FIT Count Training
(Flower Insect Timed Count)

Denise McGowan (Government of Jersey)

Nadine Mitschunas (UK Centre for Ecology and Hydrology)

FIT Count - Flower Insect Timed Count

- With reports of dramatic losses of insects occurring across the globe, there has never been a more important time to document evidence of change in populations of pollinating insects.

- Aims to establish how insect pollinator populations are changing across British Isles.

- This simple survey collects data on the total number of insects that visit a particular flower.

FIT Count

How to Survey

- If sky is clear (less than half cloud) the minimum temperature for a count is 13°C
- If sky is cloudy (half cloud or more) the minimum temperature for a count is 15°C
- YouTube Video → PoMS: Flower-Insect Timed Count (FIT count)
- You Tube Video → PoMS: Getting familiar with the Flower-Insect Timed Count (FIT Count) insect groups
- If you can carry out several counts at one location during that time you will be adding extra value to your survey records

Min 13°C

Min 15°C

April - September

FIT Count How to Survey (continued)

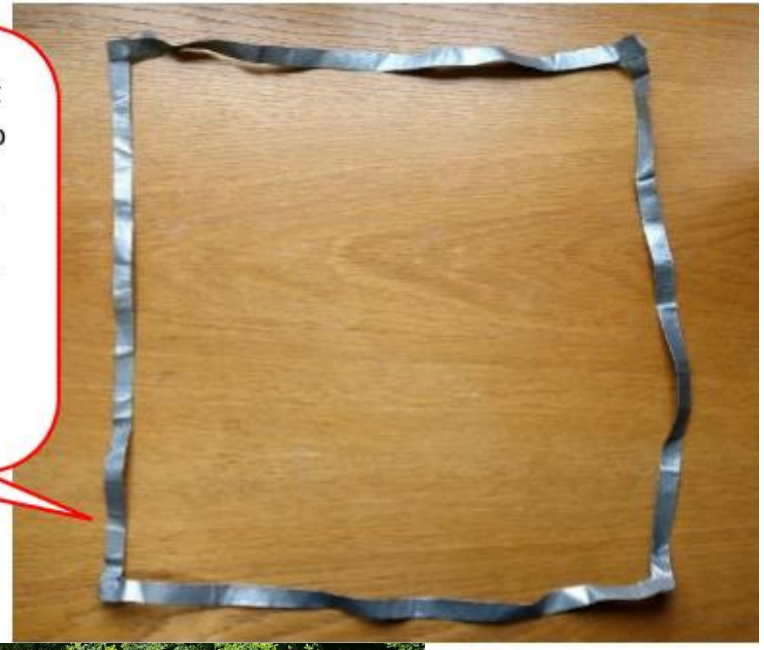
- Choose suitable area, park, garden, area set aside for wildlife etc.
  - Permission
  - Safe to survey
- Count insects that lands or crawls on flower head (Crawls eg ant, bettle etc.)
- Do Not take photos during the 10 minute survey as this could disturb the insects and affect the count result.
- Take photo of the plant species

