



**CLEARINGHOUSE**  
中欧城市森林应对方案

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# Take to the woods!

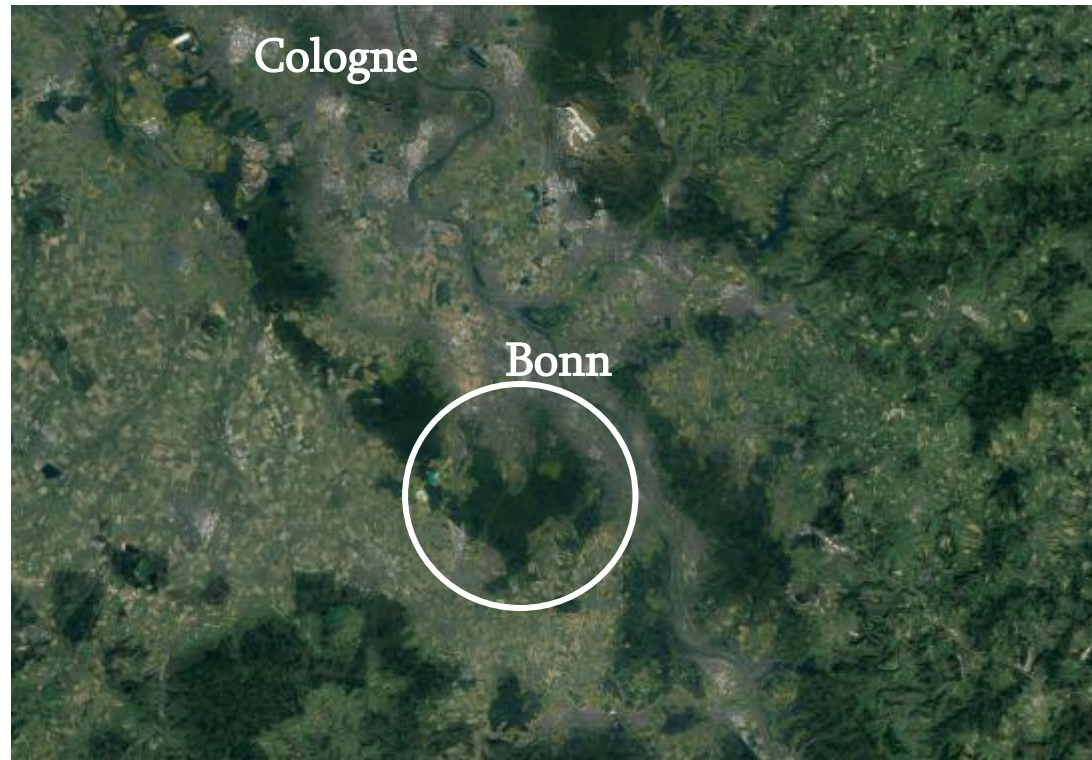
The impact of the COVID-19 lockdowns on the use and attitudes towards urban forests and their management: a mixed methods approach in Bonn, Germany (under review)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n°821242. Several Chinese CLEARINGHOUSE partners have also contributed to the funding.

该项目获得欧洲H2020**研究**与创新计划的资助（拨款协议号码：821242）。部分中国合作伙伴也为此提供了资金。

# Study context





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## Location (Kottenforst)

- Cologne-Bonn area
  - 815 inh/km<sup>2</sup>
  - 30% forest cover
- 5000 ha close to city centre
- Numerous functions:
  - Commuting
  - Recreation
  - Nature conservation (Natura2000)
  - Wood production

## Pandemic situation

- Business as usual
- First lockdown (March-May 2020)
  - Multiple measures limiting freedom
  - Forest remained accessible
- “Interlockdownium”
- Lockdown light (October-December 2020)
- Second lockdown (December 2020-present)





