Summary

Survey 2014 and 2017 in Harava web-tool “Mitä ajattelet ilmastonmuutoksesta?”

- The views of the Finnish citizens on climate change and the role of forest areas in the carbon balance was monitored with a web-based survey, first conducted in 2014 (76 respondents), repeated in 2017 (652 respondents). Because of the set-up of the survey, the results are not representative, but can give qualitative understanding on how people think about climate change and, e.g. increasing the use of bioenergy.

Similarities

- There are many similarities in the distribution of replies in 2014 and 2017, e.g. majority from Uusimaa region, 62% were employed, with a univeristy degree (60-70%)
- Around 90% agreed that global warming occurs and that human actions affect global warming. Around 60% were very alarmed, around 70% found that impacts already appear in their municipality, and more than 80% thought that global impacts already appear.
- No obvious differences in the distributions of observations concerning rain events, floods, etc. Or in the views on anticipated beneficial or damaging impacts.
- Many respondents thought forest policies should promote recreation, lanscape enjoyment, berry and mushroom picking, noise control and carbon sequestration.
- Many respondents found the adaptation to be very urgent in the education sector.

Summary

Survey 2014 and 2017 in Harava web-tool “Mitä ajattelet ilmastonmuutoksesta?”

Differences

- There are some differences in the distribution of replies in 2014 and 2017, e.g. in the second survey, there were more male respondents (45% compared to 26% in 2014)
- Some differences can be seen in the responses to the question ”If the use of forest bionenergy would increase in your municipality, what would the impacts be in your opinion?”. In 2017 fewer thought it would have large impacts on providing business opportunities, improving the municipality’s image, and decreasing greenhouse gas emissions. In 2017, more found that it would have large impacts on damaging the landscape and decreasing the recreational value of the area.
- Respondents were asked to locate anticipated impacts on the map. In 2014, 76 respondents anticipated impacts of climate change at 356 map locations (53% in forests and seminatural areas); in 2017, 652 respondents identified 19 840 map locations (55% in artificial surfaces) for anticipated impacts of climate change.

EU Life+ MONIMET

LIFE12 ENV/FI/000409

C2 Monitoring of socio-economic impact

Status 6.6.2017

Maria Holmberg, Sisko Seppänen, Irina Bergström, SYKE

- Action C2 Monitoring of socio-economic impact
- Maria Holmberg, Sisko Seppänen, Irina Bergström SYKE
- To assess the awareness of local population regarding role of forests in in carbon balance and the vulnerability of municipality to climate change
- Two surveys of public awareness: June – Aug 2014; Feb – April 2017
- Surveys published in HARAVA web tool, responses analysed
- Contribution to final report regarding public awareness
- Surveys promoted by SYKE, LUKE, FMI
- Citizens
- No achievements which supported legislation (regional, national, EU)

C2 Monitoring of socio-economic impact

SYKE

- The socio-economic impacts of project actions on the local population are anticipated to be indirect, through the increased awareness of climate change issues and the understanding of the role of the forest areas in the carbon balance.
- The awareness of the local population on climate change and the role of forest areas in the carbon balance is monitored with a survey, first conducted in 2014, repeated in 2017.

C2 Monitoring of socio-economic impact

SYKE

- The first survey was open in the Harava web tool from 2.6.2014 to 31.8.2014. https://www.eharava.fi/en/
- There were 76 respondents in total.
- More than half of the respondents were
  - under 40 years of age (58%),
  - university graduates (66%) and
  - employed (62%).
- The respondents were from 30 municipalities in 14 regions, almost half being from the Uusimaa region.

C2 Monitoring of socio-economic impact

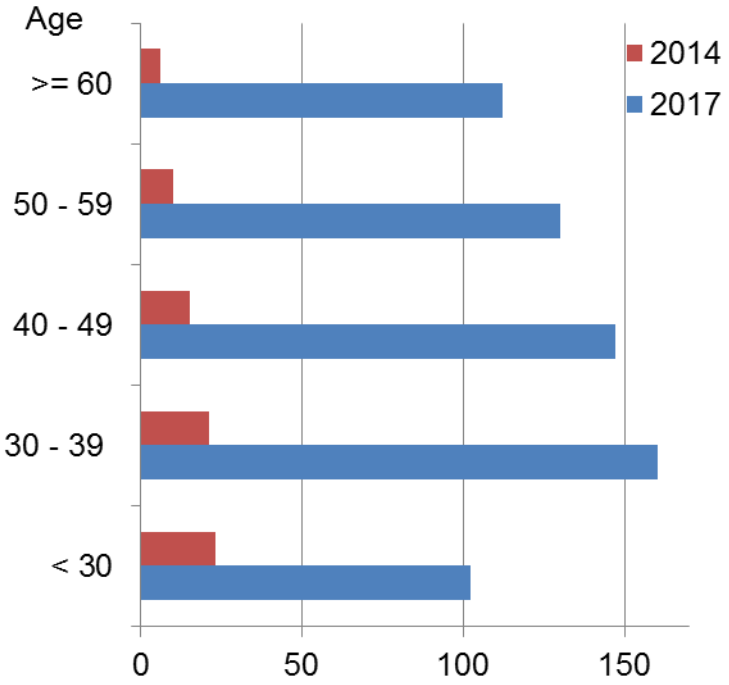
SYKE

- 2nd survey
  - Published 1.2.2017, to be analysed by 1.6.2017
  - Open 1.2. – 30.4.2017 in Harava tool http://query.eharava.fi/1893
- 1.2.2017 (and later) promoted by
  - News in SYKE web: Mitä ajattelet ilmastonmuutoksesta
  - News in Climateguide.fi: Ajankohtaista
  - Twitter: @RLumiaro, @holmbergmd
  - Facebook: @syke.fi
  - Mentioned in webpapers:
    - ✓ http://www.karjalainen.fi/
    - ✓ http://www.aamuset.fi/
- 652 individual responses by 1.5.2017
  - Total number of responses 1815
  - Number of completed responses 1536
  - Number of duplicate reponses 1536 – 652 = 884 responses by one and the same person at 30.4.

Background of respondents

Results of 2nd (1st) survey

- Number of responses
  - 652 (76) respondents
  - 45.2 % (26 %) male
  - 54.1 % (71 %) female
- Age
  - 40 % (59%) under 40 years of age
- Education
  - College, polytechnic degree 23% (20%)
  - University graduate. 58% (66 %)
- Activity
  - Student 13% (21%)
  - Employed 62% (62%)



Background of respondents

Results of 2nd (1st) survey

- Regional distribution
  - From 128 (30) municipalities in 17 (14) regions
  - Helsinki 26 (25) %
  - Uusimaa 43 (49) % (including Helsinki)