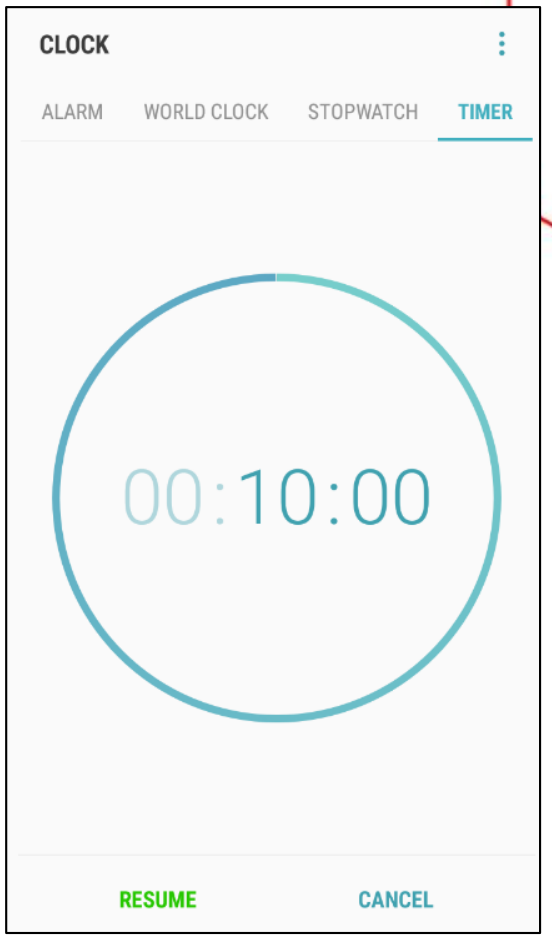
FIT Count

How to Survey continued

Each side of the quadrat can be made from a strip of gaffer tape, about 54cm long (to allow for overlaps at the corners).

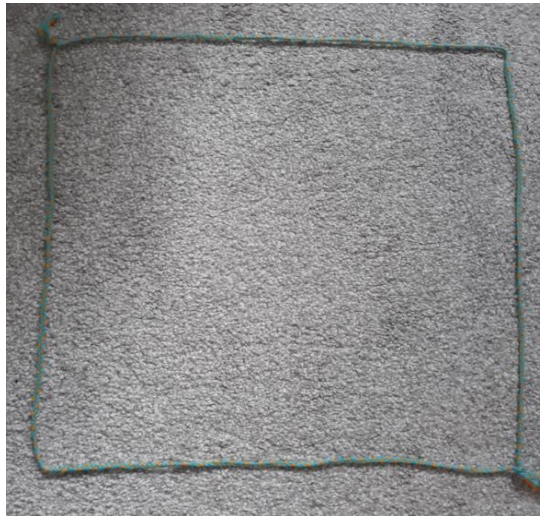
Fold each strip back on itself so that it is no longer sticky.





50cm

50cm



FIT Count

Target flowers

- Flowers ideally chosen from list of 14 target species below
  - Dandelion
  - Buttercup
  - White Dead-nettle
  - Hawthorn
  - Bramble/Blackberry
  - Lavender (English)
  - Common/Greater Knapweed
  - Heather (Calluna or Erica)
  - Hogweed
  - White Clover
  - Ragwort
  - Thistle (Carduus or Cirsium)
  - Buddleja
  - Ivy

FIT Count

Insect Groups

Just need to identify insect to their group level, NOT species level – phew!

Insect Groups – 10 different groups

- Bumblebees
- Honeybees
- Solitary bees
- Wasps (including ichneumon wasps)
- Hoverflies (including ‘nontypical’ hoverflies)
- Other flies
- Butterflies and moths
- Beetles (larger than 3mm)
- Small insects (less than 3mm long)
- Other insects

Photo credits: Tim Ransom

Identification Guide

Bumblebees
(Hymenoptera)

Very hairy/fluffy
Rounded, almost a ball shape

Buff-tailed Bumblebee

Tail tucked under when visiting flowers

Red-tailed Bumblebee

Queens larger than most solitary however worker bumblebees can be smaller

Early Bumblebee

Honeybees
(Hymenoptera)

Smaller than most bumblebees
Only one species

Honeybee

Antenna long and can be 'elbowed' (bent)

Honeybee

Abdomen colours can range from bright orange to nearly all black

Honeybee

Solitary bees
(Hymenoptera)

Smaller than most bumblebees
Generally smaller than honey bees

Yellow-legged Mining Bee

Some can be tiny!
Longer antenna than flies

Common Furrow-bee

Can be a range of colours and sizes
Watch out for the hairy- footed flower-bee often mistaken as a bumblebee

Hairy-footed Flower-bee

Hoverflies
(Diptera)

Shorter antenna than bees
Large eyes

Hornet Mimic Hoverfly

No 'waist' unlike bees and wasps
Only one pair of wings

Marmalade Hoverfly

Fast hovering flight

Long Hoverfly

Wasps
(Hymenoptera)

Less hairy than bees
Wings often rolled up

Common Wasp

Have a 'waist'
Head more rectangular than bees
Two pairs of wings

Ichneumon Wasp

Long antenna and ovipositor

All photo credits to Tim Ransom

Butterflies & moths
(Lepidoptera)

