

## Supplementary material

*Title:* Citizen Science initiatives increase pollinator activity in private gardens and green spaces

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Translated versions of the four questionnaires used to collect data on pollinator friendly interventions. The questionnaires were published online by the Swedish Society for Nature Conservation (SSNC) and distributed to respondents that had signed up to participate in the campaign 'Operation: Save the bees' via an email.

Links to archived versions (text in Swedish):

Garden meadows: <https://natsurkyddsforeningen.wufoo.com/forms/zwdrbt509x11i6/>

Pollinator friendly plantings: <https://natsurkyddsforeningen.wufoo.com/forms/zubhber0vatrq9/>

Bee hotels: <https://natsurkyddsforeningen.wufoo.com/forms/zaxf4pg1tdgviv/>

### A. Garden meadows

1. How many meadows did you create?
2. How large area does your meadow(s) cover in square meters? (Select one answer)
  - 1-10 sqm
  - 11-50 sqm
  - 51-100 sqm
  - 101-200 sqm
  - More than 200 sqm
3. When was your meadow created (month/day/year)? You can give an approximate date.
4. How did you create the meadow? (Select multiple)
  - I created a new meadow by sowing seeds after having (partly) cultivated the soil
  - By sowing seeds on an existing lawn
  - By letting grass and flowers grow tall by stop mowing the lawn
  - By planting seedlings of meadow plants
  - Other method (Specify below)
5. In which environment did you create the meadow?
  - In an urban area, f ex back yard to a multifamily house
  - In the garden of a single family house in a city or town
  - In the garden of a single family house in a rural area
  - In an allotment
  - In the farmland landscape
  - In a forest production landscape

- In nature
6. How did it go? How successful do you think the meadow was? Use a scale 1-5, where 1 is very bad and 5 is very good.
  7. Which plants flowered the best? Give up to three plant names.
  8. How many different kinds/species of flowers did you approximately have in your meadow?  
Count flowering plants, not grasses.
  9. Did you notice visits from insects in your meadow during summer?
    - Yes, many insects
    - Yes, some
    - No
    - I do not know
  10. Which plants were most popular among insects? Give up to three plant names.
  11. Which species of insects did you see in your meadow?
  12. Did you register any pollinator/bee friendly interventions in 2019? (Select multiple)
    - Yes, bee hotel
    - Yes, meadow
    - Yes, bee friendly planting
    - No
  13. Did you terminate any intervention(s), registered or no?
    - Yes (specify why below)
    - No
  14. How did you find out about the campaign?
    - TV
    - Radio
    - Newspapers
    - Facebook
    - Instagram
    - Through another person
    - Other
    - Do not know
  15. We sent an envelope with seeds to all who registered (as far as our stock lasted). Did you sow the seeds?
    - Yes
    - No, but I will
    - No, but I will give them to someone else

- No
- I never received any seeds
- I did not give my address

16. Apart from the meadow, did you take other actions to benefit bees during 2020? (Select multiple)

- Made a bee friendly planting
- But up a bee hotel
- Made a sand bed for ground nesting bees
- Buy more organic food
- Other
- No

17. What other actions to benefit bees would you want to take during 2021? (Select multiple)

- Make a bee friendly planting
- Put up a bee hotel
- Make a sand bed for ground nesting bees
- Buy more organic food
- Write proposals to my municipality or similar party about benefitting bees
- Help manage a meadow on someone else's land
- Adapt the management of road verges that I have jurisdiction over
- Participate in a workshop to learn more
- Other (specify below)
- No

18. How engaged are you in issues concerning biodiversity? Use a scale 1-5, where 1 is not at all engaged and 5 is very much engaged.

19. Municipality

20. Year of birth

21. Gender

- Man
- Woman
- Other / Do not want to state

22. General comments (Free text)

## **B. Pollinator friendly planting**

1. How large is your planting? (Select one)
  - Less than 1 sqm
  - 1-5 sqm
  - Larger than 5 sqm
  - I do not know
2. When was your planting created (month/day/year)? You can give an approximate date.
3. How did you create the planting? (Select multiple)
  - In pots
  - Flower beds
  - Other method (Specify below)
4. In which environment did you create the planting?
  - In an urban area, f ex back yard to a multifamily house
  - In the garden of a single family house in a city or town
  - In the garden of a single family house in a rural area
  - In an allotment
  - In the farmland landscape
  - In a forest production landscape
  - In nature
5. How did it go? How successful do you think the planting was? Use a scale 1-5, where 1 is very bad and 5 is very good.
6. How many different kinds/species of flowers did you approximately have in your planting?  
Count flowering plants, not grasses.
7. Did you notice visits from insects in your planting during summer?
  - Yes, many insects
  - Yes, some
  - No
  - I do not know
8. Which plants were most popular among insects? Give up to three plant names.
9. Which species of insects did you see in your meadow?
10. Did you register any pollinator/bee friendly interventions in 2019? (Select multiple)
  - Yes, bee hotel
  - Yes, meadow
  - Yes, bee friendly planting