# Study approach



18 months  
235.000 counts



40 different days (May-  
Dec. 2019; May 2020)  
345 interviews



- descriptive statistics
- inductive coding



# Study approach



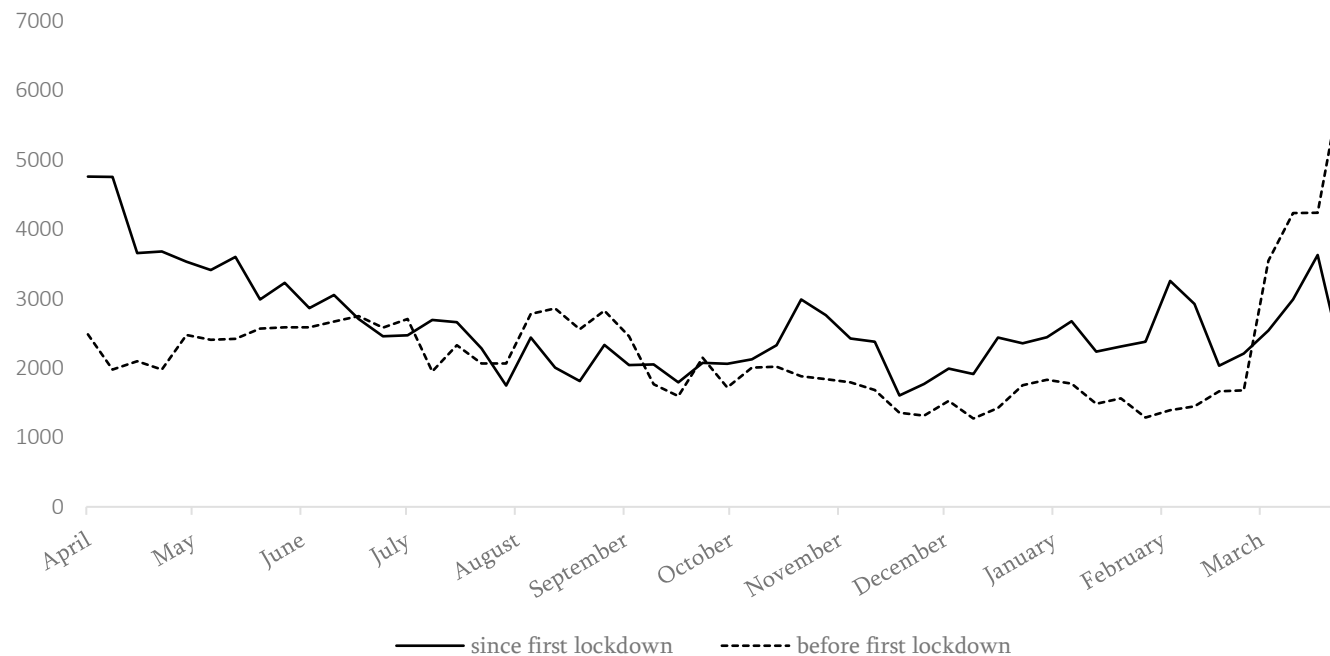
- 292 interviews pre-lockdown
  - May 2019 – December 2019
- 53 interviews during first lockdown
  - May 2020 – July 2020
- 15 diverse locations



# Weekly visitor numbers



Average weekly visitor count before and during the COVID-19 pandemic



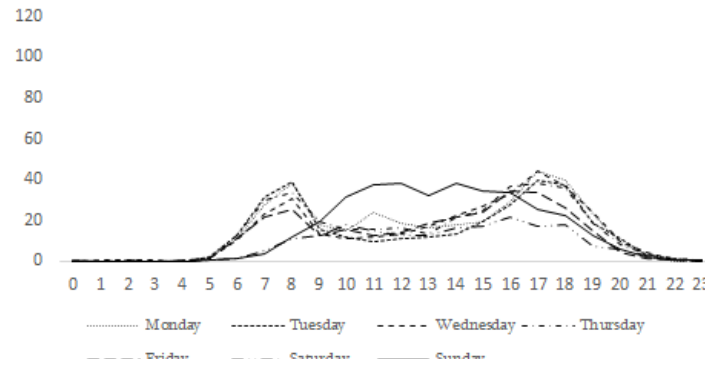
- First lockdown: 210% increase
- Normalisation
- Second lockdown: 50% increase
- Normalisation?



