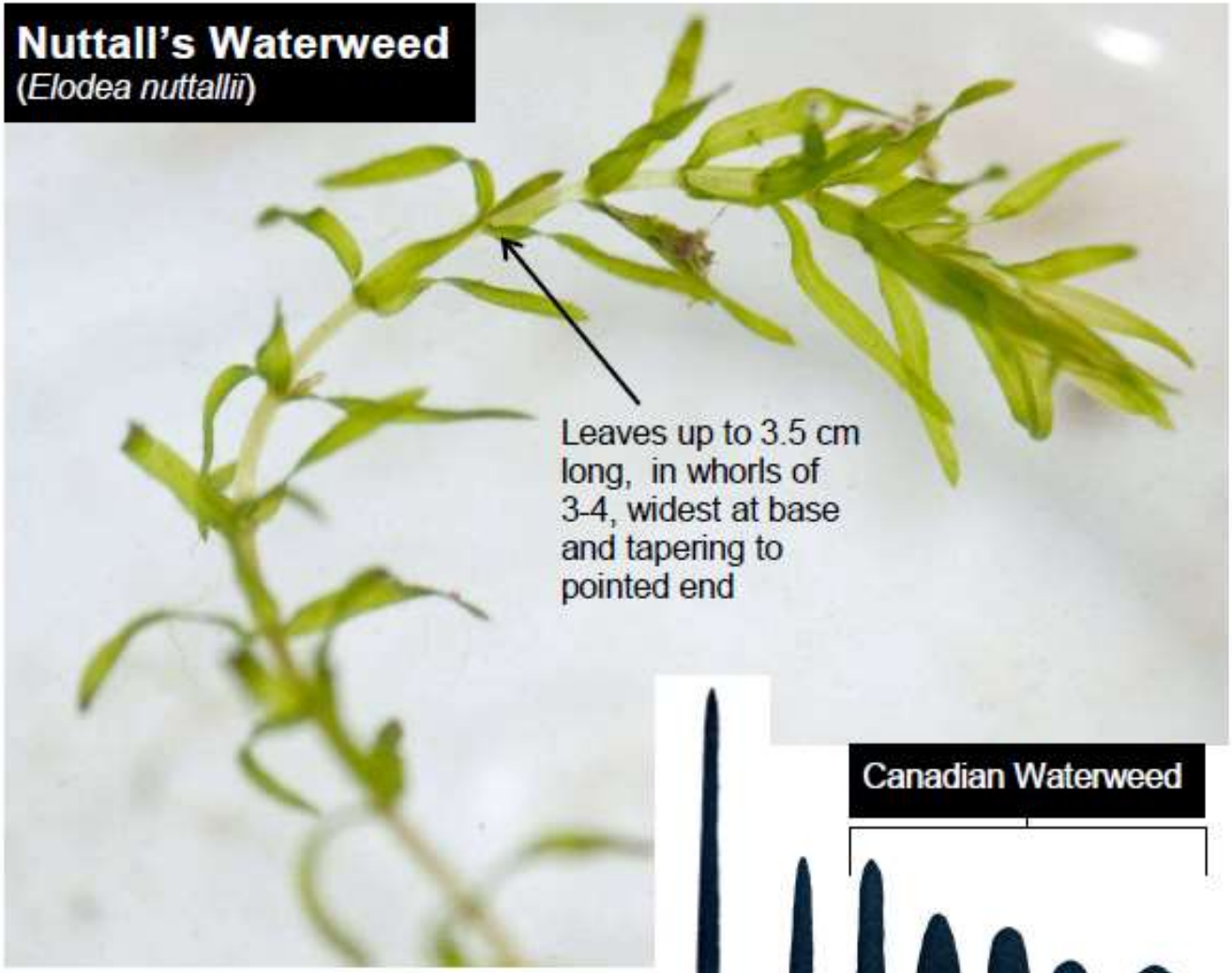
Illustration from IFAS, Centre for Aquatic Plants, University of Florida, Gainesville 1990

Fleshy leaves without notched tips

Canadian waterweed (*Elodea canadensis)*

- Flowers are small and inconspicuous and petals white or white tinged with red and borne on end of very long fine stalk.