Butterflies fold their wings vertically or sit with them open

Painted Lady Butterfly

Most moth wings fold down like a paper aeroplane

Jersey Tiger Moth

Both are part of the Lepidoptera group which translates as 'scale-wing'

Gatekeeper Butterfly

Beetles
(Coleoptera)

Hard wing cases called elytra that join in a straight line down the middle of the insect

2-Spot Ladybird

Chewing mouth parts called mandibles unlike true bugs

Soft-winged Flower Beetle

Beetles smaller than 3mm should be recorded as Small Insects

Leaf Beetles

Other insects
(Includes true bugs)

Wings not in a wing case and often leathery and cross in an X shape in the middle

Red-legged Shield Bug

True bugs have a long narrow feeding tube called a rostrum usually tucked beneath its head

Hairy Shield Bug

Ants that walk across the flower heads can also me counted in this group

Common Ant

Small insects
(3mm or less)

Includes small beetles as they are <3mm

Includes aphids which can sometimes be spotted in flower heads

Giant Willow Aphid

Some solitary bees are very small but they are all bigger than 3mm so they should be recorded as bees

Common Green Furrow-bee

Other flies
(Diptera)

Shorter antenna than bees
Large eyes

Common Green Bottle Fly

Doesn't hover and moves slower than a hoverfly
Long proboscis

Parasitic Fly

Sawflies sometimes confused with wasps but have no 'waist'

Turnip Sawfly

All photo credits to Tim Ransom

FIT Count

The form - Paper

Two Pages

Easy to complete

Mentions target flowers

UK Pollinator Monitoring Scheme: www.ceh.ac.uk/pollinator-monitoring

POMS
UK Pollinator Monitoring Scheme

FIT Count field recording form

version 4, 2019

A Flower-Insect Timed Count can be carried out at any time of day between the beginning of April and the end of September, wherever a suitable target flower can be found, and when the weather is dry and warm:

- If sky is **clear** (less than half cloud) the minimum temperature for a count is **13°C**
- If sky is **cloudy** (half cloud or more) the minimum temperature for a count is **15°C**

1. About you

Your name: _____

☐ I am new to identifying wildlife
☐ I am familiar with identifying some wildlife (e.g. birds or butterflies) but not most pollinating insects
☐ I am familiar with recognising the main **groups** of pollinating insect
☐ I am confident in identifying the commonly-occurring pollinating insects **to species level**

2. Date and location of count

Date of count: _____

Location name: _____ (e.g. town/village, not full address)

Grid ref if known (or select from online map later): _____

Habitat (tick one box that is the best match):

☐ Garden
☐ School grounds
☐ Parkland with trees
☐ Churchyard
☐ Grassy verge or hedgerow edge
☐ Grassland with wild flowers (e.g. meadow)
☐ Amenity grassland (usually mown short)
☐ Farm crops or grassy pastures
☐ Upland moorland
☐ Lowland heath
☐ Brownfield or other 'waste ground'
☐ Woodland

☐ Other habitat type (please describe): _____

Please use one of the 'target flowers' if you possibly can:
- Dandelion
- Buttercup
- White Dead-nettle
- Hawthorn
- Bramble/Blackberry
- Lavender (English)
- Common/Greater Knapweed
- Heather (*Calluna* or *Erica*)
- Hogweed
- White Clover
- Ragwort
- Thistle (*Carduus* or *Cirsium*)
- Buddleja
- Ivy

(only choose another insect-attracting flower if none of the above are available)

3. Target flower (from the list on the left if possible)

Which target flower have you chosen? _____

☐ Target flowers cover less than half of 50×50cm patch
☐ Target flowers cover about half of patch
☐ Target flowers cover more than half of patch

Number of flowers in patch: _____

I counted: ☐ individual flowers ☐ flower heads ☐ flower umbels ☐ flower spikes

Is your 50x50cm patch of target flowers:

☐ Growing in a larger patch of the same flower
☐ Growing in a larger patch of many different flowers
☐ More or less isolated

Centre for Ecology & Hydrology · Bumblebee Conservation Trust · Butterfly Conservation · BTO Hymettus · University of Leeds · University of Reading

UK Pollinator Monitoring Scheme: www.ceh.ac.uk/pollinator-monitoring

POMS

4. FIT Count

Once you are ready to start, check your timer so that you can record for exactly ten minutes. Please count **EVERY** insect that you see that **LANDS** on one of your target **FLOWERS** (if you're not sure what type it is just add it to the "Other insects" category). Please try to count each individual insect just once, and try not to lean over the flowers you are watching, as this can cast shadows and prevent insects approaching.