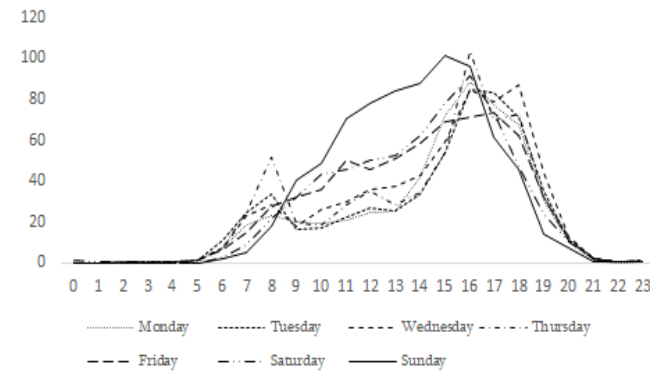
# Daily visit patterns



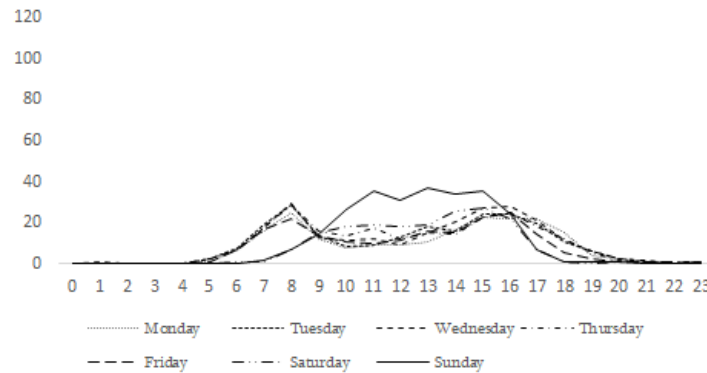
April - May 2019



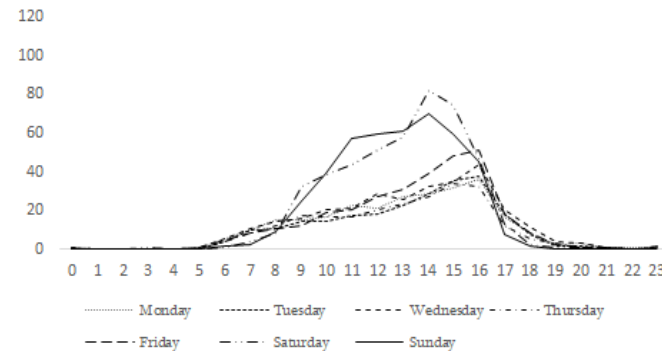
March - May 2020



December 2019 - February 2020



December 2020 - February 2021



- Shift to afternoon
- Saturday now popular
- Commuting less important

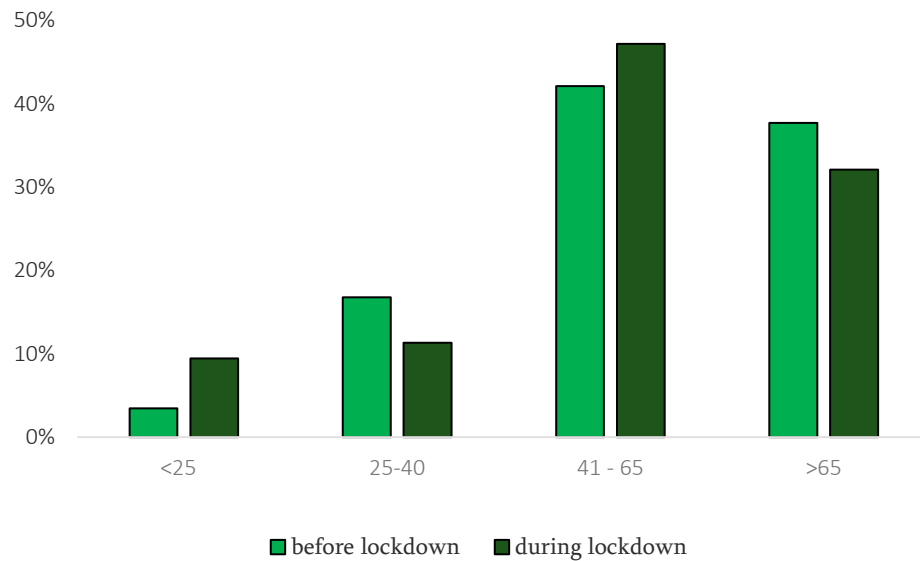