Canadian waterweed (*Elodea canadensis*) – *similar species*



Taken from Simpson, 1986

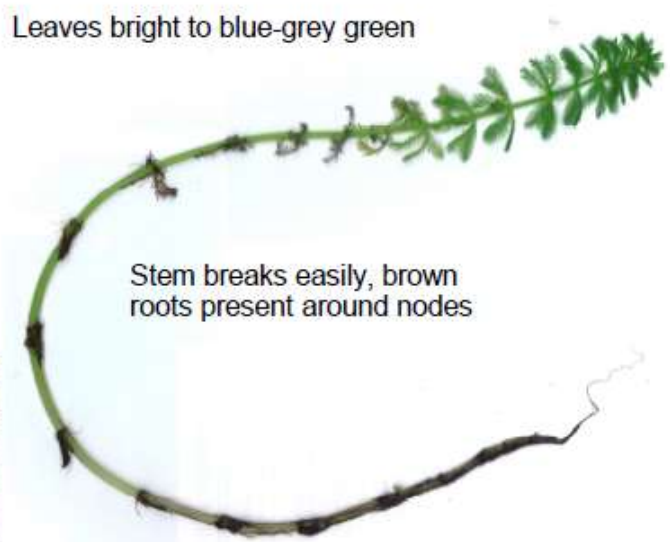
Canadian waterweed (*Elodea canadensis)* – *similar species*

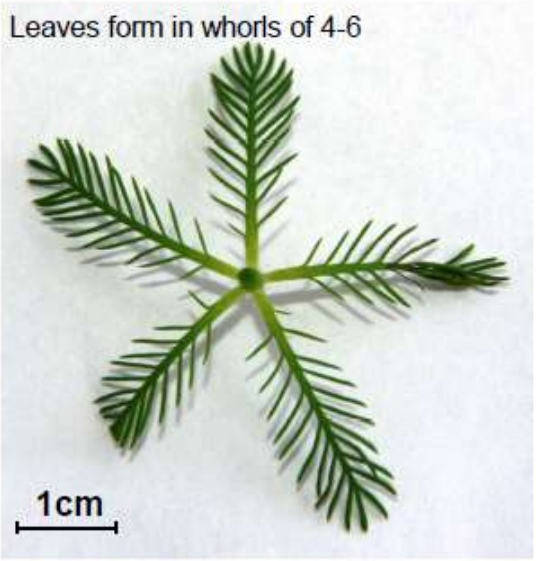
Curly waterweed (*Lagarosiphon major*) – non-native

- Lower leaves spiraled at base, not in whorls.
- Leaves to 3 cm long.
- Flowers inconspicuous, with reddish petals.

Parrot's feather (*Myriophyllum aquaticum)*

- Changes form depending on the conditions, varying between submerged to emergent foliage.
- Both forms are similar in appearance
- Emergent leaves are stiff, bright green and the most distinctive form.
- Submerged leaves are more fragile and, after death, decompose quickly.