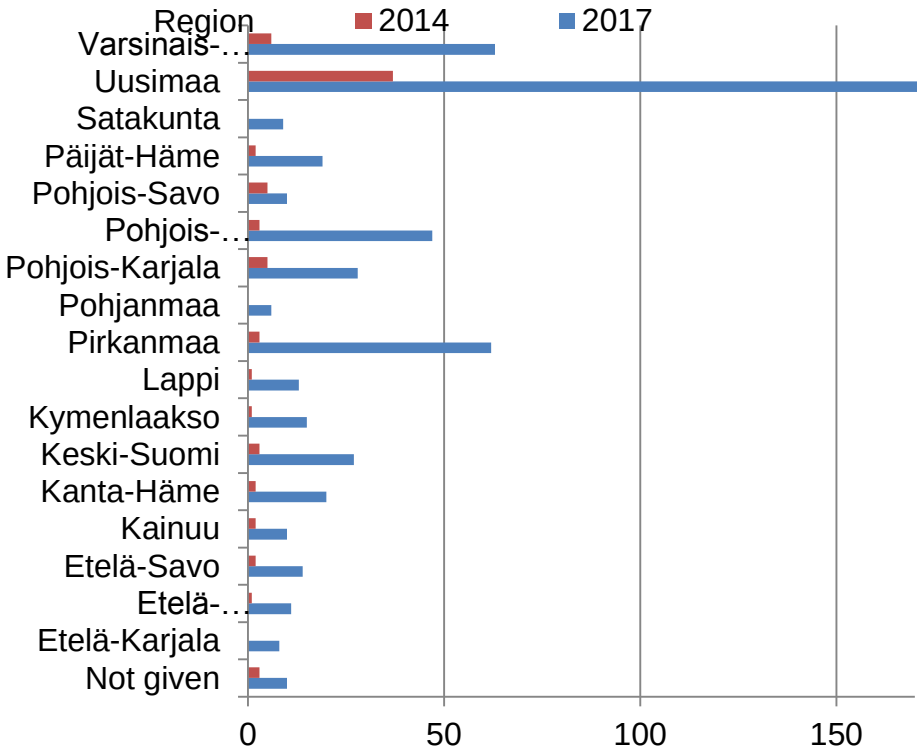


Fig. 1. Number of respondents by region

In your opinion, how is climate change manifested?

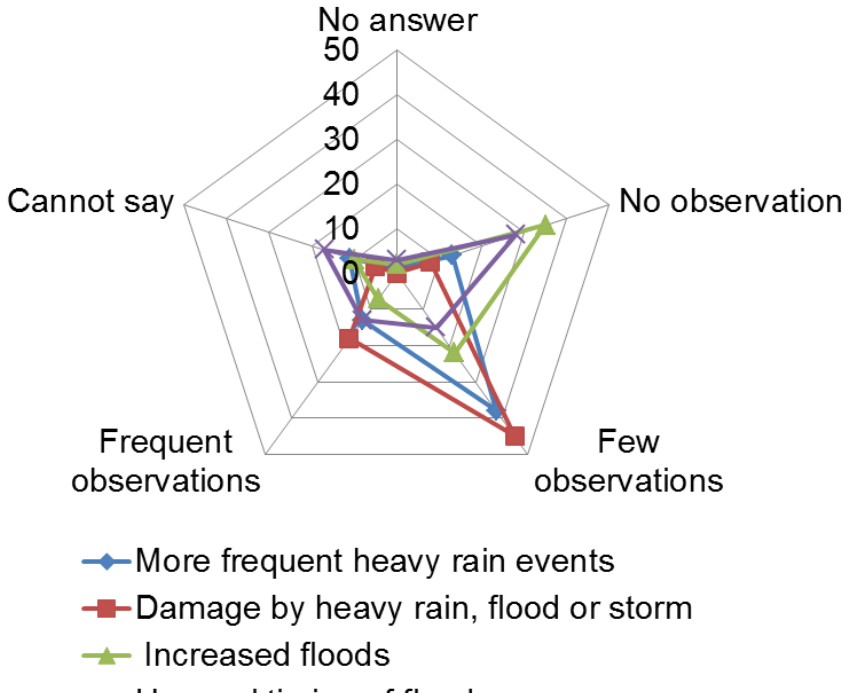
(Miten ilmastonmutos mielestäsi ilmenee?)

- Results of 2nd (1st) survey
  - Global warming occurs
    - 91% (95%) agree
  - Human actions affect global warming
    - 87% (93%) agree
  - Is climate change alarming? (Oletko huolestunut ilmastonmuutoksesta?)
    - 60% (67%) very alarmed
  - When do you expect climate change to have impacts in your municipality?
    - 74 % (68%) impacts already appear(Vaikutuksia ilmenee jo)
  - When do you expect climate change to have global impacts?
    - 82 % (87%) impacts already appear

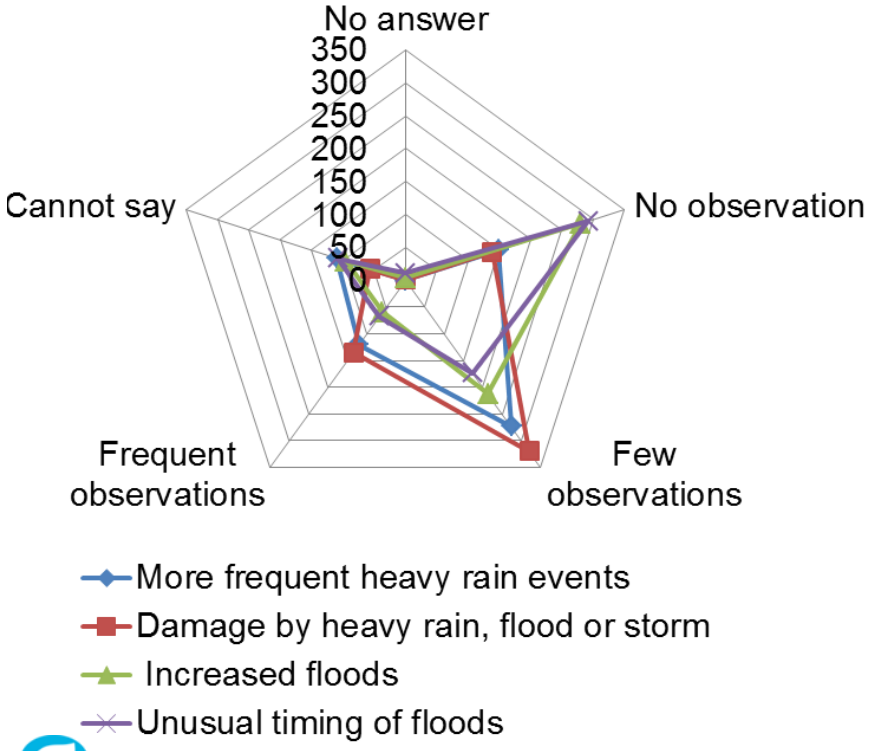
Your observations during the last decade?

(Oletko havainnut kuntasi alueella viimeisten 10 v aikana?)

2014



2017



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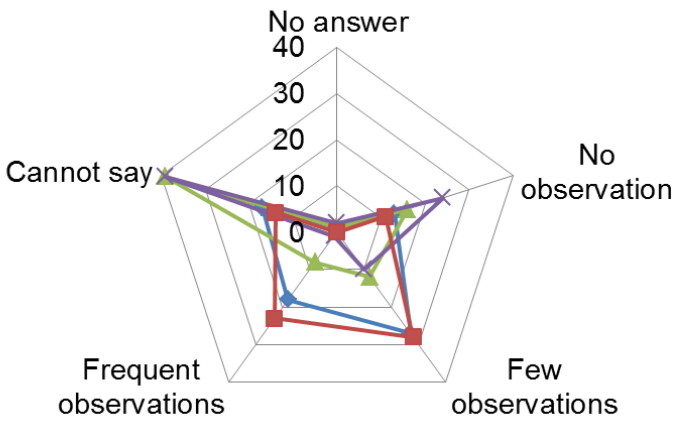
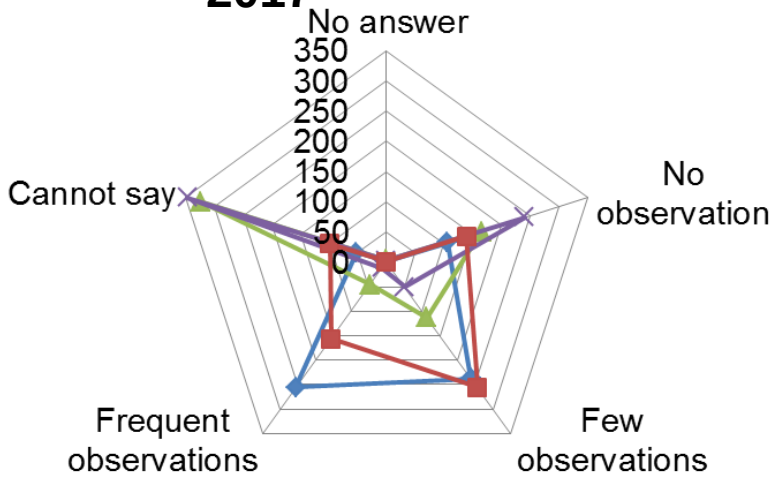