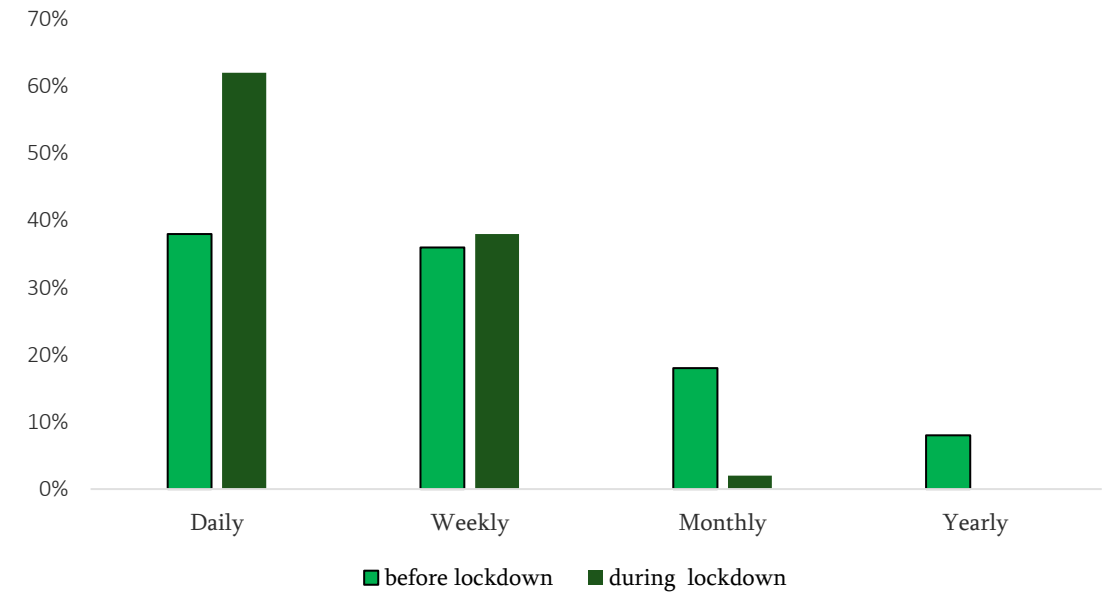
# Visitor profile



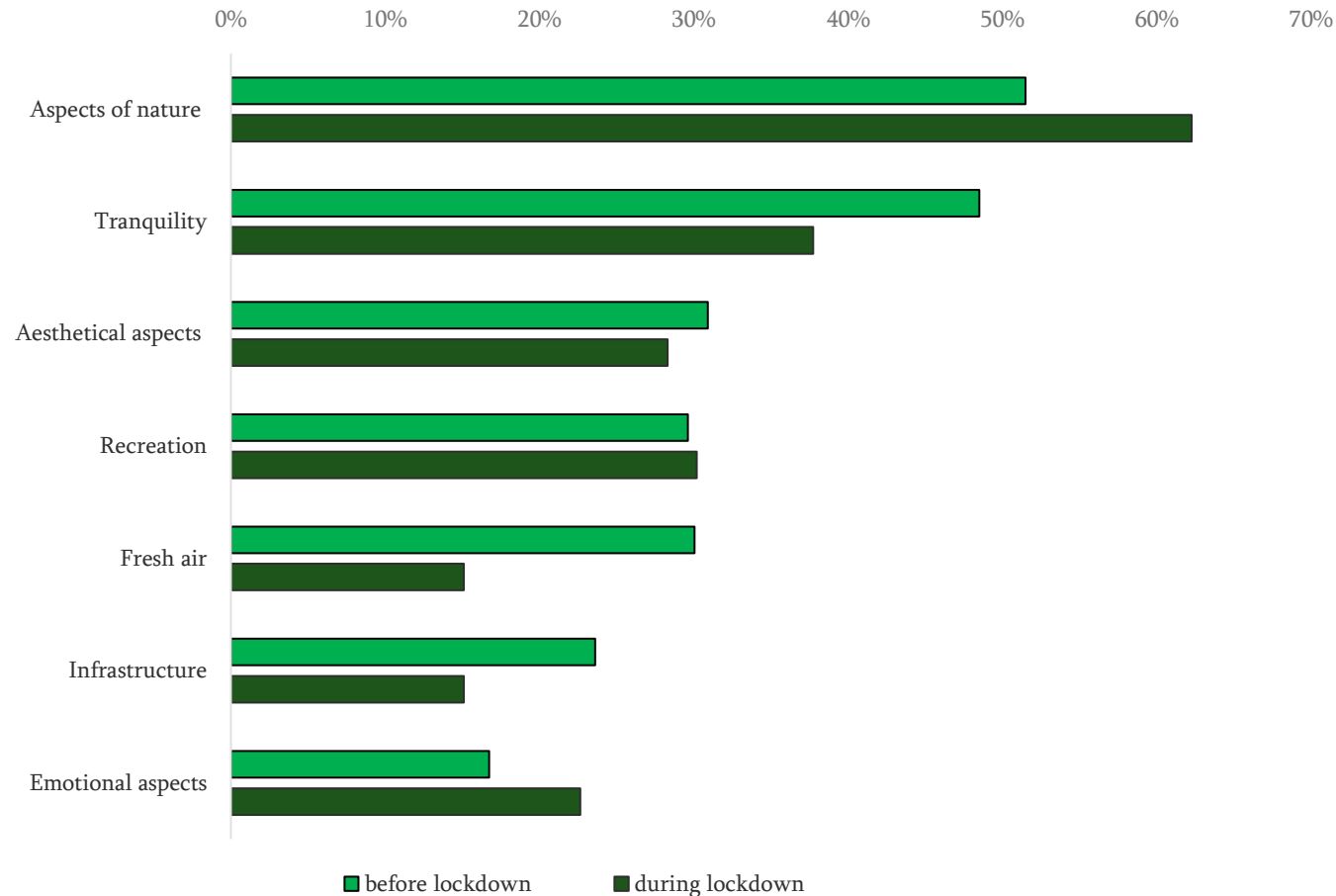
Respondents' age classes



Respondents' visit frequency



# Associations with the forest



- **Aspects of nature:** nature, forest, trees, animals
- **Aesthetical aspects:** beauty, green, colours, smells, sound of the wind, birdsong, atmosphere
