

# Assessing the Economic Value of Protected Areas with the Help of Visitor Information

**Liisa Kajala**

Metsähallitus Natural Heritage Services, Finland

EUROPARC Conference Workshop #2

**The Economic Value of Protected Areas**

Killarney, Ireland, 1 October 2014



METSÄHALLITUS

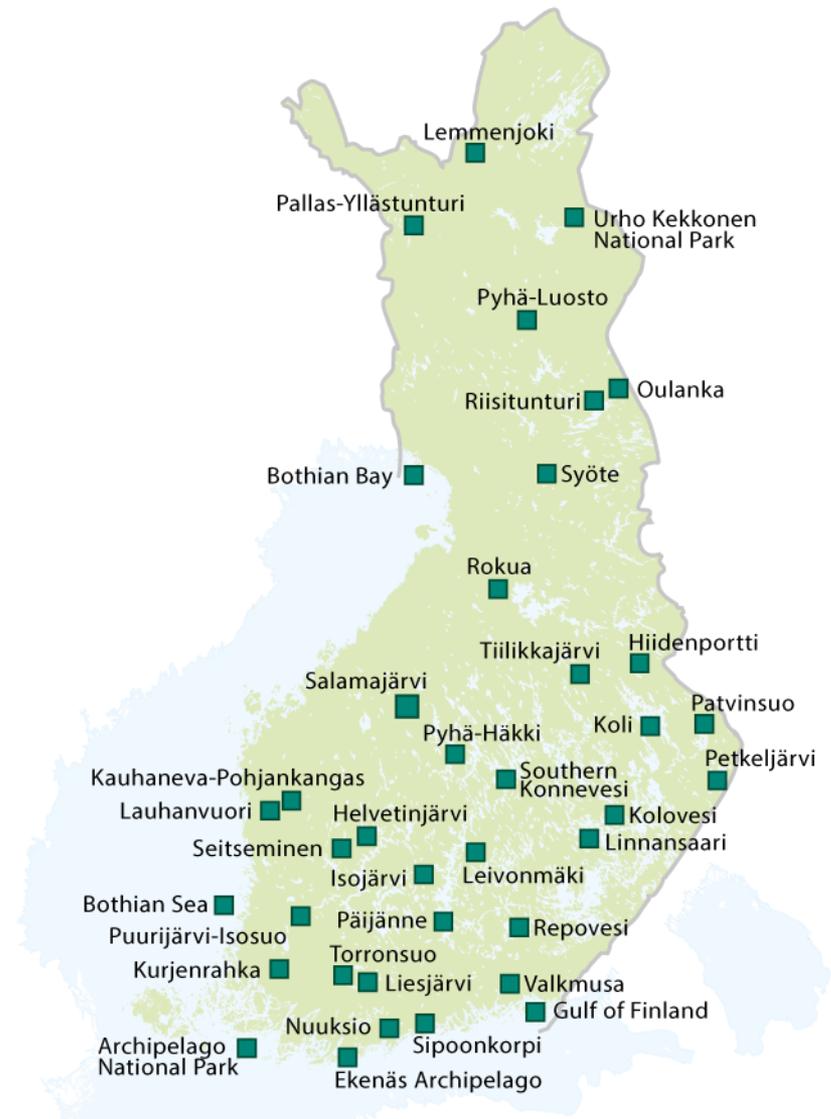
# Contents of the Presentation

- **Demand and supply**
- Data requirements
- Examples on more detailed reports
- Recent development
  - National figures by spending categories
  - Updating the multipliers
- Future development



# Finland's National Parks

- 38 national parks
- 9,789 km<sup>2</sup>
- 2.3 million visits in 2013



# The Most Popular National Parks Are Part of the Appeal of the Tourist Destinations

|               | Number of visits in 2013 |
|---------------|--------------------------|
| Pallas-Ylläs  | 488 400                  |
| Urho Kekkonen | 292 600                  |
| Nuuksio       | 267 400                  |
| Oulanka       | 174 600                  |
| Koli          | 140 600                  |
| Pyhä-Luosto   | 105 500                  |



# Publicly Funded Visitor Facilities

- 28 Visitor Centres



# Publicly Funded Visitor Facilities

- 3,000 campfire and picnic sites
- 2,300 outdoor dry toilets and waste collection points