Time of count start (use British Summer Time): _____

Insect group	Tally of number seen: 𝍸 || = 7, etc.
Bumblebees	
Honeybees	
Solitary bees	
Wasps (including ichneumon wasps)	
Hoverflies (including 'non-typical' hoverflies)	
Other flies	
Butterflies and moths	
Beetles (larger than 3mm)	
Small insects (such as pollen beetles) less than 3mm long	
Other insects	

5. Weather conditions

Sky above your location:
☐ All or mostly blue
☐ Half blue and half cloud
☐ All or mostly cloud

During the 10-minute count, was your 50×50cm patch:
☐ Entirely in sunshine
☐ Partly in sun and partly shaded
☐ Entirely shaded

Wind strength (for all plants in area, not just target flowers):
☐ Leaves still/moving occasionally
☐ Leaves moving gently all the time
☐ Leaves moving strongly

Don't forget to **take a photo** of your target flower species, and **add your counts** to the iRecord form (www.brc.ac.uk/irecord/poms-fit-count)! You can also add photos of *examples* of the insects you have seen, but this is optional (please don't take photos during the count as this may disturb the visiting insects).

Centre for Ecology & Hydrology · Bumblebee Conservation Trust · Butterfly Conservation · BTO Hymettus · University of Leeds · University of Reading

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- If sky is **cloudy** (half cloud or more) the minimum temperature for a count is **15°C**

1. About you

Your name: Denise McGowan

- ☐ I am new to identifying wildlife
- ☑ I am familiar with identifying some wildlife (e.g. birds or butterflies) but not most pollinating insects
- ☐ I am familiar with recognising the main **groups** of pollinating insect
- ☐ I am confident in identifying the commonly-occurring pollinating insects **to species level**

2. Date and location of count

Date of count: 22/06/2020

Location name: Les Blanches Banques dune (e.g.town/village, not full address)

Grid ref if known (or select from online map later): _____

Habitat (tick one box that is the best match):

- ☐ Garden
- ☐ School grounds
- ☐ Parkland with trees
- ☐ Churchyard
- ☐ Grassy verge or hedgerow edge
- ☐ Grassland with wild flowers (e.g. meadow)
- ☐ Amenity grassland (usually mown short)
- ☐ Farm crops or grassy pastures
- ☐ Upland moorland
- ☐ Lowland heath
- ☐ Brownfield or other 'waste ground'
- ☐ Woodland
- ☐ Other habitat type (please describe): dune scrub

Please use one of the 'target flowers' if you possibly can:

- Dandelion
- Buttercup
- White Dead-nettle
- Hawthorn
- Bramble/Blackberry
- Lavender (English)
- Common/Greater Knapweed
- Heather (*Calluna* or *Erica*)
- Hogweed
- White Clover
- Ragwort
- Thistle (*Carduus* or *Cirsium*)
- Buddleja
- Ivy

(only choose another insect-attracting flower if none of the above are available)

3. Target flower (from the list on the left if possible)

Which target flower have you chosen? bramble

- ☐ Target flowers cover less than half of 50×50cm patch
- ☑ Target flowers cover about half of patch
- ☐ Target flowers cover more than half of patch

Number of flowers in patch: 15 (some not open >15)

I counted:

- ☐ individual flowers
- ☐ flower heads
- ☐ flower umbels
- ☑ flower spikes

Is your 50x50cm patch of target flowers:

- ☑ Growing in a larger patch of the same flower
- ☐ Growing in a larger patch of many different flowers
- ☐ More or less isolated

POMS

4. FIT Count

Once you are ready to start, check your timer so that you can record for exactly ten minutes. Please count **EVERY** insect that you see that **LANDS** on one of your target **FLOWERS** (if you're not sure what type it is just add it to the "Other insects" category). Please try to count each individual insect just once, and try not to lean over the flowers you are watching, as this can cast shadows and prevent insects approaching.