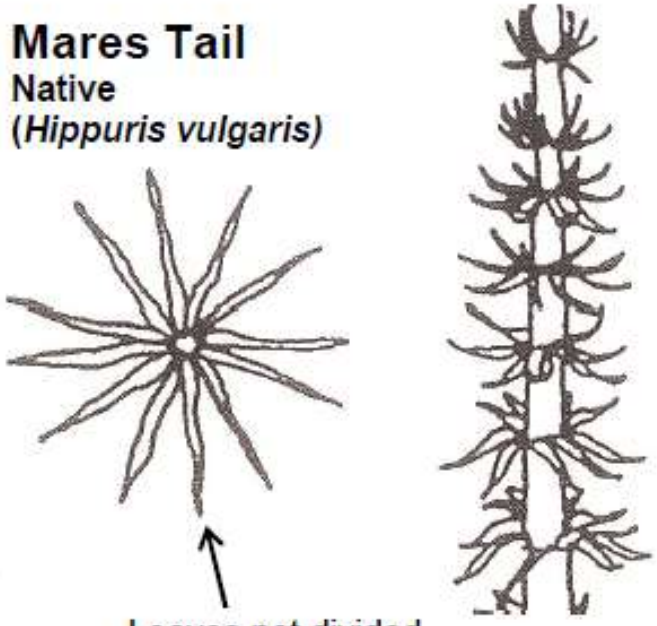




Forms inconspicuous flowers at base of leaves between May and August. Small (2mm) and white. Can be difficult to see.

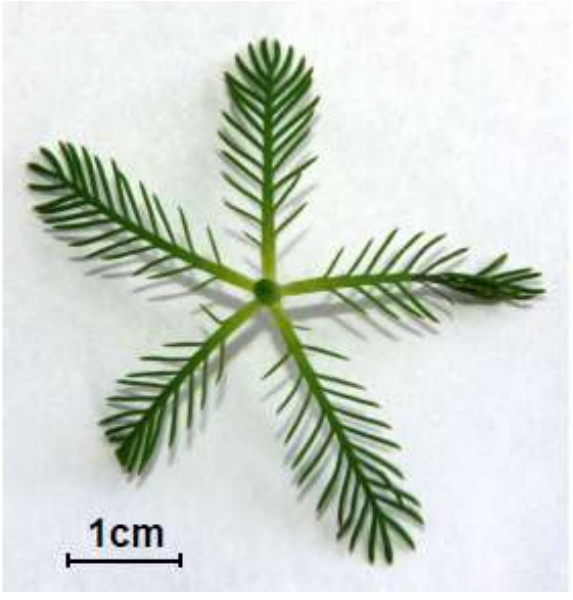
Parrot's feather (*Myriophyllum aquaticum)* – similar species