- **Infrastructure:** cycle lanes, roads, monuments
- **Emotional aspects:** peace, joy, home, childhood, memories, freedom



# Perceived beauty and naturalness



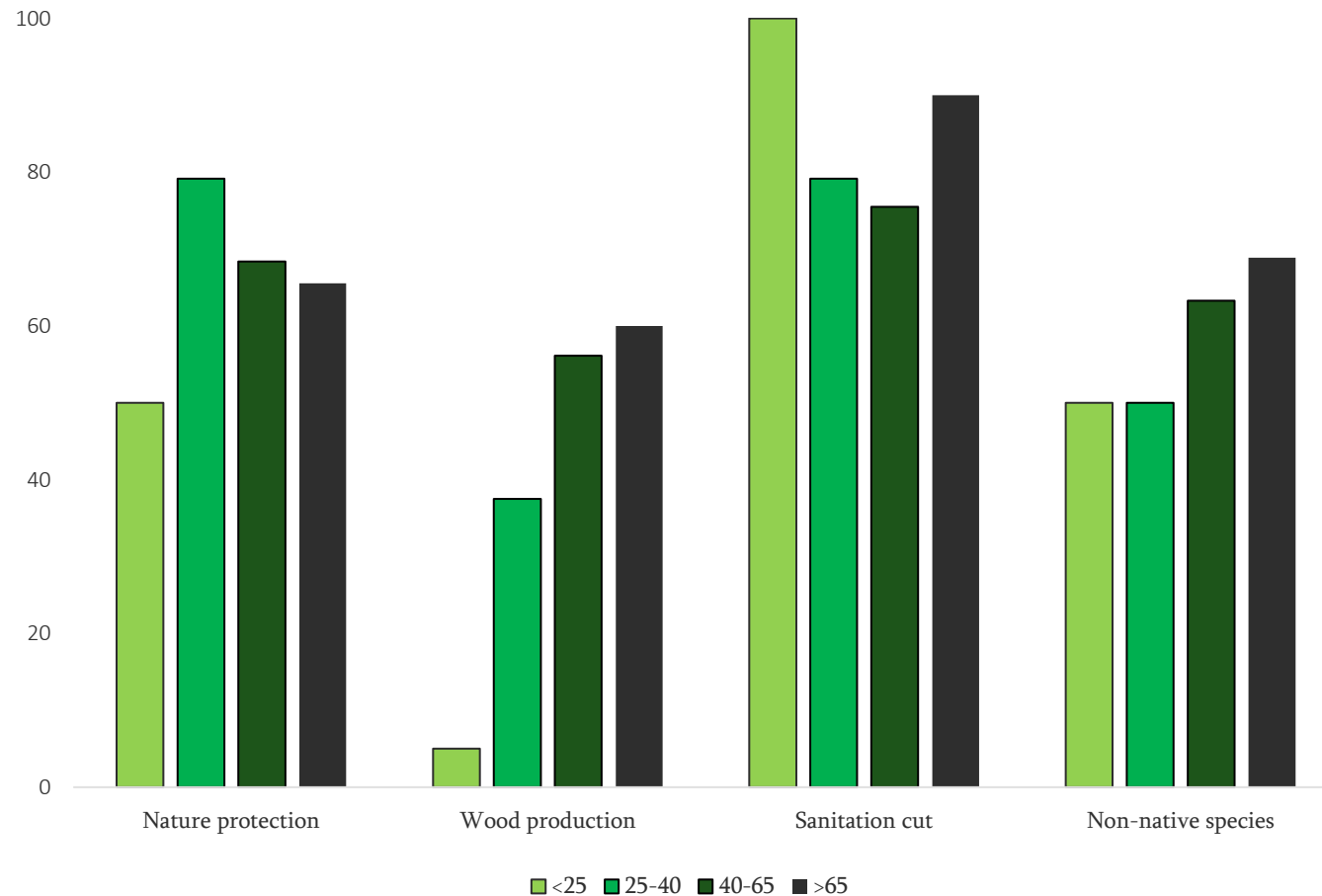
- Correlation coefficient  $r_s = 0,436$
- Common predictors:
  - Species mixture
  - Structural diversity
  - Tree health
- High scores
- Note: 13/15 stands are managed