2017



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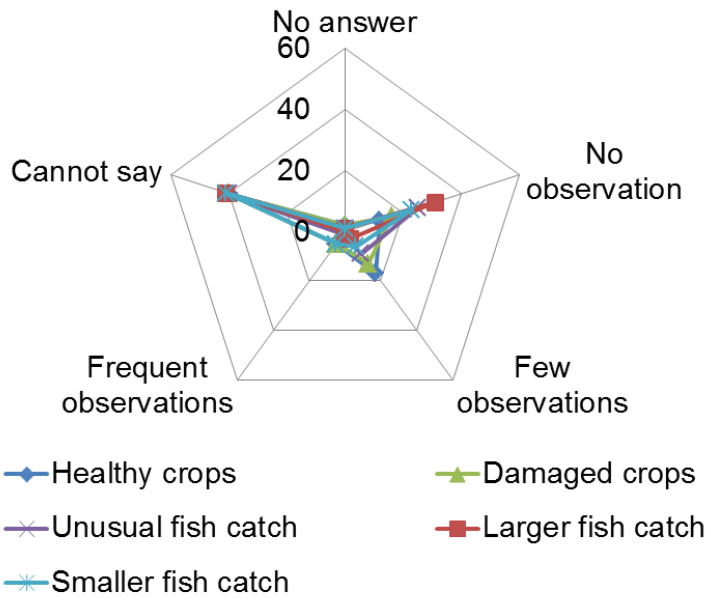
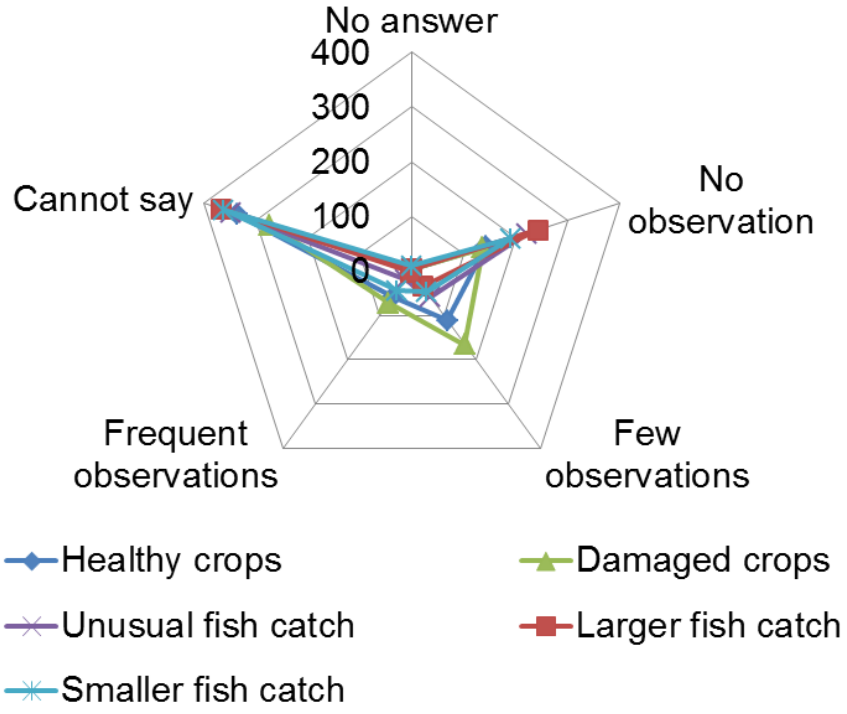


2017



SYKE

Your observations during the last decade?

(Oletko havainnut kuntasi alueella viimeisten 10 v aikana?)

2014

Number of responses in own words: 15, e.g.

- Less snow
- More snow
- Earlier spring
- Earlier flowering
- Earlier birds
- Summer heat waves

2017

Number of responses in own words: 642, e.g.

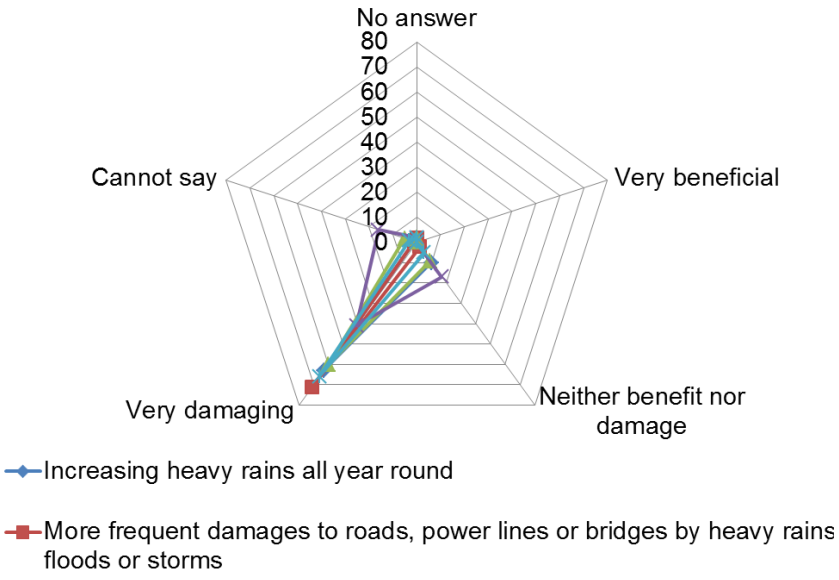
Less snow, warmer winters, earlier flowering, increased plant growth, more frequent rains, more frequent storms, more slippery roads, shift in climate zones, shift in seasons

LifeMonimet FINNISH METEOROLOGICAL INSTITUTE Luke LUONNONVARAKESKUS SYKE HELSINGIN YLIOPISTO HELSINGFORS UNIVERSITET UNIVERSITY OF HELSINKI Life

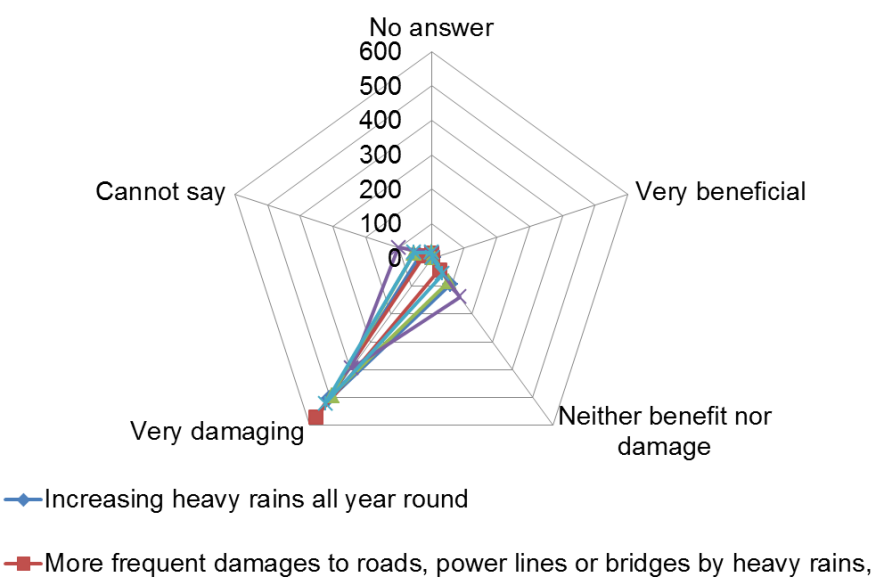
What kind of beneficial or damaging impacts do you anticipate?