Mares Tail
Native
(*Hippuris vulgaris)*



Leaves not divided

Parrot's Feather
(and other *Myriophyllum* species)
For comparison



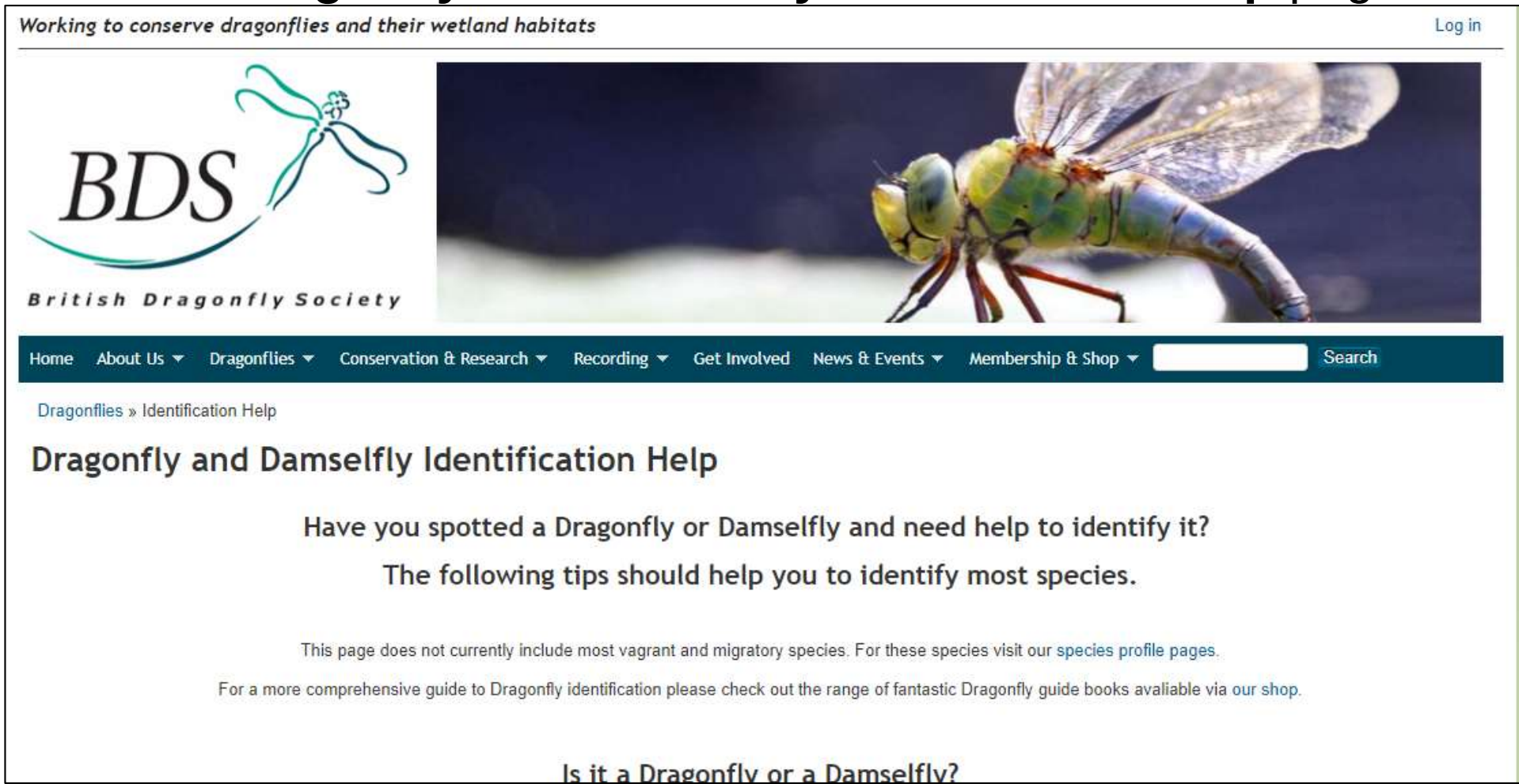
NNSS
GB non-native species secretariat

Identifying Dragonflies and Damselflies

Resources

British Dragonfly Society website (https://british-dragonflies.org.uk)

Includes **Dragonfly and Damselfly Identification Help** page.



Important ID features

Frons (face) markings and eye coloration

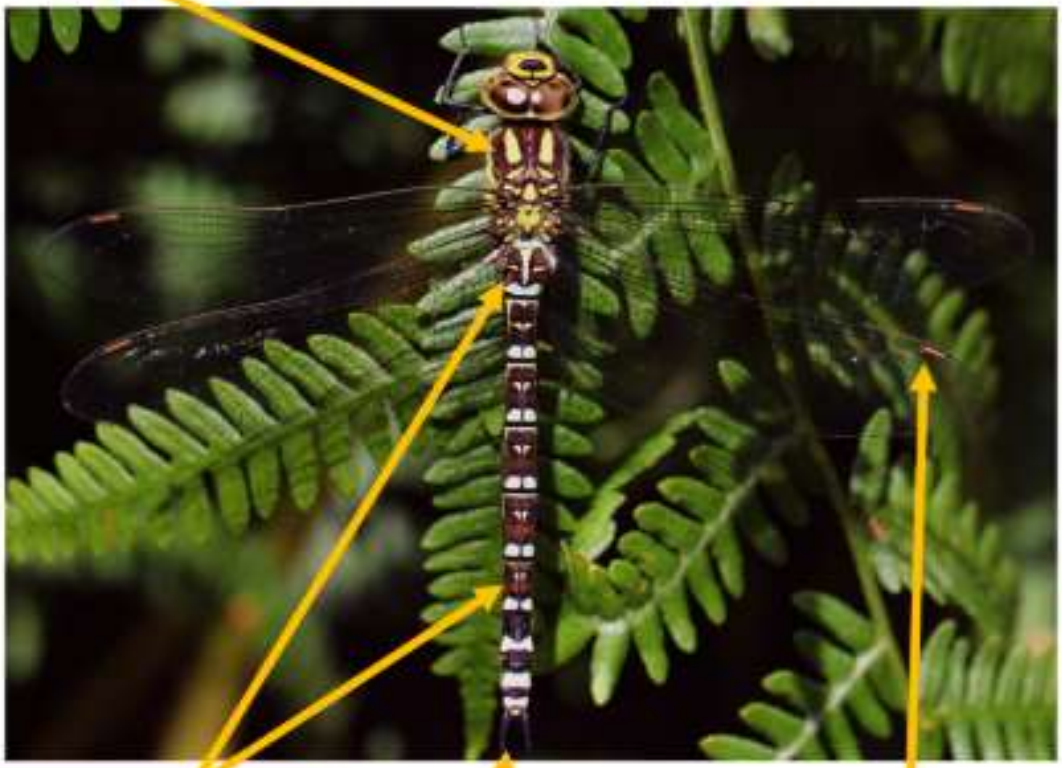
Side markings on the thorax.