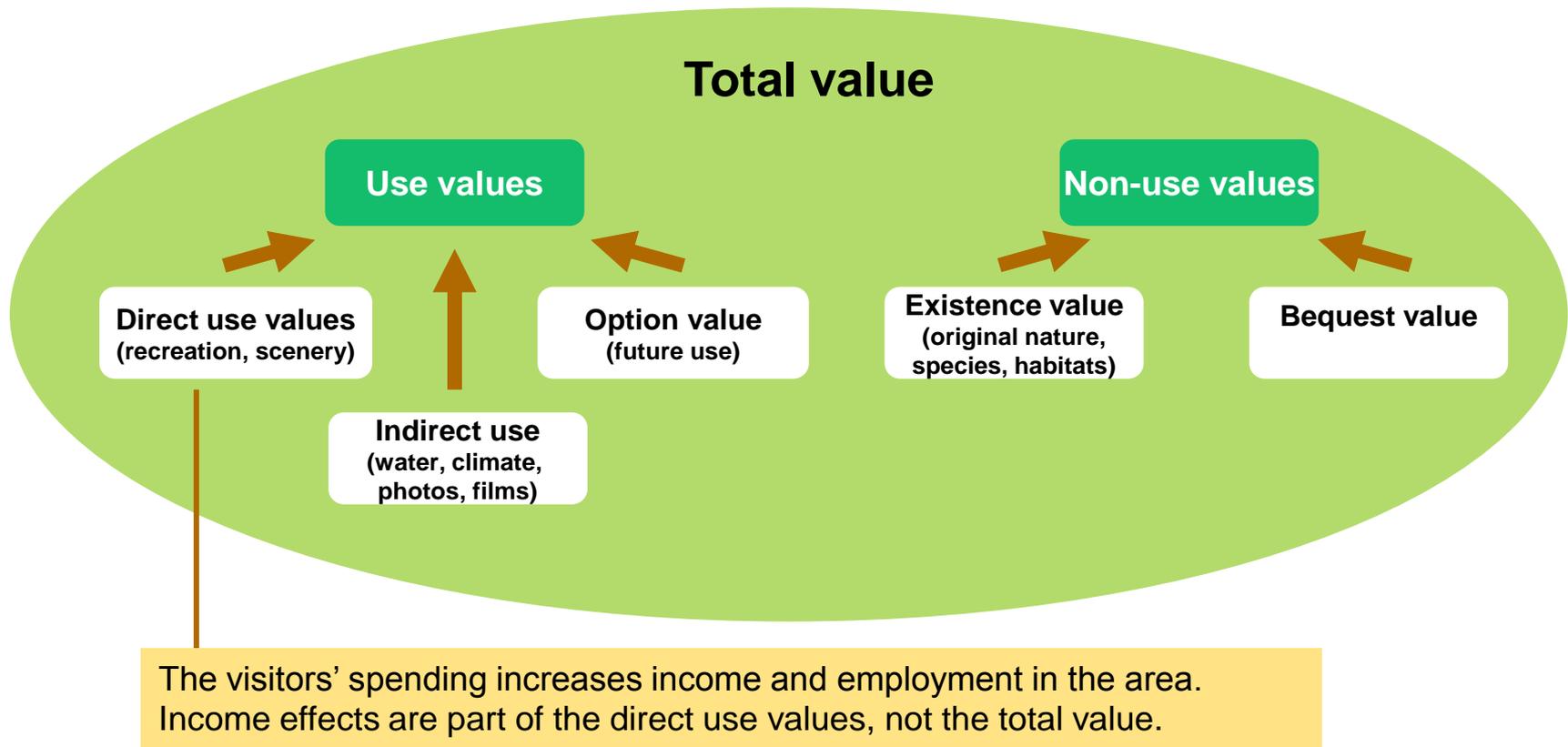


# Publicly Funded Visitor Facilities

- Over 7,000 km of maintained trails



# The Total Value of a National Park



# Local Economic Impacts of Visitor Spending

|                       | Total value |       | Minimum value* |      |
|-----------------------|-------------|-------|----------------|------|
|                       | Million €   | Jobs  | Million €      | Jobs |
| National parks        | 115.5       | 1 484 | 56.2           | 716  |
| National hiking areas | 15.4        | 199   | 8.7            | 113  |

