



Scottish Government
Riaghaltas na h-Alba



BEEKEEPING EDUCATION MODULES - Responsible Beekeeping

These presentations are funded by the Scottish Government as part of Scotland's Honey Bee Health Strategy

Welcome, This presentation is part of a suite of modules developed by the Scottish Government and SRUC to provide local associations advice and information on statutory beekeeping requirements, best practice, and how the Scottish Government provides support to Scottish beekeepers.

Aims & Objectives

- To provide advice and information on responsible beekeeping

Our aims are to understand what it means to be a responsible beekeeper • To make us think about how we can improve our husbandry and beekeeping skills • To be responsible swarm collectors • To have better experiences and better bees!



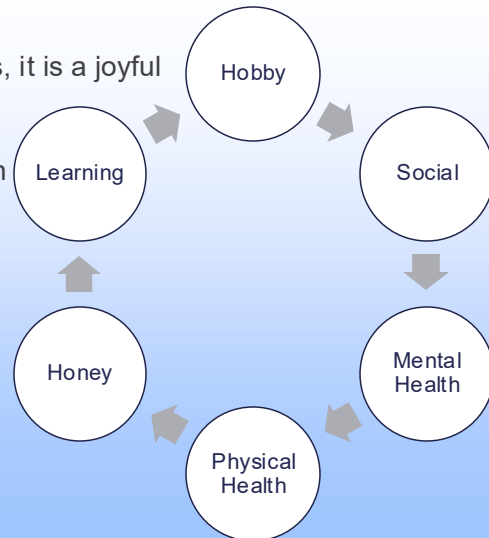
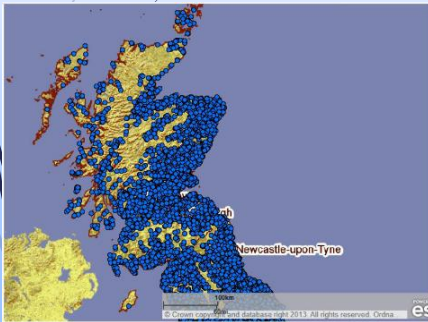
Responsible beekeeping

- How would you describe a responsible beekeeper?
- Is it easier to describe an irresponsible beekeeper?

Discuss with audience. How would you describe responsible beekeeping? Ask the audience. What is a good beekeeper? What is a poor beekeeper? Who is a perfect beekeeper? What kind of beekeeper are you? Some possible answers would be good management, swarm control, cleanliness and good biosecurity, knowing and sticking to the guidelines, constantly learning and more. Irresponsible beekeeper?- one who allows bees to swarm, doesn't keep their equipment clean and stored securely, doesn't use recommended treatments, doesn't keep medicine records or isn't signed up to BeeBase

Reasons To Keep Bees

- There are many reasons to keep bees, it is a joyful practice.
- BUT:
- Honeybees are not at risk of extinction
- Honeybees don't need saving



There are lots of great reasons to keep bees – for honey, for mental health, for the social aspect of joining with like minded people in local associations, it's great for physical health, keeping mentally active learning something new. However, there is a misconception that honey bees need to be 'saved'. Honey bees are not under threat in the UK, in fact some studies suggest that some areas such as London may be over populated.

So before taking up beekeeping, proper consideration needs to be given as to the reasons why. Beekeeping is something that requires dedication and is not something to be taken lightly to 'save the bees'.

Responsible husbandry



How you look after your bees is important. Clean sterilized equipment and bee suits means you reduce the chances of any disease spreading from one hive to another and shows a good example to other beekeepers.

Responsible Apiary Siting



- Secure
- Accessible
- No near neighbours
- Barriers from walk ways
- (eg hedges/ fences/ trees)
- Plenty forage
- Landowner permission
- No more than 10 in a good site
- Low apiary density
- Public liability insurance
- Risk assessments

It is responsible to make sure your apiary is secure and, in a place, where it won't be an issue for members of the public.

It helps with disease management if they are spaced out and the entrances facing different direction.

Questions for discussion. Is it responsible to keep numbers in apiaries low? (yes because it means there is less chance of all your hives suffering and disease spreading it also means the bees will not affect the forage of other pollinators)

Is it responsible to take bees from the mainland to remote areas or areas which are varroa free? No as it will affect others who may not have it. Do we need to save the honeybees?