- No
11. Did you terminate any intervention(s), registered or no?
- Yes (specify why below)
  - No
12. How did you find out about the campaign?
- TV
  - Radio
  - Newspapers
  - Facebook
  - Instagram
  - Through another person
  - Other
  - Do not know
13. We sent an envelope with seeds to all who registered (as far as our stock lasted). Did you sow the seeds?
- Yes
  - No, but I will
  - No, but I will give them to someone else
  - No
  - I never received any seeds
  - I did not give my address
14. Apart from the meadow, did you take other actions to benefit bees during 2020? (Select multiple)
- Made a part of the lawn into a meadow
  - Put up a bee hotel
  - Made a sand bed for ground nesting bees
  - Buy more organic food
  - Other
  - No
15. What other actions to benefit bees would you want to take during 2021? (Select multiple)
- Make a bee friendly planting
  - Put up a bee hotel
  - Make a sand bed for ground nesting bees
  - Buy more organic food
  - Write proposals to my municipality or similar party about benefitting bees

- Help manage a meadow on someone else's land
- Adapt the management of road verges that I have jurisdiction over
- Participate in a workshop to learn more
- Other (specify below)
- No

16. How engaged are you in issues concerning biodiversity? Use a scale 1-5, where 1 is not at all engaged and 5 is very much engaged.

17. Municipality

18. Year of birth

19. Gender

- Man
- Woman
- Other / Do not want to state

20. General comments (Free text)

**C. Bee hotels - if you have more than one, select one for this survey.**

1. How many bee hotels do you have?
2. When did you put up your bee hotel (day/month/year)? You can give an approximate date.
3. Which material(s) is your hotel made of?
  - Wood
  - Bamboo
  - Brick
  - Plastic
  - Cardboard
  - Combination of materials
  - Other
  - I do not know
4. In which environment is the bee hotel placed?
  - In an urban area, f ex back yard to a multifamily house
  - In the garden of a single family house in a city or town
  - In the garden of a single family house in a rural area
  - In an allotment
  - In the farmland landscape
  - In a forest production landscape
  - In nature
5. How far from the bee hotel is it to the closest park or green space?
  - Less than 100 m
  - 100 - 500 m
  - More than 500 m
6. How flower-rich is the surroundings close to the bee hotel (within 50 meters)? Use scale 1-5.  
Where 1 is very poor in flowers (almost no flowering plants) and 5 is very rich in flowers (a diversity of flowers during a long time period).
7. Did you see insects flying in and out from the bee hotel during summer?
  - Yes
  - No
  - I do not know
8. How many nest holes does the bee hotel have in total?
9. How many of the nest holes are 2-5 mm in diameter?
10. How many of the nest holes are 6-10 mm in diameter?

11. How many of the nest holes are 11-15 mm in diameter?
12. How many nest holes are occupied? They are occupied if they are sealed with gravel or plant material. Give the number for each size category.  
Number of occupied nests 2-5 mm.
13. Number of occupied nests 6-10 mm.
14. Number of occupied nests 11-15 mm.
15. How many different types of material did the bees use to seal their nest holes with? Different colours and materials (f ex sand, clay, and different plant materials) count as different types.  
For example: a bee hotel with 3 holes sealed with sand, 2 with green plant material, and 1 with brown plant material has in total 3 types of nest materials. Leave blank if you do not know.
16. Did you previously report your bee hotel to us?
  - Yes, in 2018
  - Yes, in 2019
  - No
  - I do not know
17. Did you terminate a previous bee hotel, registered or not?
  - Yes
  - No
18. How did you find out about the campaign?
  - TV
  - Radio
  - Newspapers
  - Facebook
  - Instagram
  - Through another person
  - Other
  - Do not know
19. We sent an envelope with seeds to all who registered (as far as our stock lasted). Did you sow the seeds?
  - Yes
  - No, but I will
  - No, but I will give them to someone else
  - No
  - I never received any seeds



- I did not give my address

20. Apart from the bee hotel, did you take other actions to benefit bees during 2020? (Select multiple)

- Made a part of the lawn into a meadow
- Made a bee friendly flower planting
- Made a sand bed for ground nesting bees
- Buy more organic food
- Other
- No

21. What other actions to benefit bees would you want to take during 2021? (Select multiple)

- Make a bee friendly planting
- Put up a bee hotel
- Make a sand bed for ground nesting bees
- Buy more organic food
- Write proposals to my municipality or similar party about benefitting bees
- Help manage a meadow on someone else's land
- Adapt the management of road verges that I have jurisdiction over
- Participate in a workshop to learn more
- Other (specify below)
- No

22. How engaged are you in issues concerning biodiversity? Use a scale 1-5, where 1 is not at all engaged and 5 is very much engaged.

23. Municipality

24. Year of birth

25. Gender

- Man
- Woman
- Other / Do not want to state

26. General comments (Free text)

**D. Terminated interventions**

1. Which intervention did you terminate?
  - Bee hotel
  - Meadow
  - Bee friendly planting
2. Why did you terminate the interventions? (Free text answer)
3. How long did your intervention last`?
  - Less than 1 year
  - 1-2 years
  - More than 2 years