\* **Minimum value** indicates the economic impacts created by the visitors to whom the national park was the only or the most important reason for visit

# Big Differences between the Parks

- The impacts are biggest in Northern Finland in parks located nearby a tourist center
  - **Pallas-Yllästunturi** 34.3 million €, 450 full-time equivalent
  - **Urho Kekkonen NP** 21.6 million €, 284 full-time equivalent
  - **Oulanka** 15.5 million €, 200 full-time equivalent
- In Southern Finland impacts per area smaller but many more areas
- Parks in archipelago regions significant, right after Koli NP, the southernmost “tourist center park”
  - **Koli** 5.8 million €, 77 person years
  - **Archipelago** 4.0 million €, 48 full-time equivalent
  - **Linnansaari** 2.7 million €, 33 full-time equivalent
  - **Tammisaari** 3.2 million €, 39 full-time equivalent

# Reasons for Differences

Differences in

- the amount of visitation (attractiveness, accessibility etc.)
- visitor profiles
- services in the surrounding region



# Contents of the Presentation

- Demand and supply
- **Data requirements**
- Examples on more detailed reports
- Recent development
  - National figures by spending categories
  - Updating the multipliers
- Future development



# What Did We Do?

## An application producing annually

- direct and total income effects (€)
- employment effects (Jobs)

## Easy-to use, practical tool

## Estimate for each national park

## Cumulative, state-level effects

<http://www.metsa.fi/sivustot/metsa/en/Recreation/protectedareaslocaleconomyimpacts/Sivut/default.aspx>



# The More Detailed Data Requirements

Annual number of visits

Visitor spending in the park and its surroundings

- Any spending related to the trip: yes / no?
- Costs per visitor / party?
- In 7 categories (accommodation, restaurants etc.)

Other visitor information

- The importance of the NP as a destination
- Municipality (Country) of residence
- Length of stay
- Size of the party



# Constructing the Multipliers

In Finland: local input-output tables are not easily available but need to be constructed from regional tables with the help of local information

Defining each park's "impact zone"

- Usually the municipalities of location

Classification of the "impact zones" by density of population

→ Four classes (rural, built-up areas, capital, tourism centre)

Deriving average multipliers for each class

- From local input-output tables
- Constructed for 21 parks from regional input-output tables