Time of count start (use British Summer Time): 12:05

Insect group	Tally of number seen: 卌 || = 7, etc.
Bumblebees	|
Honeybees	卌 ||||
Solitary bees	
Wasps (including ichneumon wasps)	
Hoverflies (including 'non-typical' hoverflies)	
Other flies	
Butterflies and moths	
Beetles (larger than 3mm)	
Small insects (such as pollen beetles) less than 3mm long	
Other insects	one looked like honey bee but smaller (greyish)

5. Weather conditions

Sky above your location:

- ☑ All or mostly blue
- ☐ Half blue and half cloud
- ☐ All or mostly cloud

During the 10-minute count, was your 50×50cm patch:

- ☑ Entirely in sunshine
- ☐ Partly in sun and partly shaded
- ☐ Entirely shaded

Wind strength (for all plants in area, not just target flowers):

- ☑ Leaves still/moving occasionally
- ☐ Leaves moving gently all the time
- ☐ Leaves moving strongly

Don't forget to **take a photo** of your target flower species, and **add your counts** to the iRecord form (www.brc.ac.uk/irecord/poms-fit-count)! You can also add photos of *examples* of the insects you have seen, but this is optional (please don't take photos during the count as this may disturb the visiting insects).

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Your name: _____

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☐ I am familiar with recognising the main **groups** of pollinating insect
☐ I am confident in identifying the commonly-occurring pollinating insects **to species level**

2. Date and location of count

Date of count: 22/6/2020

Location name: Les Blanches Banques (e.g.town/village, not full address)

Grid ref if known (or select from online map later): _____

Habitat (tick one box that is the best match):

☐ Garden
☐ School grounds
☐ Parkland with trees
☐ Churchyard
☐ Grassy verge or hedgerow edge
☐ Grassland with wild flowers (e.g. meadow)
☐ Amenity grassland (usually mown short)
☐ Farm crops or grassy pastures
☐ Upland moorland
☐ Lowland heath
☐ Brownfield or other 'waste ground'
☐ Woodland
☐ Other habitat type (please describe): dune

Please use one of the 'target flowers' if you possibly can:

- Dandelion
- Buttercup
- White Dead-nettle
- Hawthorn
- Bramble/Blackberry
- Lavender (English)
- Common/Greater Knapweed
- Heather (*Calluna* or *Erica*)
- Hogweed
- White Clover
- Ragwort
- Thistle (*Carduus* or *Cirsium*)
- Buddleja
- Ivy

(only choose another insect-attracting flower if none of the above are available)

3. Target flower (from the list on the left if possible)

Which target flower have you chosen? Heather

☐ Target flowers cover less than half of 50×50cm patch
☐ Target flowers cover about half of patch
☑ Target flowers cover more than half of patch

Number of flowers in patch: >70

I counted:
☐ individual flowers
☐ flower heads
☐ flower umbels
☑ flower spikes

Is your 50x50cm patch of target flowers:

☑ Growing in a larger patch of the same flower
☐ Growing in a larger patch of many different flowers
☐ More or less isolated

POMS

4. FIT Count

Once you are ready to start, check your timer so that you can record for exactly ten minutes. Please count **EVERY** insect that you see that **LANDS** on one of your target **FLOWERS** (if you're not sure what type it is just add it to the "Other insects" category). Please try to count each individual insect just once, and try not to lean over the flowers you are watching, as this can cast shadows and prevent insects approaching.