Not really as they are not in decline

Responsible Hygiene

- Disease is caused by pathogens and stress!!
- Clean bee suits and other clothing
- Clean disposable gloves,
- Clean hive tools etc.
- Clean hive equipment
- Replace brood comb regularly
- Apiary Bio-Security:
 - Disinfectant / Washing Soda
 - Bucket or container for brace comb.
 - Old Comb removal.



Beekeepers are one of the biggest spreaders of disease and it is responsible to make sure you and your apiary is clean. Wash suits regularly. Leather gloves are not recommended as they are difficult to clean and can make you clumsier. If you must use nitrile gloves over them. Wash hive tools between colony inspections in a washing soda solution made with 1 kg of soda crystals dissolved in 4.5 litres of hot water; 150 ml of 4.5 % sodium hypochlorite (bleach) can also be added. At this concentration, the soda dissolves propolis and the bleach will kill pathogens. Using a wire scrubber, Clean your hive equipment every time you have an unexplained dead out and whenever you get a chance. Clearing or replacing floors regularly is a good idea. Do not leave brace comb or spill honey or feed in the apiary as this encourages robbing. Change frames every three years. The reason for this is the benefits of the antibacterial properties of propolis becomes ineffective after this time.

Beekeeping and the Law

Please see the Legislation PowerPoint for more details



It is important you are aware of the legislation concerning bees. Not being aware of it is not an excuse for breaking the law. A responsible beekeeper will be aware and stick to the rules and regulations

Responsible Registering



Although not compulsory it is very responsible to sign up to BeeBase and to keep your apiaries up to date. It is also helpful if you can keep them up to date if you move them or they die out or you sell them.

Reasons to sign up to BeeBase



- Disease control purposes
- Keep your bees/neighbours' bees/Scotland's bees safe
- Keep apiaries up to date – can't alert you to outbreaks if we don't know where your bees are
- Keep an eye on public pages with maps/charts
- You are being a responsible beekeeper

BeeBase only uses your data to be able to alert you to disease in your area and for inspectors to be able to contact you to do an inspection if you are at risk. Inspectors are friendly, helpful and many find inspections educational. It is better to know if you have an issue because then you can deal with it and protect other hives around you. You can find maps of incidences of disease on BeeBase. It is a secure database and access is restricted to government officials who require access for disease control purposes.

Swarming



A responsible beekeeper tries their best to prevent or control swarming as they can be a public nuisance and one of the main reasons disease can spread. Having bait boxes in your apiaries will help catch those you may miss. It is responsible to pick up swarms and especially if they are near your bees not only from a disease viewpoint but also for positive relationships with others and your reputation.

Importance of swarm management for bee health

- Swarming from infected hives spreads disease.
- Most swarms in the wild die.
- The potential of feral colonies becoming disease reservoirs
- Swarming from infected hives spreads disease.
- Colonies weakened through swarming are more susceptible to disease
- Further cast swarms can make the problem worse.
- They can become a public nuisance.



It is responsible to prevent swarming. Swarms will often inhabit trees or buildings which have been previously used by other swarms and if at any point one of those swarms has disease this will be passed on to every swarm that comes and goes. Swarms are one of the biggest sources of disease spread. This can become a bigger issue if it is in an area with disease and the swarm is of unknown origin. Swarming can also have an impact on the original hive as it is weakened for a time. Allowing swarms to leave can cause issues if they are in an area where the public are or if they get into houses. Swarms are often collected by new/inexperienced beekeepers who may not recognise disease when it presents. Swarming can cause issues with bees becoming a public nuisance.

Responsible swarm collecting

- ▶ Safety first
- ▶ Education
- ▶ Practice
- ▶ Experience
- ▶ Bee partner
- ▶ Bee removers



You should take care when collecting swarms as although bees are often calmer as they have no resources to defend, they can still sting and become aggressive. You should always wear a suit and know what you are doing. Some people have a swarm collecting kit or a bee vac to make it easier. Health and safety is important and having someone with you who is experienced help as things can go wrong. You should always put your and anyone observing's safety first.

Some beekeepers may not feel confident enough to collect swarms in certain circumstances and it may be useful to have the name of a reputable specialist bee removing company such as UK Bee removers at hand for more complex situations particularly in buildings.

