



## Learning for Lakes:

Tourism Case Study



**Title:** Island of Mainau – Environmental Management for a Complex Tourist Attraction

**Location:** Lake Constance (Germany)

**Period:** 1998 - now

**Organisations:** Mainau GmbH

**Budget:**

### Location and Background

The Island of Mainau is one of the main tourism attractions of the Lake Constance region. Each year, over 1.2 million visitors enjoy the Arboretum, which contains approximately 500 different species of trees, some of them very rare species. The highlights of the island include flower gardens, which change according to the season: large fields of tulips, hundreds of different species of roses, azaleas, dahlias, and many more. The Island of Mainau employs 180 individuals permanently and 220 additional individuals during the high season (2009). Tourism services include 7 restaurants with a capacity for 2.200 people, 8 souvenir shops, a butterfly house with tropical butterflies and the castle of the royal owners of the island, which hosts exhibitions and concerts.

### Problems/Issues and Causes of Issue

The high number of visitors puts a lot of stress on the island's sensitive ecosystem. The people's vehicles produce a lot of emissions and the energy consumption (electricity, heating, etc.) increases with the number of tourists. In addition, noise pollution disturbs nesting birds and natural habitats get lost. Furthermore, there is an increasing drinking water consumption and waste water production.

### Organisations Involved

The tourism development of the Island Mainau is managed by Mainau GmbH.

## Actions Taken

In 1998, the island implemented the environmental management system EMAS covering the whole island and all functional areas and services. The environmental programme includes more than 50 measures focusing on:

- Energy consumption, renewable energies, energy efficiency
- Reduction of fuel and emissions produced by the fleet of vehicles
- Reduction of noise
- Reduction of (drinking) water consumption and the volume of waste water
- Biodiversity protection

The main objectives of the environmental policy of Mainau are 100 % of renewable energy consumption by the end of 2014 and a significant contribution to the protection of biodiversity by a wide range of measures: the extension of organic agriculture and wine production, sustainable forestry (FSC certified), the creation of habitats for songbirds and bats, the installation of nesting boxes, the protection of insects by increasing the number of insect friendly street lights, the de-sealing of roads, the reduction of peat cutting by purchasing only plants for flower beds grown on a 30 % compost (AE) structure, the reduction of mineral fertilisers, the increase of certified organic menus and 100 % fair trade coffee in all Mainau restaurants. In order to reduce noise pollution, lawnmowers without combustion engines will be introduced. The waste water is pre-treated in a sewage treatment plant before it is sent to the main treatment plant in the City of Constance. In addition, the purchase of environmentally friendly produced plants will continuously be increased.

Further information available on: <http://www.mainau.de/aktuelles.html> (German only).

## Maintenance and Monitoring

Mainau GmbH is a private company operating according to market principles. The company's goal and commitment is to achieve an economic as well as ecological balance. Mainau GmbH not only complies with the applicable environmental regulations, but also promotes a continuous operational improvement.

## Results and Benefits

In terms of energy consumption the following results have been achieved so far: in 2011 a wood gasification plant was introduced. Together with the already installed woodchips heating system, the Island of Mainau produces 60% of its consumed heat from renewable energy sources. The remaining demand is covered by two efficient, natural gas operated cogeneration plants. Thanks to the installed photovoltaic systems and the green electricity supplied by the Stadtwerke Konstanz GmbH, also around 65% of the required electricity is generated from renewable energy sources. Again, the two cogeneration plants provide the remaining electricity demand. In addition, management strategies for the reduction of power consumption are being developed.

In 2006, the Island of Mainau was awarded the European EMAS Award for small and medium organisations because of the excellent internal and external communication of the environmental management system and the achievements.



## Lessons Learnt

The Mainau GmbH's annual turnover of around €24 million shows that investing in sustainable tourism strategies pays back.

## References:

Canalicchio et al. (2011) *SLOWTOUR Manual on Excellence of Lake Tourism in Europe* Castiglione del Lago: BRUGI communication, pp. 77-79.

<http://www.mainau.de/>

**Credits:** Silvia Jablonski, Global Nature Fund; Marion Hammerl, Global Nature Fund; Greta Link, Global Nature Fund; Dr. Thomas Schaefer, Global Nature Fund; Nina Bastian, Global Nature Fund