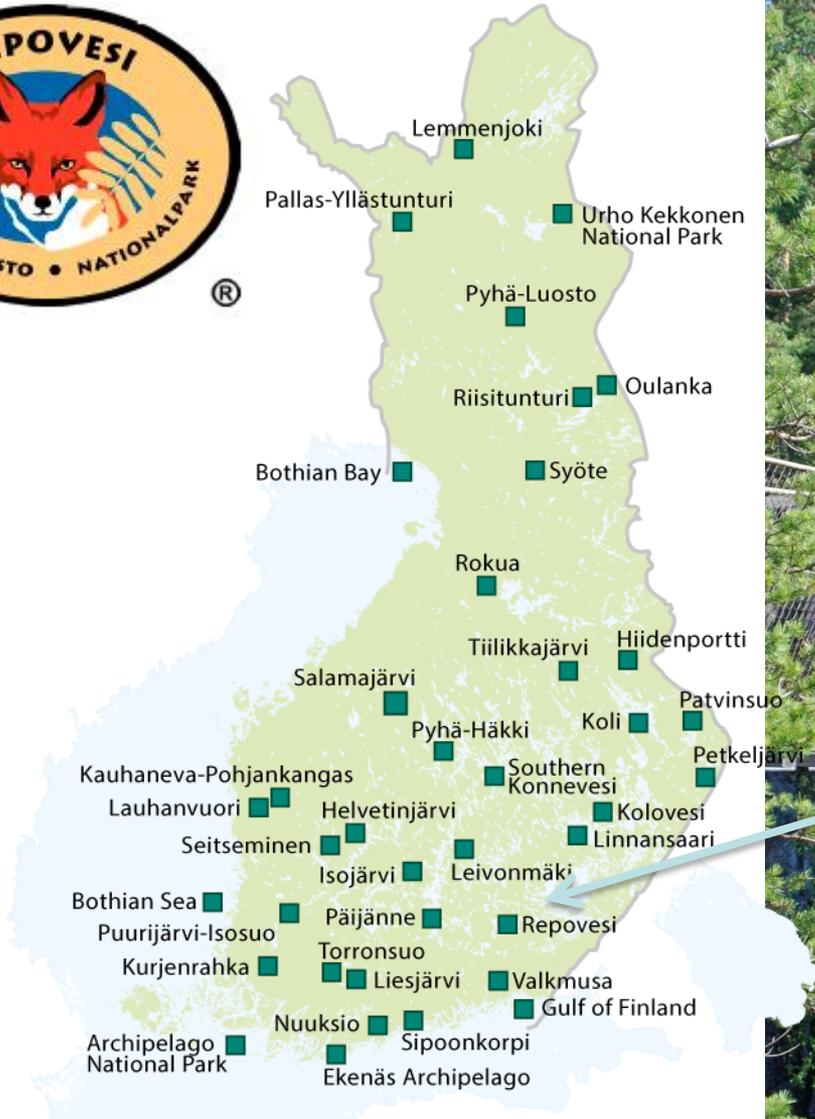
# Contents of the Presentation

- Demand and supply
- Data requirements
- **Examples on more detailed reports**
- Recent development
  - National figures by spending categories
  - Updating the multipliers
- Future development



# Example of a Summary Report: All National Parks Year 2013

| Area                                 | Total Impact of Spending (Mill. €) | Total Impact on Employment (FTE) | Economic Impact When Area Priority Target (Mill. €)* | Impact on Employment When Area Priority Target (FTE)** | Number of Visits |
|--------------------------------------|------------------------------------|----------------------------------|--|--|------------------|
| ...                                  |                                    |                                  |  |  |                  |
| Archipelago National Park            | 4,0                                | 48                               | 2,2  | 26   | 59 100           |
| Salamajärvi National Park            | 0,3                                | 5                                | 0,3  | 4  | 14 700           |
| Seitseminen National Park            | 0,3                                | 4                                | 0,2  | 3  | 39 700           |
| Bothnian Sea National Park           | 1,6                                | 20                               | 0,8  | 9  | 41 200           |
| Sipoonkorpi National Park            | 0,1                                | 1                                | 0,1  | 1  | 96 400           |
| Syöte National Park                  | 2,1                                | 28                               | 1,1  | 14   | 35 600           |
| Tammisaari Archipelago National Park | 3,2                                | 39                               | 0,4  | 5  | 53 000           |
| Tiilikkajärvi National Park          | 0,2                                | 2                                | 0,1  | 1  | 8 500            |
| Torransuo National Park              | 0,3                                | 4                                | 0,0  | 0  | 17 900           |
| Urho Kekkonen National Park          | 21,6                               | 284                              | 10,2   | 134  | 292 600          |
| Valkmusa National Park               | 0,1                                | 1                                | 0,0  | 0  | 9 600            |
| <b>Total Number of Visits</b>        |                                    |                                  |  |  | <b>2 259 800</b> |
| <b>Total Economic Impact</b>         | <b>115,5</b>                       | <b>1 484</b>                     | <b>56,2</b>  | <b>716</b>   |                  |



# Average spending per visitor and per visit, Repovesi NP

## Average per visitor

|                             | All          | Overnight stayers | Day trippers |
|-----------------------------|--------------|-------------------|--------------|
| <b>All visitors, n</b>      | <b>1 077</b> | <b>611</b>        | <b>460</b>   |
| Average spending (€)        | 35           | 50                | 14           |
| <b>Domestic tourists, n</b> | <b>684</b>   | <b>487</b>        | <b>196</b>   |
| Average spending (€)        | 41           | 54                | 11           |
| <b>Foreign tourists, n</b>  | <b>69</b>    | <b>60</b>         | <b>9</b>     |
| Average spending (€)        | 36           | 41                | -*           |
| <b>Local people, n</b>      | <b>287</b>   | <b>36</b>         | <b>246</b>   |
| Average spending (€)        | 16           | 22                | 15           |