Forest stand	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Beauty	4.5	4.1	4.1	4.6	3.5	3.4	4.3	2.6	3.9	4.2	4.8	3.3	3.0	4.3	3.1
Naturalness	4,0	3,7	3,6	4,6	3,8	3,5	3,8	2,9	3,4	4,1	4,0	3,4	2,0	3,9	2,6
Age class	3	3	1	4	3	3	2	3	1	2	3	3	3	4	3
Forest type	B	B	M	B	C	C	B	N	M	B	B	C	M	B	C





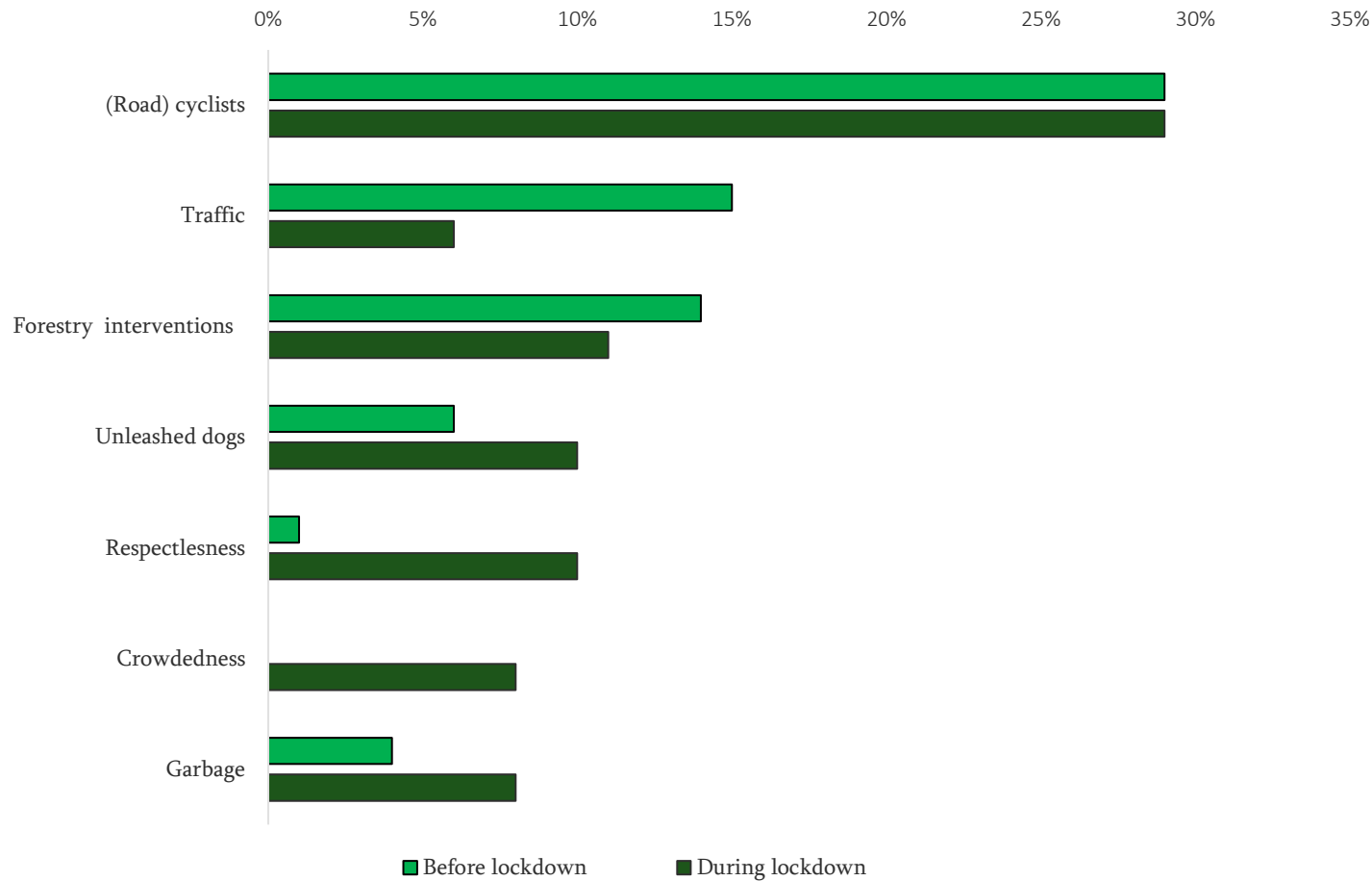
# Acceptance of tree felling



- Answer options: Good-neutral-bad
- **General acceptance 63%**
  - < Continuous cover forestry
  - < Bark beetle
- **Changes during lockdown**
  - More for sanitation (+23%)
  - Less for wood (-16%)
  - More neutral answers