Time of count start (use British Summer Time): 12:55

Insect group	Tally of number seen: 𝍸 = 7, etc.
Bumblebees	I
Honeybees	I
Solitary bees	
Wasps (including ichneumon wasps)	
Hoverflies (including 'non-typical' hoverflies)	
Other flies	II
Butterflies and moths	III
Beetles (larger than 3mm)	
Small insects (such as pollen beetles) less than 3mm long	I
Other insects	

5. Weather conditions

Sky above your location:

☑ All or mostly blue
☐ Half blue and half cloud
☐ All or mostly cloud

During the 10-minute count, was your 50×50cm patch:

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☐ Partly in sun and partly shaded
☐ Entirely shaded

Wind strength (for all plants in area, not just target flowers):

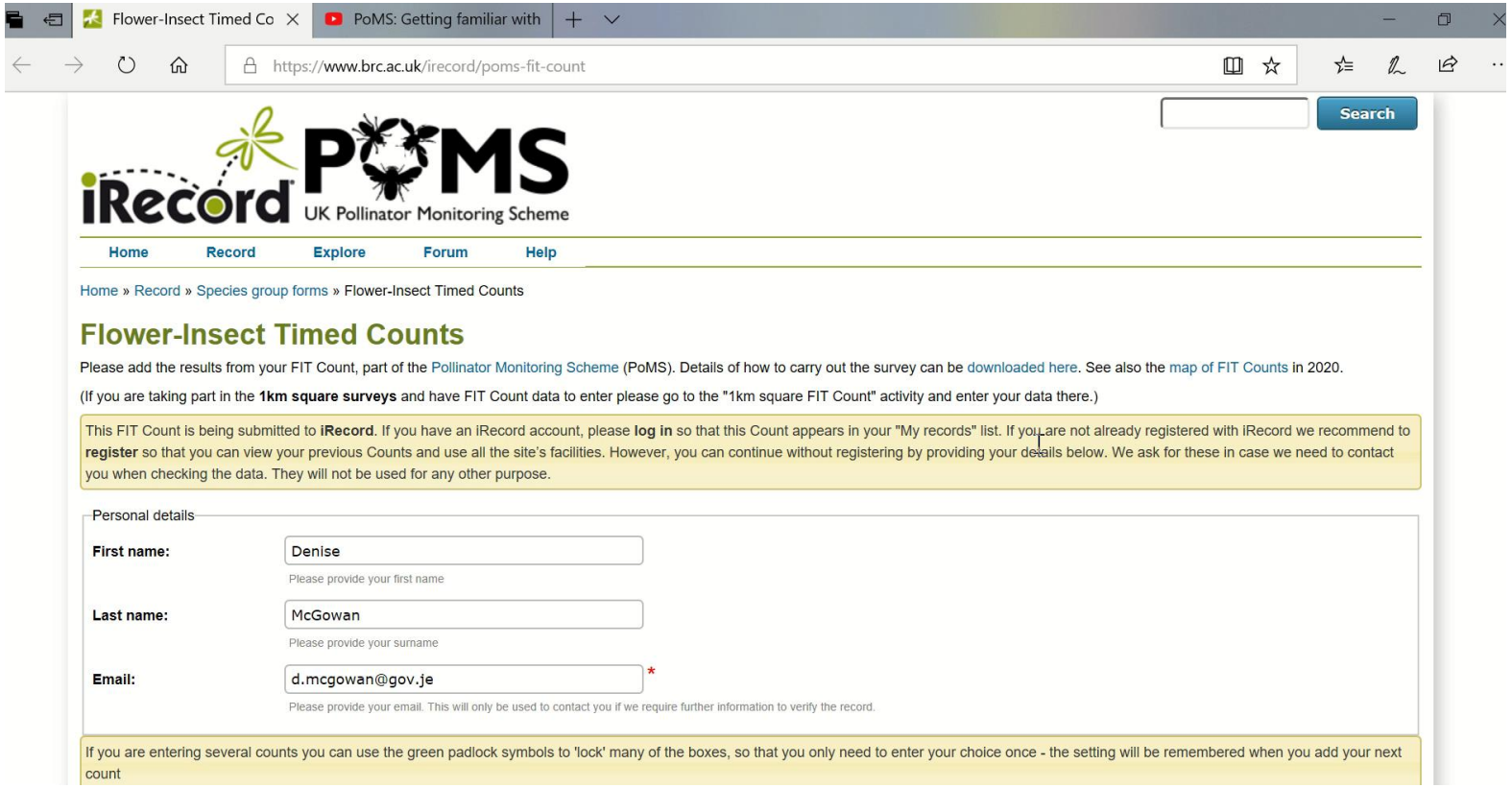
☑ Leaves still/moving occasionally
☐ Leaves moving gently all the time
☐ Leaves moving strongly