\*  $n < 10$

Visitor counting applied: Repovesi NP visits year 2013

Visitor survey applied: Repovesi NP visitor survey years 2013-14

## Average per visit

|                             | All          | Overnight stayers | Day trippers |
|-----------------------------|--------------|-------------------|--------------|
| <b>All visitors, n</b>      | <b>1 077</b> | <b>611</b>        | <b>460</b>   |
| Average spending (€)        | 31           | 45                | 14           |
| <b>Domestic tourists, n</b> | <b>684</b>   | <b>487</b>        | <b>196</b>   |
| Average spending (€)        | 37           | 47                | 11           |
| <b>Foreign tourists, n</b>  | <b>69</b>    | <b>60</b>         | <b>9</b>     |
| Average spending (€)        | 33           | 38                | -*           |
| <b>Local people, n</b>      | <b>287</b>   | <b>36</b>         | <b>246</b>   |
| Average spending (€)        | 16           | 22                | 15           |

\*  $n < 10$

Visitor counting applied: Repovesi NP visits year 2013

Visitor survey applied: Repovesi NP visitor survey years 2013-14

# Local economic impacts by spending categories and visitor types, Repovesi NP

| Spending category                        | Domestic tourists<br>n = 684       |                                  | Foreign tourists<br>n = 69         |                                  | Local people<br>n = 287            |                                  | Total<br>n = 1 040                 |                                  |
|--|------------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------------------|----------------------------------|
|  | Income effect<br>(€, VAT excluded) | Employment effect<br>(Jobs, FTE) | Income effect<br>(€, VAT excluded) | Employment effect<br>(Jobs, FTE) | Income effect<br>(€, VAT excluded) | Employment effect<br>(Jobs, FTE) | Income effect<br>(€, VAT excluded) | Employment effect<br>(Jobs, FTE) |
| Gasoline and other gas station purchases | 35 529                             | 0,6                              | 917                                | 0,0                              | 7 045                              | 0,1                              | 43 491                             | 0,7                              |
| Local traffic                            | 11 191                             | 0,1                              | 12 764                             | 0,1                              | 914                                | 0,0                              | 24 869                             | 0,3                              |
| Groceries, other retail shopping         | 191 107                            | 3,1                              | 13 428                             | 0,2                              | 45 642                             | 0,7                              | 250 177                            | 4,0                              |
| Cafes and restaurants                    | 236 602                            | 4,3                              | 27 214                             | 0,5                              | 42 519                             | 0,8                              | 306 336                            | 5,5                              |
| Accommodation                            | 471 946                            | 8,5                              | 64 230                             | 1,2                              | 51 961                             | 0,9                              | 588 138                            | 10,6                             |
| Programme services                       | 45 063                             | 0,5                              | 4 712                              | 0,0                              | 14 726                             | 0,2                              | 64 500                             | 0,7                              |
| Other spendings                          | 94 341                             | 1,5                              | 13 993                             | 0,2                              | 14 792                             | 0,2                              | 123 127                            | 2,0                              |
| <b>Sum of direct effects</b>             | <b>1 085 779</b>                   | <b>19</b>                        | <b>137 259</b>                     | <b>2</b>                         | <b>177 599</b>                     | <b>3</b>                         | <b>1 400 637</b>                   | <b>24</b>                        |
| Indirect effects                         | 827 728                            | 5                                | 104 238                            | 1                                | 131 937                            | 1                                | 1 063 903                          | 6                                |
| <b>Total effects</b>                     | <b>1 913 508</b>                   | <b>24</b>                        | <b>241 497</b>                     | <b>3</b>                         | <b>309 536</b>                     | <b>4</b>                         | <b>2 464 540</b>                   | <b>30</b>                        |