Leg coloration.

Side markings on the abdomen.

Anal appendages.

Important ID features



Dragonfly or **Damselfly?**

Feature	Dragonfly	Damselfly
ADULTS		
Body	Robust	Thin and delicate
Wing position at rest	Open	Closed*
Wing shape	Different between front and back	Same between front and back
Eye position	Touching at the top of the head*	Not touching at the top of the head
Flight	Strong and purposeful	Weak and fluttering
NYMPHS		
Rear appendages	Stiff, short and spiky (x 5)	Soft and flexible gills (x 3)
Body	Stout	Long and slender

*for most species

Photo: Tim Ransom

BDS

British Dragonfly Society

Photo: Tim Ransom

What sort of Dragonfly?

Hawkers and similar species:

Generally dark with bright spots or stripes.

Some mostly brown. Can be brightly coloured with a thick black mid-line stripe. Never with dark wing marks other than the wingspots (rectangular marks at the tip). Generally large, robust but thin bodied.

Darters and chasers:

Generally have a blue, red, yellow or brown body or a combination of some of these colours. Sometimes with black markings. Some with additional dark marks on the wings. Generally smaller and stout bodied.

Photo: Tim Ransom

Emeralds:

Almost entirely emerald green coloured, usually metallic. Often bright green eyes. Sometimes with bronze tints.

What species?

Compare your notes and photos against a guidebook or using the resources at https://www.british-dragonflies.org.uk.

British Dragonfly Society

Species to look out for:

Beautiful demoiselle
(*Calopteryx virgo*)

Southern emerald damselfly
(*Lestes barbarus*)

Nymphs / Larva

Dragonfly nymph

Stout body

5 stiff, short spiky appendages

Photo: Dave Huth

Damselfly nymph

Slender body

3 soft flexible gills

Photo: Charles J Sharp / Wikimedia commons

Measuring water quality

Measuring water quality

Simple water quality testing kits to measure **nitrate and phosphate** will be available to request from Natural Environment (email N.Cornish@gov.je).

You will need to:

1. Request a kit
2. Using a survey form, record the pond location
3. Collect a water sample
4. Use the kits to measure pollution
5. Submit your results

Measuring water quality

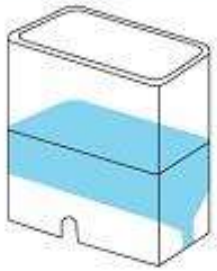
Equipment:

- Pondwatch JE survey form – Water testing (available from https://groups.arguk.org/jarg)
- pen or pencil
- mobile phone (for emergencies)
- A watch or mobile phone with timer

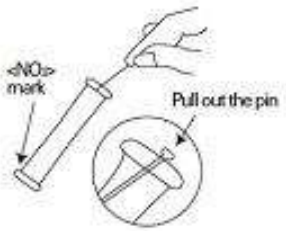
For testing (from Natural Environment):

- Nitrate water quality testing tubes
- Phosphate water quality testing tubes
- Colour charts for use with testing tubes
- Plastic / latex gloves
- A container to hold some water

Measuring water quality

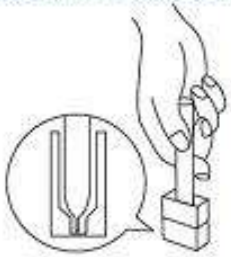


After rinsing once with sample water, fill the sample cup to the halfway line (1.5ml)



Remove the pin from the top of the testing tube to open the hole.