If the following impacts would occur in your community, would they be beneficial or damaging, in your opinion?

2014



2017



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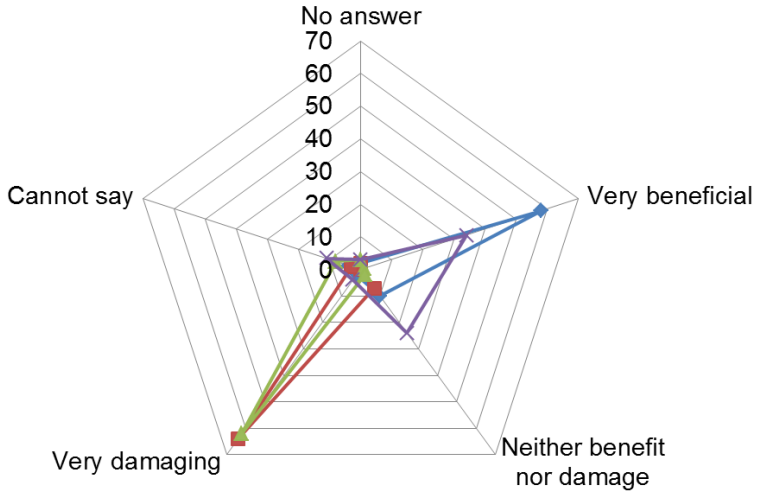

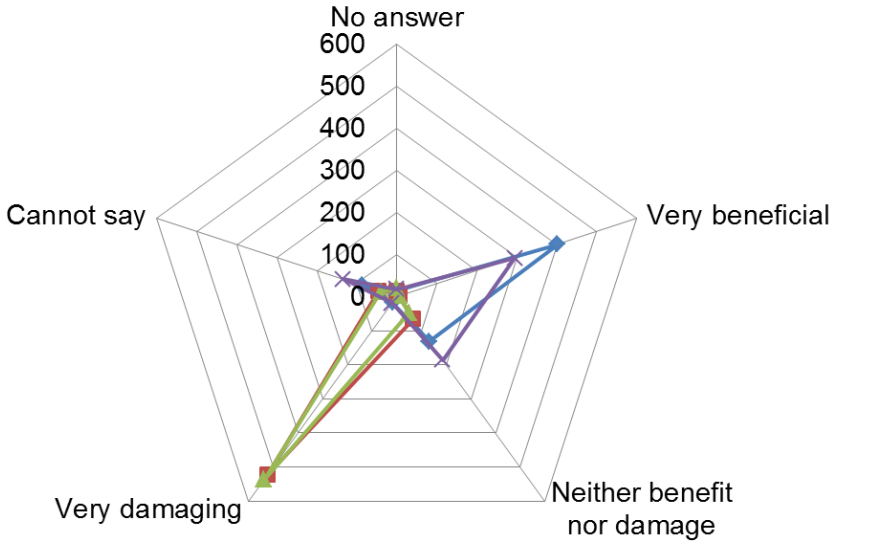

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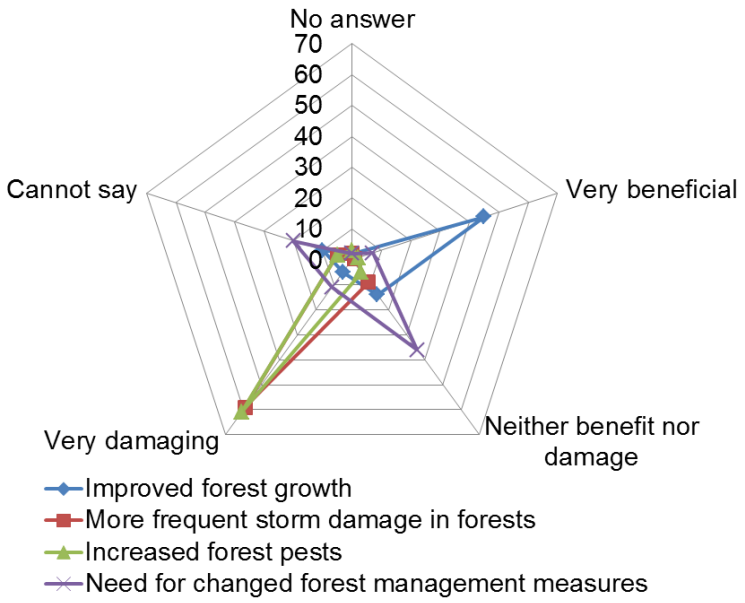
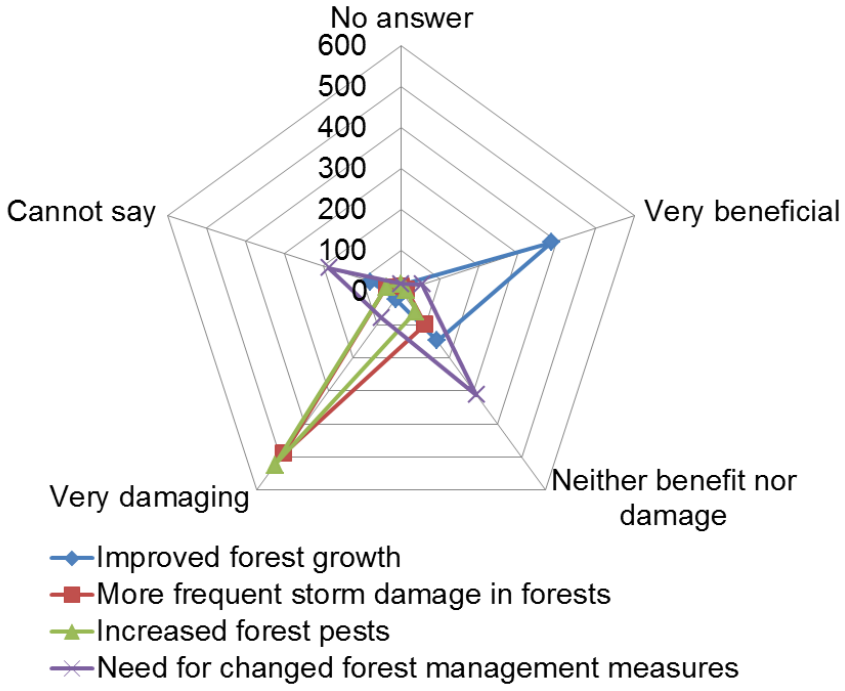


2017



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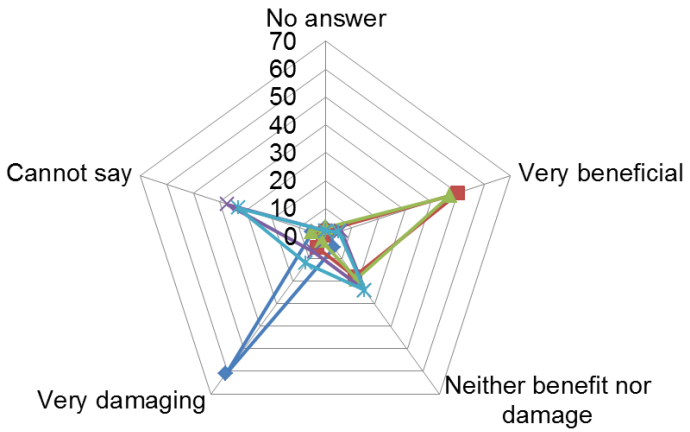
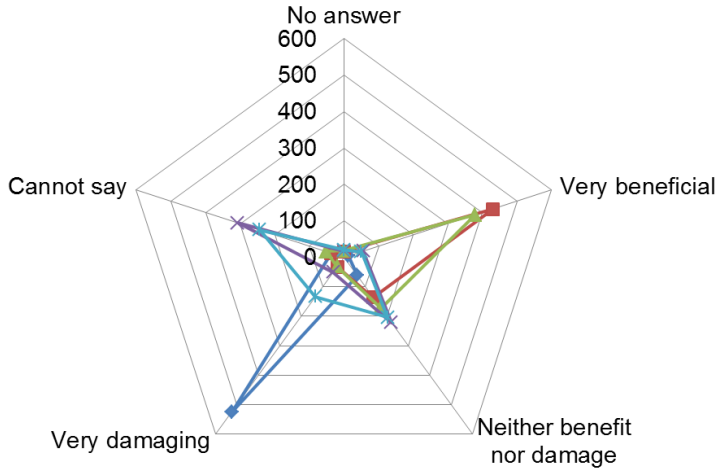


2017



- Increased use of biomass in energy production
- Decreasing heating costs
- Decreasing costs of snow removal
- Climate change impact on employment in your community
- Climate change impact on business opportunities in your community

What kind of beneficial or damaging impacts do you anticipate?