# Visitor frustrations



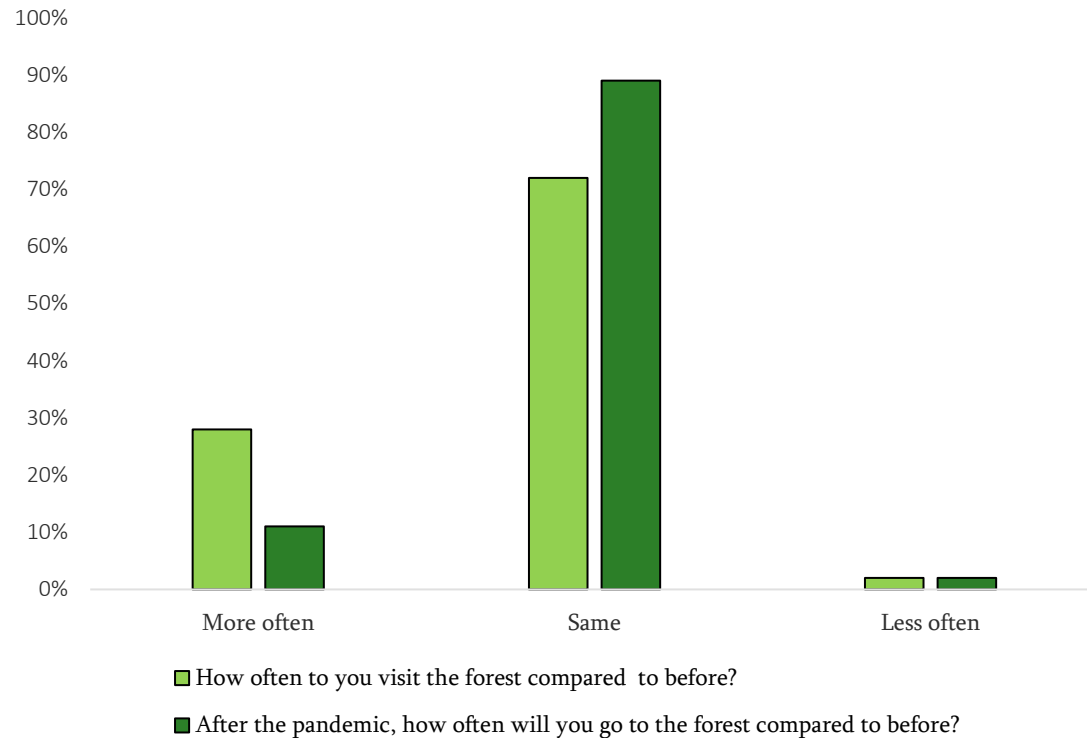
- Road bikes/e-bikes
- New frustrations
  - Crowdedness
  - Lack of respect
- Note: little forest management in spring/summer