Swarm Collecting

What to do:-

- ▶ If inexperienced get help & advice
- ▶ It is responsible to collect swarms
- ▶ Isolate for 6 weeks (2 brood cycles)
- ▶ Treat for varroa before any brood is capped
- ▶ Put on fresh foundation
- ▶ Feed after 2-3 days
- ▶ Do a disease inspection



There is now an issue about whether to collect unknown swarms in case they are diseased. To reduce the chances of introducing pests or disease to your apiary if you can keep any swarm of unknown origin in an isolation apiary. If you don't have one keep it as far away from your other hives as possible that will help prevent disease spread. It is more responsible for a good beekeeper to catch and keep swarms than it is to let them go wherever where they cannot be checked or treated. Again Bait hives can be useful as a swarm may decide to make it's new home there. 6 weeks isolation should be the minimal time you keep them separate as if EFB is subclinical it could be there for 2 years before showing clinical signs.

Nucleus method- A simple method

- 2 frames food with bees
- 2 frames bees(hatching brood) with bees
- Queen
- 1 or 2 frames of clean drawn comb or foundation
- Shake in 2 frames of nurse bees if keeping in the same apiary
- Move away from apiary or stuff entrance with grass
- Check three days later
- Must be fed as small foraging force and could die if not fed.
- Be ready to provide space

In the main hive reduce the queen cells to one. Don't forget to reduce queen cells to one in the original hive 7 days later!



This is a quick and easy method of swarm control but depends on finding the queen. Don't forget to reduce the cells in the main hive to one or you will end up with cast swarms. If you can't find the queen, you may want to use two nucs and check 3 days later which has eggs. It is a good idea to familiarise yourself with swarm control methods. See the varroa management guide, go on courses & demonstrations, watch videos and get reliable advice from your local groups. The more you do it the better you will get, but shaking bees and checking for swarm cells and finding the queen are key skills.



Buying online, and from other countries brings possible risks. Think carefully where you resource your bees from.

Responsible Sourcing of bees

- Be aware of illegal imports
- Source bees locally where possible
- Be aware of foulbrood situation in Scotland
- Inspect bees before purchase if possible/ask a mentor
- Use quarantine apiaries where possible



It is important that you are aware of the risks sourcing bees. Buy from associations, locally, from reputable sellers and not from areas of notifiable disease are all responsible options. You can get more information from the links and QR codes from BeeBase. Local bees are also best suited to your environment and more likely to survive. Learning to do splits and raising your own queens will help you if you wish to increase without having to buy in.

Responsible treatment



See Veterinary medicines PowerPoint for more details

It is essential to follow the law and medicine instructions. If you don't you risk harming your bees or yourselves and you may break the law.

Protecting Pollinators



Recently people have been concerned about the impact of honeybees on other pollinators, so it is responsible to take these issues seriously. Main concerns are competition for forage and disease spillover.



Impact on Pollinators

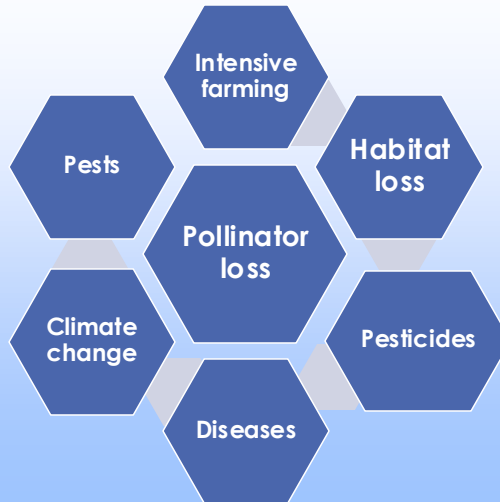
Responsible beekeeping means being aware of the competition for forage.

Issues

- Habitat loss
- Enough forage
- Density of hives
- Disease spillover

There are concerns that honeybees may have a negative impact on other pollinator such as forage competition. This may be true in a remote area or where there is a high density of hives such as London, however different species will feed on different sources so it may not be a huge problem. Habitat loss has had an impact on all pollinators in the past 50 years but hopefully things are improving with more wildflower and pollinator friendly planting being encouraged. Beekeepers moving hives to areas with restricted forage could also be an issue However there is little research and evidence to prove this. Imports are becoming a bit less of an issue as there are fewer since we left the EU but that may change in the future. There is no evidence of pests like Varroa jumping to other pollinators but there may be some disease spillover with spore forming fungi such as Nosema.

Are managed bees the problem?