If the following impacts would occur in your community, would they be beneficial or damaging, in your opinion?

2014

Number of responses in own words : 9, e.g.

- Multiple benefits would follow from decreasing traffic emissions
- Alien species are an important threat

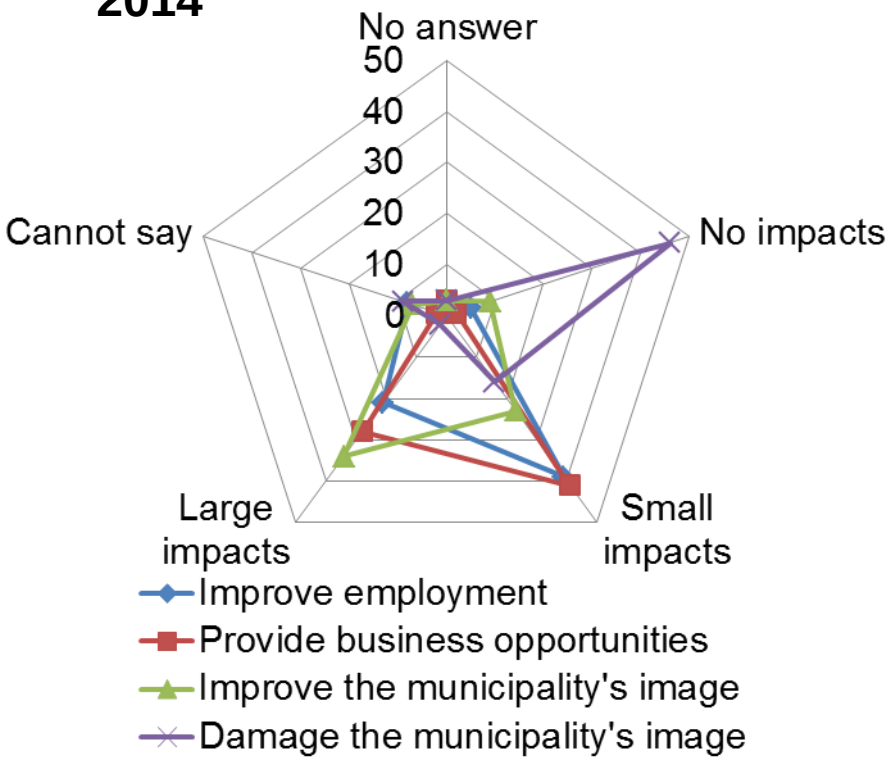
2017

Number of responses in own words : 640, e.g.

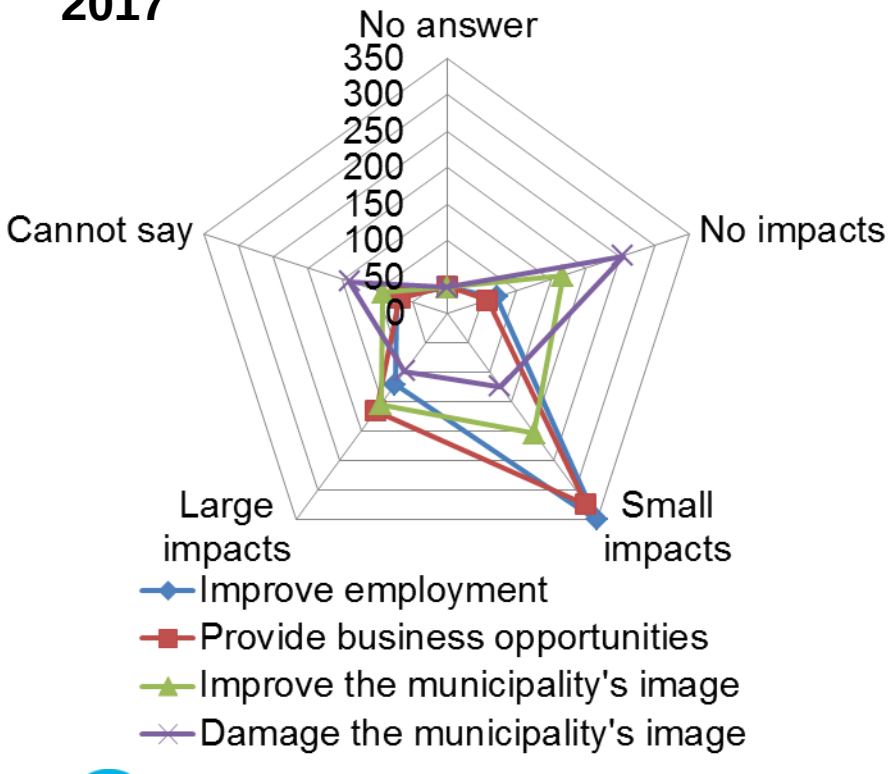
- Longer bicycling season; better winter survival of new plant species
- Heavy rains damaging clay soils; sea level rise damaging harbours

If the use of forest bioenergy would increase in your municipality, what would the impacts be in your opinion?