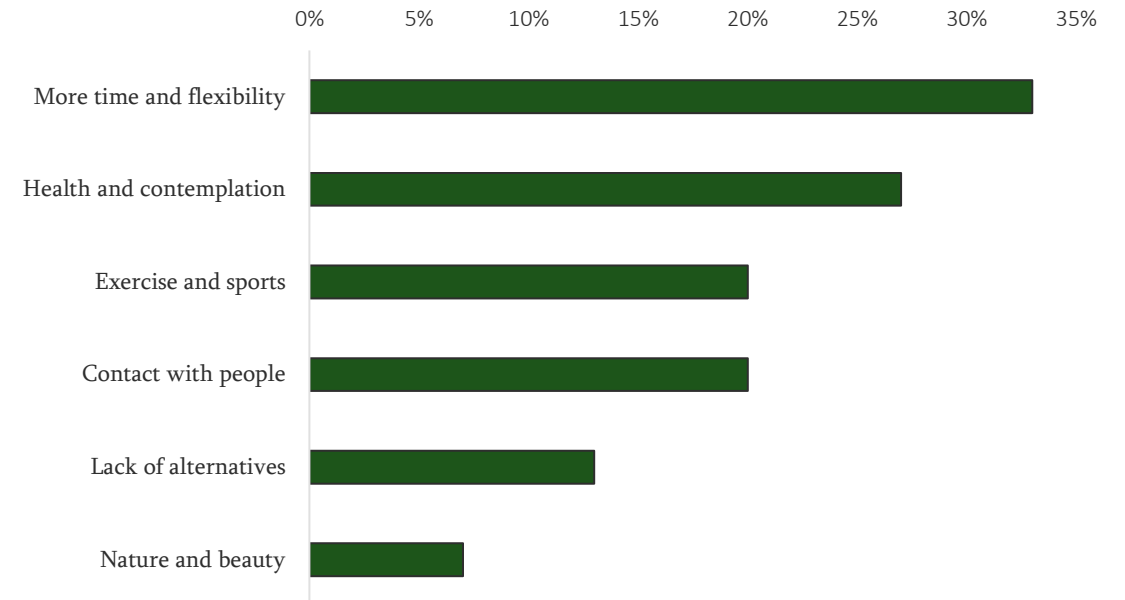
# Lockdown effect on visit frequency



Self-declared change in visit frequency



Reasons for increased visits

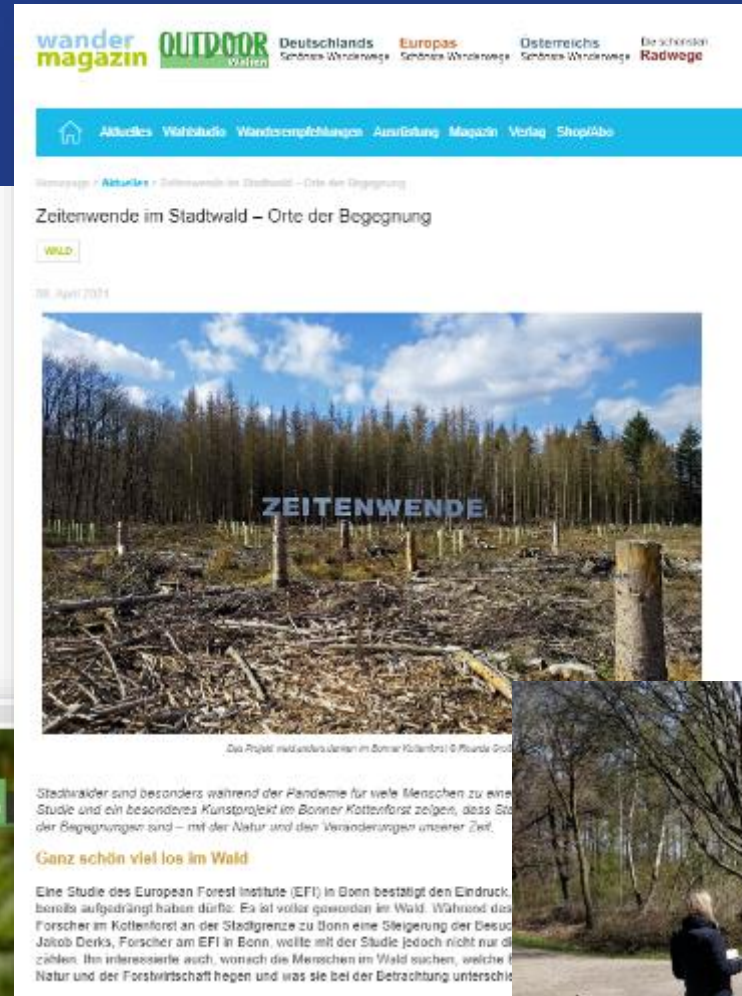




# Useful outcomes?



- Study requested by LIFE+ project/Forstamt
- Outreach is key



# Follow-up?



- Continue visitor counts
- New round of interviews
- Connection to CH survey?





# Conclusions



- Urban forest important for wellbeing
- Focus on relaxation, fresh air and recreation
- Role of forest management
  - Preference for mixed uneven-aged stands
  - High acceptance of existing forest management measures but not of visible tracks
  - Reach-out helpful (info panels, conversations,...)
- Conflict potential between user groups





# Conclusions



- Changes during corona
  - Mainly pragmatic reasons
  - Increase in numbers
  - Different visit patterns
  - Changed motivations: social activities, focus on health/exercise
  - Changed preferences: novel “set” of visitors

→ need for efficient communication
- Buffering effect during crises
- Forests as *Critical Infrastructure*?



# Thank you!



Questions?

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More info?

- Derks J., Giessen L., Winkel G. (2020) COVID-19-induced visitor boom reveals the importance of forests as critical infrastructure. [Forest Policy and Economics Volume 118](#), September 2020, 102253
- <https://www.villewaelder.de/en/>
- <https://integratenetwork.org/>

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## 中欧城市森林应对方案



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