# Local economic impacts by spending categories and visitor types, Repovesi NP

| Spending category                        | Day trippers<br>n = 460            |                                  | Overnight stayers<br>n = 611       |                                  | Total<br>n = 1 071                 |                                  |
|--|------------------------------------|----------------------------------|------------------------------------|----------------------------------|------------------------------------|----------------------------------|
|  | Income effect<br>(€, VAT excluded) | Employment effect<br>(Jobs, FTE) | Income effect<br>(€, VAT excluded) | Employment effect<br>(Jobs, FTE) | Income effect<br>(€, VAT excluded) | Employment effect<br>(Jobs, FTE) |
| Gasoline and other gas station purchases | 11 460                             | 0,2                              | 31 961                             | 0,5                              | 43 421                             | 0,7                              |
| Local traffic                            | 261                                | 0,0                              | 23 888                             | 0,3                              | 24 149                             | 0,3                              |
| Groceries, other retail shopping         | 49 889                             | 0,8                              | 203 124                            | 3,3                              | 253 013                            | 4,1                              |
| Cafes and restaurants                    | 62 902                             | 1,1                              | 238 946                            | 4,3                              | 301 847                            | 5,5                              |
| Accommodation                            | 62 999                             | 1,1                              | 569 731                            | 10,3                             | 632 731                            | 11,4                             |
| Programme services                       | 17 627                             | 0,2                              | 45 006                             | 0,5                              | 62 633                             | 0,7                              |
| Other spendings                          | 16 850                             | 0,3                              | 108 070                            | 1,7                              | 124 921                            | 2,0                              |
| <b>Sum of direct effects</b>             | <b>221 987</b>                     | <b>4</b>                         | <b>1 220 727</b>                   | <b>21</b>                        | <b>1 442 715</b>                   | <b>25</b>                        |
| Indirect effects                         | 165 848                            | 1                                | 931 945                            | 6                                | 1 097 792                          | 7                                |
| <b>Total effects</b>                     | <b>387 835</b>                     | <b>5</b>                         | <b>2 152 672</b>                   | <b>26</b>                        | <b>2 540 507</b>                   | <b>31</b>                        |

# Contents of the Presentation

- Demand and supply
- Data requirements
- Examples on more detailed reports
- **Recent development**
  - National figures by spending categories
  - Updating the multipliers
- Future development



# Updating of the multipliers

|                              | Total Income Effect (Million €) | Employment effect (Jobs, FTE) |
|------------------------------|---------------------------------|-------------------------------|
| Effects with old multipliers | 115.5                           | 1,484                         |
| Effects with new multipliers | <b>111.1</b>                    | <b>1,107</b>                  |
| Change, € / Jobs             | -4.4                            | -377                          |
| Change, %                    | -3.8                            | -25,4                         |

# National effects

| Spending category                        | Economic effects with new multipliers (Mill. €) | Employment effects with new multipliers (Mill. €) | Employment effects with old multipliers (Jobs, FTE) |
|--|---|---|---|
| Gasoline and other gas station purchases | 0.6   | 5   | 19  |
| Local traffic                            | 2.7   | 26  | 24  |
| Groceries, other retail shopping         | 6.9   | 101   | 169   |
| Cafes and restaurants                    | 14.4  | 192   | 241   |
| Accommodation                            | 36.8  | 498   | 614   |
| Programme services                       | 3.4   | 38  | 33  |
| Other spendings                          | 4.4   | 49  | 66  |
| <b>Sum of direct effects</b>             | <b>69.0</b>                                     | <b>922</b>  | <b>1179</b>   |
| Indirect effects                         | 42.1  | 182   | 308   |
| <b>Total effects on local economies</b>  | <b>111.1</b>                                    | <b>1,107</b>                                      | <b>1,484</b>  |
| Indirect effects elsewhere in Finland    | 88.9  | 267   |   |
| <b>Total effects on national economy</b> | <b>200.0</b>                                    | <b>1,374</b>                                      |   |

# Contents of the Presentation

- Demand and supply
- Data requirements
- Examples on more detailed reports
- Recent development
  - National figures by spending categories
  - Updating the multipliers
- **Future development**



# Ideas for future development of the model

- New reports and calculations:
  - In addition to local effects also national indirect and direct effects into the model (now calculated only for year 2013 as part of a research project)
  - Report on visitor spendings per park (now per visitor and per visit)
  - Report where in addition to output (€) labour income and value added

Possible to produce park specific multipliers

# More information

## Finland

<http://www.metsa.fi/sivustot/metsa/en/Recreation/protectedareaslocaleconomyimpacts/Sivut/default.aspx>

## The United States

<http://www.nature.nps.gov/socialscience/economics.cfm>



**Thank you!**

[liisa.kajala@metsa.fi](mailto:liisa.kajala@metsa.fi)