2014



2017



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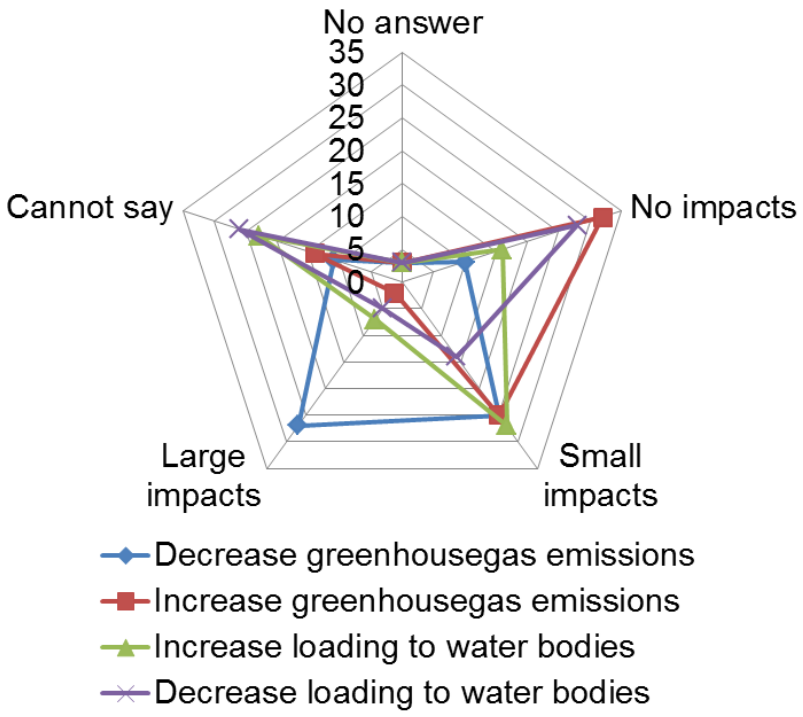
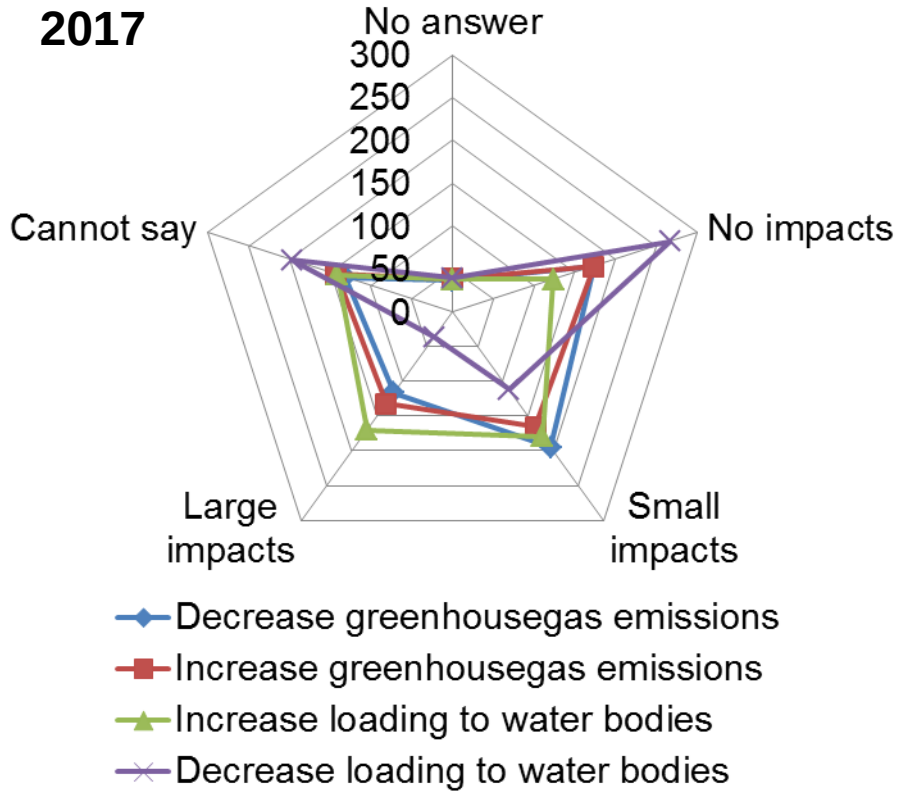


2017



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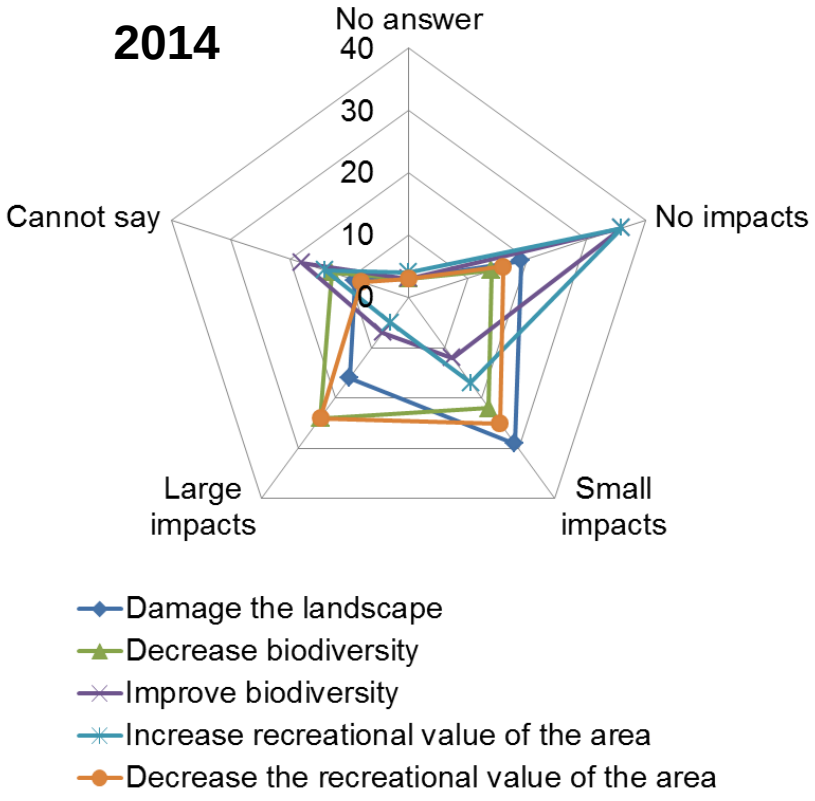
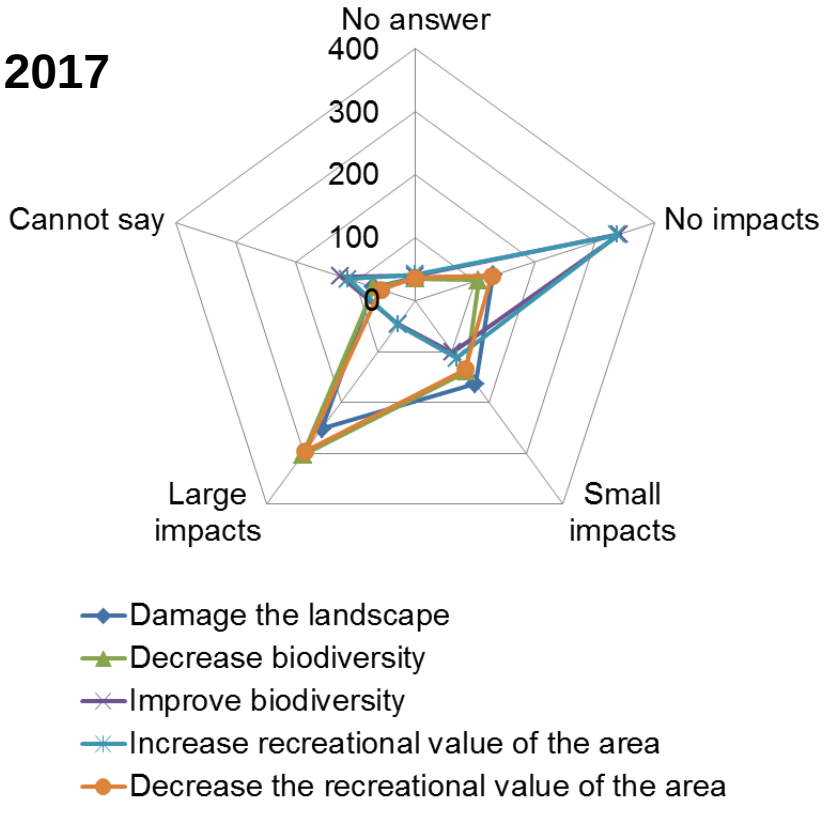
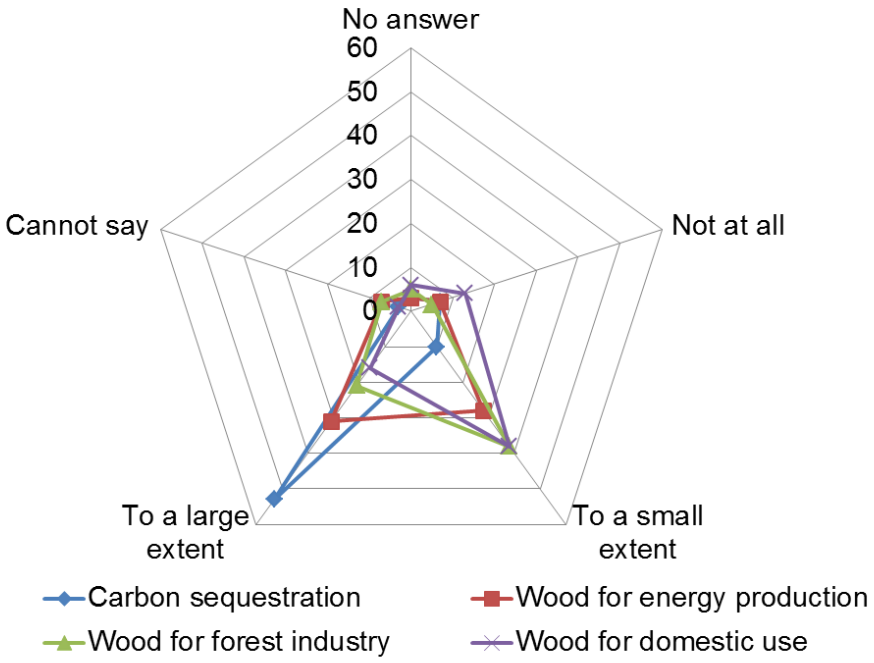