Don't forget to **take a photo** of your target flower species, and **add your counts** to the iRecord form (www.brc.ac.uk/irecord/poms-fit-count)! You can also add photos of *examples* of the insects you have seen, but this is optional (please don't take photos during the count as this may disturb the visiting insects).

FIT Count

The form - Online

- Very similar to the paper form therefore easy to complete.
- Email address – same as iRecord or Jersey Biodiversity Centre login
- Ask you if you enjoyed it!



FIT Count

What you need to do

- (Create account with JBC or iRecord)
- Make your 50cm^2 quadrat
- Print out form or contact me d.mcgowan@gov.je or wildaboutjersey@gov.je for forms
- Find your target flower
- Enjoy sitting and surveying!

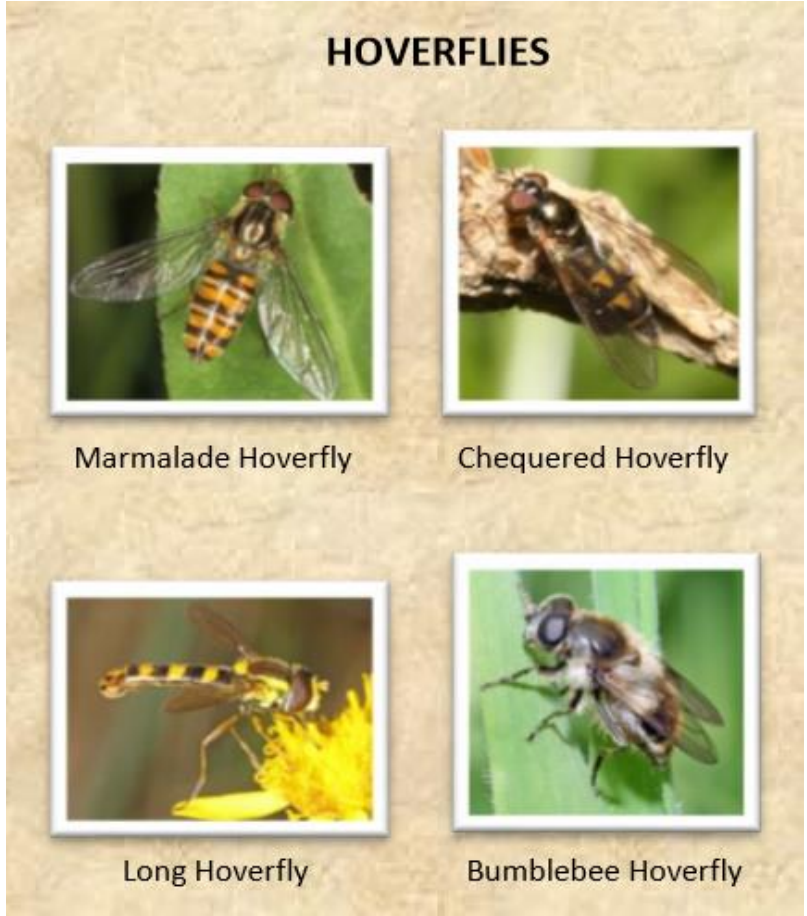


Photo credits: Tim Ransom

FIT Count Resources

- PoMS and search FIT Count
- Gov.je search FIT Count
- www.pollinatorproject.gg

- You Tube videos

- Facebook Group – “Insects of the Channel Islands”
- Jersey Biodiversity Centre

www.jerseybiodiversitycentre.org.je

Photo credits: Tim Ransom

Thank you JBC and Sarah for Hosting!

Thank you Pollinator Monitoring Scheme (PoMS) and Pollinator Project for sharing resources.

Thank you for listening!

Any Questions?

Photo credit: Richard Perchard