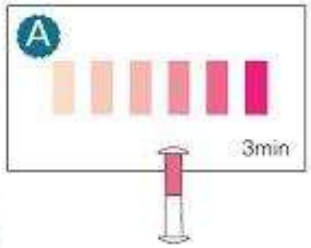
Press the sides of the tube to expel approximately half the air volume. Keep pressed.



Insert the tube fully in the sample cup. Release the sides to half fill the tube up. Shake the tube lightly a few times.

For Nitrate test **A**

Nitrate test



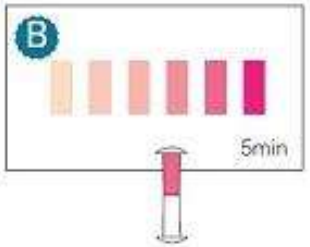
After 3 minutes, put the tube on the colour chart as shown and compare with the standard colours. Record the range that includes the measured concentration.

Nitrate is a form of nitrogen commonly found in the soil and used by plants for growth. High concentrations of nitrate in freshwater ecosystems often result from agricultural fertiliser use and can lead to eutrophication.

The water quality testing tubes contain a reagent which changes colour in relation to the concentration of nitrate.

B For Phosphate test

Phosphate test



After 5 minutes, put the tube on the colour chart as shown and compare with the standard colours. Record the range that includes the measured concentration.

Phosphate is a nutrient required for plant growth. High phosphate concentrations, either from agricultural run-off or domestic wastewater, can favour algal blooms and eutrophication with related damage to the natural flora and fauna of the ecosystem.

The water quality testing tubes contain a reagent which changes colour in relation to the concentration of phosphate.

Useful link:

[Freshwater Habitats Trust How to Videos - Nutrient Testing Kits (*YouTube*)]

Submitting your data

Online (*preferred*)

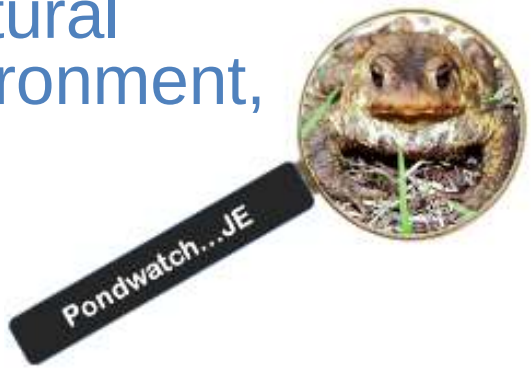
- Go to http://jerseybiodiversitycentre.org.je/ and fill in an online form with your results.

By email

- Email a copy of your form to jbc@societe-jersiaise.org.

On paper

- Return your form to: Pondwatch JE, Natural Environment, Growth Housing and Environment, Howard Davis Farm, Trinity, JE3 5JP.



Find out more

- Survey forms and handbook - https://groups.arguk.org/jarg
- Submit your data - http://jerseybiodiversitycentre.org.je/
- UK habitat classification documentation - http://ecountability.co.uk/ukhabworkinggroup-ukhab/
- Identifying Invasive Non-Native plants - http://www.nonnativespecies.org
- Identifying dragonflies and damselflies - https://www.british-dragonflies.org.uk

Quiz

Newt or lizard?

Quiz

What is this?

Quiz

What is this?

Photo: Tim Ransom

Quiz

What is this?

Quiz

What is this?

Summary and sign up

- 3 levels of involvement
- Focus on ponds and other waterbodies
- Recording amphibians and other pondlife
- Measuring water quality
- Take photos!!!

*If you are interested in becoming a **Pondwatch JE** volunteer, please sign up!*