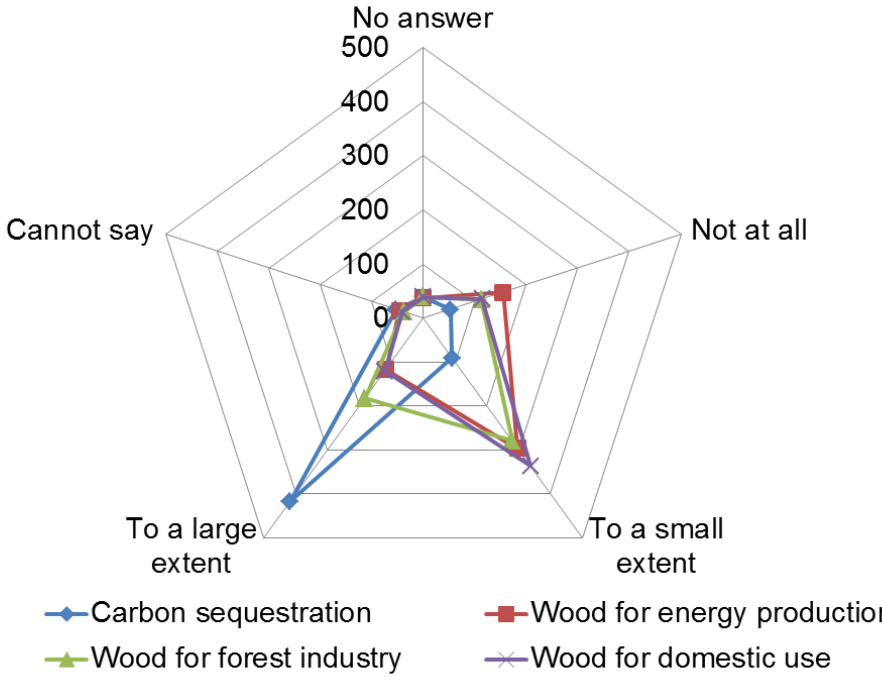
Which forms of forestry use do you think forest policies should promote?

(Mitä metsänkäyttömuotoja yhteiskunnallisen ohjauksen tulisi suosia?)

2014



2017



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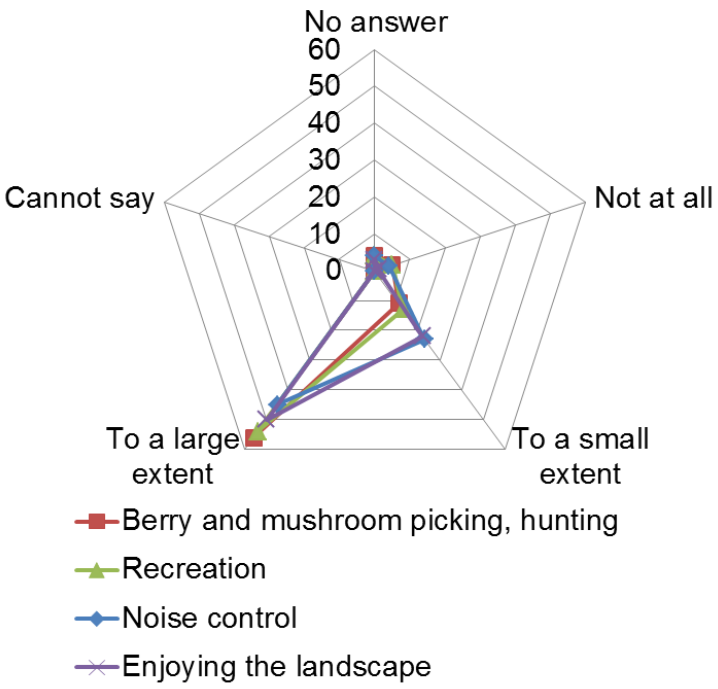

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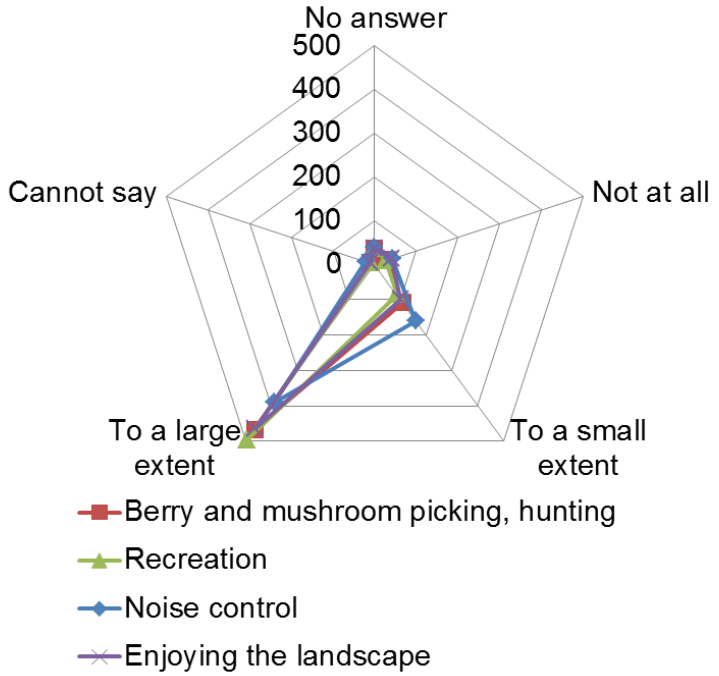