Farming practices are starting to change and farmers are encouraged to be more pollinator friendly. There are also many projects by Nature Scot and Buglife, which encourage communities to plant pollinator friendly meadows and pathways. There also may be other explanations for the decline in pollinators such as climate change and pesticide use . Managed bees are generalists while Wild bees tend to be specialists so forage may not be as big an issue as first thought. At present there is no solid evidence to suggest that managed bees are a major problem to other pollinators.

Research in progress



POMS
UK Pollinator Monitoring Scheme

The UK Pollinator Monitoring Scheme in Scotland

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Dipterists Forum, 18 November 2023

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UK Centre for Ecology & Hydrology | JNCC

- ▶ POMS - <https://ukpoms.org.uk/>
- ▶ SASA - PhD proposal to assess potential forage conflict between managed & wild bees
- ▶ Survey & monitor disease in managed and wild bees
- ▶ Optimise apiary density & disease control

There is some research taking place as it is a growing issue and may become more concerning in the future. Beekeepers can get involved in the POMS scheme and I highly recommend you have a look at the POMS site to see how you can responsibly help. SASA has a student who is doing his PHD on forage conflict. Any citizen science project run by other groups such as the Bumblebee conservation trust will also add to knowledge.



Treatment free/ Natural beekeeping

Treatment free doesn't mean doing nothing.

Many beekeepers will still use bio management methods such as an open mesh floor, queen trapping and drone brood removal.

Some beekeepers may wish to use more organic based treatments such as VMD approved Oxalic and Thymol based products.

Treatment free beekeeping can be a controversial and complex issue. There is also great debate about what it and natural beekeeping means. It is not a practice we would recommend to beginners as there is a lot to learn about the methods used to keep varroa numbers at a manageable level.

Although this may be desirable to some there are precautions you should take and think about before deciding on this path. It is recommended if you do not treat you should be in a remote area away from other beekeepers and you should be prepared for your bees to die initially from Varroa infestation.



Natural Beekeeping Issues

- ▶ Difficult to inspect
- ▶ Poor biosecurity – difficult to replace comb etc
- ▶ Potential source of disease and pest infection to other beekeepers
- ▶ Can't carry out swarm control – nuisance to neighbours and potential source of infection

It can be difficult to inspect certain hives for diseases so you may not know you have something serious. Allowing bees to swarm will only make that a bigger issue by spreading the disease or pest to other places and beekeepers. Replacing comb can also be more difficult for example in skep or sun hives. Letting the bees swarm naturally may also lead to them becoming a nuisance to the public or neighbours. It is important for the future of bee health in Scotland to understand the impact of these methods on the rest of the beekeeping community.

Resources

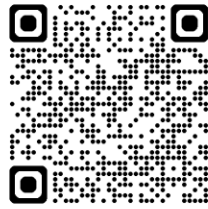
- ▶ [Starting Right 2025](#)
- ▶ [BPG05 Advice for obtaining bees](#)
- ▶ [Importing bees into Scotland | SASA \(Science & Advice for Scottish Agriculture\)](#)



These links will give further guidance on how to obtain bees start beekeeping and the regulations concerning imports

Understanding legal responsibilities

<https://www.nationalbeeunit.com/bees-and-the-law/>



<https://www.nationalbeeunit.com/information-for-beekeepers-in-scotland>



Although BeeBase is designed for England and Wales there is a Scotland section. The advice and information there can apply UK wide and you can find all sorts of useful information in their advice for beekeepers section. You will find information you need concerning beekeeping and the law on BeeBase

Not knowing the law is not an excuse for breaking it. There is a latest updates section which you will find the most recent information for beekeepers in Scotland

Resources available: Scottish Government and SRUC

Contact: Bees_Mailbox@gov.scot



[Scottish Government Honey Bee Health Strategy 2022-2032](#)



[Scottish Government Honey Bee Implementation Plan](#)



[SRUC Bee Podcasts](#)



Here are some of the Government and SRUC resources available to you. If you have any queries, you can contact the Honey Bee Health Team by email.

Information about how the Scottish Government supports honey bees in Scotland can be found via the QR codes. Here are some of the Government and SRUC resources available to you. If you have any queries you can contact the Honey Bee Health Team by email. Information about how the Scottish Government supports honey bees in Scotland can be found via the QR codes.

SRUC podcasts on honey bee management can be found using the QR code.

Resources Available – Others

[BeeBase – Information for Scottish Beekeepers](#)



[Scottish Beekeepers Association](#)



[Bee Farmers Association](#)



Bees_Mailbox@gov.scot

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Many thanks, Any questions