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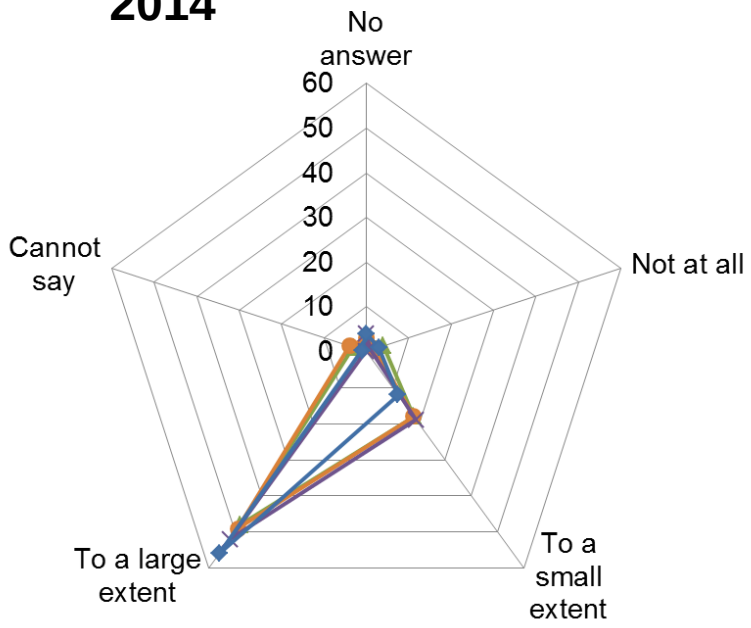
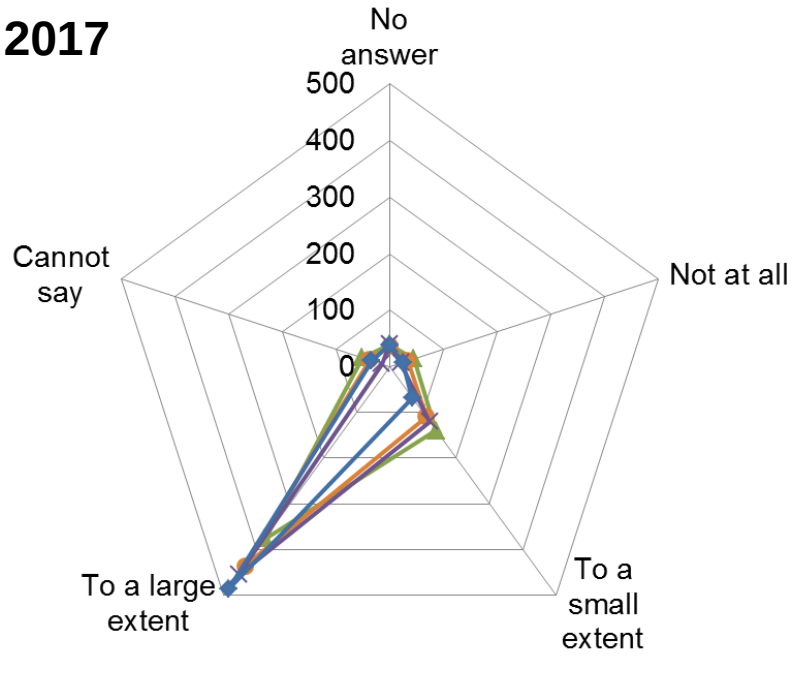
2014



2017



SYKE

Which forms of forestry use do you think forest policies should promote?

(Mitä metsänkäyttömuotoja yhteiskunnallisen ohjauksen tulisi suosia?)

2014

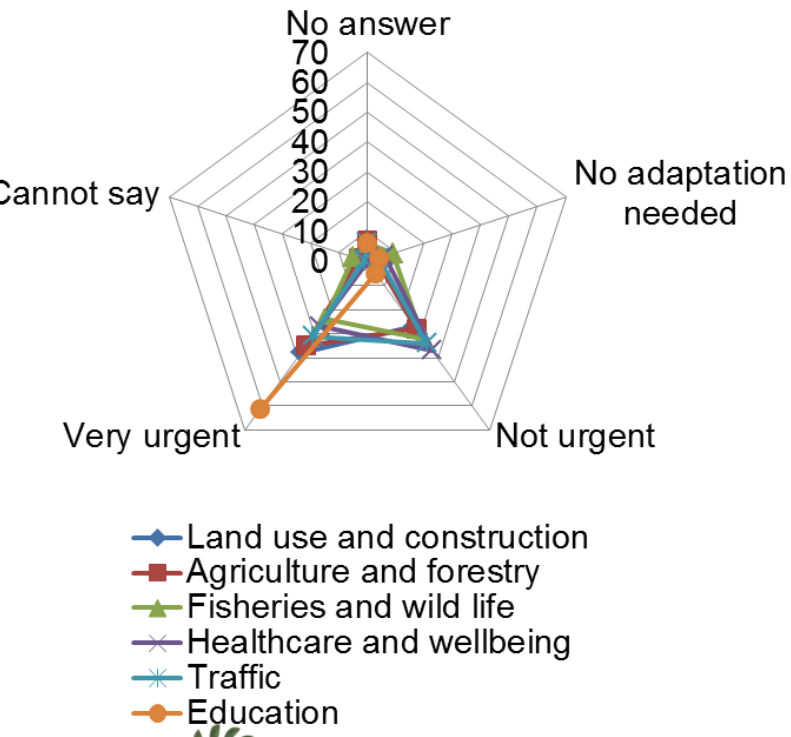
Number of responses in own words 6, e.g
Protect old forests
Promote sustainable forestry
Secure biodiversity

2017

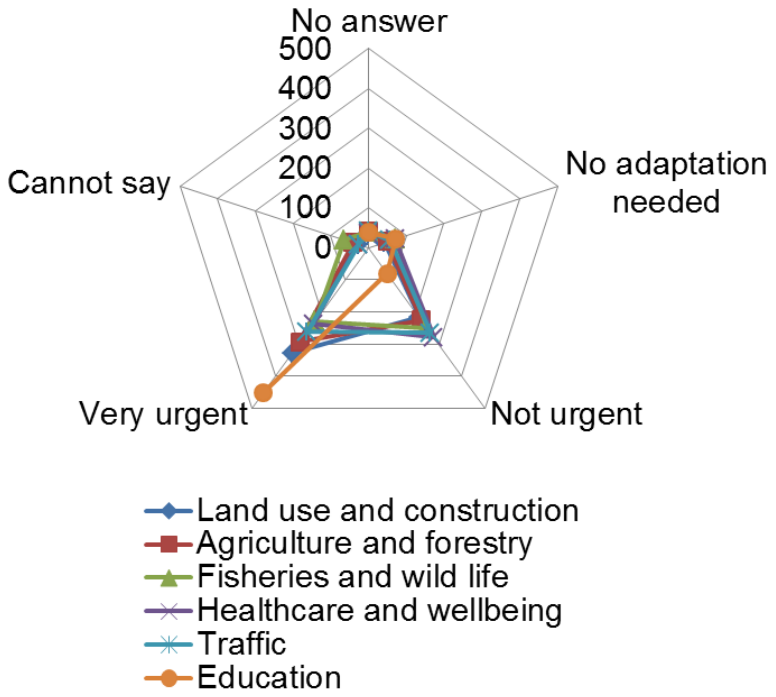
Number of responses in own words 633, e.g
Protect old forests, recycle wood fiber, secure wood for building industry, provide saw timber
Promote sustainable forestry
Secure human health, biodiversity
Minimize governance

How urgent do you find the need for adaptation in your municipality?

2014



2017



How urgent do you find the need for adaptation in your municipality?

Results of 2nd (1st) survey

- Land use and construction
  - 50% (50%) very urgent - most frequent
- Agriculture and forestry
  - 45% (46%) very urgent – most frequent
- Fisheries and wild life management
  - 38% (42%) not urgent – most frequent
- Health and well-being
  - 43% (49%) not urgent – most frequent
- Traffic
  - 41% (45%) not urgent – most frequent
- Education
  - 70% (80%) very urgent – most frequent

How urgent do you find the need for adaptation in your municipality?

2014

Number of responses in own words 11, e.g.

- Promote public transport
- Carbon neutral energy production
- Decrease consumption
- Promote agriculture

2017

Number of responses in own words 626, e.g.

- Increase use of solar power
- Decrease GHG-emissions in all municipal sectors
- Planning infrastructure to provide services in changing env.
- Education is the key – for children and adults

C2 Monitoring of socio-economic impact

SYKE

Respondents were asked to locate anticipated impacts on the map. In 2014, 76 respondents anticipated impacts of climate change at 356 map locations; in 2017, 652 respondents identified 19 840 map locations for anticipated impacts of climate change.

Land use	2014 (%)	2014 (see map)	2017 (%)	2017
Artificial surfaces	7 %	23	55 %	10 893
Agricultural areas	10 %	33	3 %	649
Forest and seminatural areas	53 %	178	21 %	4 070
Wetlands	26 %	86	2 %	437
Water bodies	4 %	13	19 %	3 791
Total number mapped to Finland	100 %	333	100 %	19 840