

# Establishing and implementing a local biodiversity strategy and action plan

## In a nutshell

SUMMARY
It is best practice to introduce a local biodiversity strategy and action plan whose goals and objectives can be defined thanks to dialogue with experts, stakeholders and residents. The action plan needs to include the measures to be implemented, timelines, budget available, milestones, partnerships for implementation and responsibilities. The results of the action plan can be promoted and disseminated to inhabitants and stakeholders to raise awareness.
Target group
Public administrations responsible for the management of green urban areas.
Applicability
This best practice is applicable to all public administrations responsible for the management of green urban areas.
Environmental performance indicators
<ul style="list-style-type: none"><li>● Percentage and number of native species (for different categories of species, e.g. birds, butterflies) in the urban area (%)</li><li>● Percentage of natural and semi-natural areas in the urban area out of the total urban area (%)</li><li>● Green space per inhabitant (m<sup>2</sup>/inhabitant) – distinguishing between urban, semi-urban and rural areas</li></ul>
Benchmarks of excellence
N/A

## Description

It is best practice to introduce a local biodiversity strategy and action plan (LBSAP) whose goals and objectives can be defined thanks to dialogue with experts, stakeholders and residents. The action plan needs to include the measures to be implemented, timelines, budget available, milestones, partnerships for implementation and responsibilities. The results of the action plan can be promoted and disseminated to inhabitants and stakeholders to raise awareness. The Local Biodiversity Strategy and Action Plan (LBSAP) is a useful instrument that can be used by the Local Authorities/Public Administration for outlining a broad strategy and implementing specific actions in order to protect and eventually enhance the local biodiversity. However, the linkage between cities or urban areas and biodiversity is a rather complex issue. It has been reported that even though cities occupy only approximately 2% of the total earth's land surface, over 50% of today's world population lives in cities, which is estimated to rise up to 90% by the year 2100 (Puppim de Oliveira et al., 2011; Puppim de Oliveira et al., 2014). Therefore it is important to compile appropriate local biodiversity plans in order to maintain the biodiversity aspects in and around the cities.

The methodology to implement a LBSAP is described in the next paragraphs.

Initially, the goals/objectives of the LBSAP and the overarching strategy should be precisely defined by the public administration staff. The aforementioned elements can be formulated through dialogue with experts and stakeholders, public debates, targeted workshops etc. A wide range of actions should be discussed/proposed during the external dialogue with stakeholders and experts, which range from the collection of primary data like number and population and the kind of the native species in the given examined territory to set quantitative (if feasible) targets for conservation and restoration. Some representative (non-exhausted list) actions of a LBSAP are in-depth listed below (ICLEI, 2013; Puppim de Oliveira et al., 2014):

- Assessment of the biodiversity (e.g. species, crop/plant varieties), habitat and management within the territory, ongoing restoration and rehabilitation of degraded areas and control of invasive areas etc.
- Assessment of the conservation status of species within ecosystems
- The formulation of priorities within the given territory together with specific biodiversity targeted actions<sup>[1]</sup>
- The formulation of the targets (either short/medium or long-term goals) for conservation and restoration
- The compilation of an entire plan including timelines, budget available, milestones, partnerships for implementation and their responsibilities

Another supplementary but important step is the communication of the LBSAP to the citizens and/or stakeholders of the given territory.

The next step is that public administration should ensure the promotion of the outcomes regarding biodiversity as well as their effective implementation. Raising awareness actions must be undertaken by the public administration in order to increase the community's understanding and awareness of biodiversity issues that affect the city and can thus impact on the lifestyle of the inhabitants. The successful implementation of the LBSAP plan is ensured by the participation of the community and the potential establishment of partnerships and collaboration with relevant organisations, NGO's etc. (ICLEI, 2013).

The LBSAP plans can be implemented easily by the local authorities due to access to many planning, financial and regulatory instruments. Those instruments can also be used for the promotion of the strategy to be followed. A (non-exhaustive) list of such instruments is listed below (ICLEI, 2010):

- Local government plans including plans for land-use, housing development, environmental management, infrastructure and economic development
- Public consultation
- Financial incentive measures including tax incentives, property tax rebates, grants
- Non-financial incentive measures including recognition and local award schemes, training and technical support
- Market-based incentives such as procurement policies, biodiversity offsets and sustainable ecotourism
- Disincentive measures to discourage activities that are harmful to biodiversity such as imposing fines and penalties
- Establishment of protected natural spaces

One way of implementing the LBSAP strategy is to create a stepwise guidebook including all the important steps that have to be undertaken by the public administration. In particular, a range of proposed actions can be prescribed such as the expansion of protected areas, implementation of awareness campaign, the restoration of degraded habitat(s) and/or the adoption/establishment of specific regulations or local rules (UNU-IAS, 2007; ICLEI, 2013). Table 1 presents an entire structure of the LBSAP showing the important steps, the proposed actions together with few suggestions (UNU-IAS, 2007). Afterwards, a new table (for instance Table 2) can be prepared that provides the information on how each action has to be undertaken and by whom and if possible to find funds.

**Table 1: Stepwise guidebook on structuring the LBSAP on different stages; specific actions and suggestions are also presented (UNU-IAS, 2007)**

Action	Description/Suggestions
<i>Planning stage</i>	
Identify the region to be applied	
Set the timeframe for the LBSAP preparation	The preparation stage should not be a long process; a very long duration may result in further delays
Identify potential sources of funding the LBSAP	The availability of different funding sources must be deeply investigated
Set the goal(s) and objectives	<p>The goal(s) should be very clear aiming at the conservation of the biodiversity, sustainable use of biodiversity and sharing the benefits to the inhabitants</p> <p>Regarding objectives, protect the rare endemic species (fauna and flora)</p> <p>Reconsider the old goals and objectives (if exist)</p>
Stakeholder involvement; ensure their participation	Identify the relevant stakeholder and ensure their involvement during the process
Identify key issues for action	They key actions may differ from area to area; should be distinguished into short and long-term actions
Develop strategies to integrate biodiversity conservation and local development	An example can be the reform of the land use of the given territory i.e. rules to reconsider the residential development etc.
<i>Preparation stage</i>	
Review of secondary information	Analysis of earlier management plans (if exist) and other legal instruments (if any)
Drafting the LBSAP	The plan should be written in a comprehensive and sound way
Review and external consultation	Organise workshops or set up dialogue with the stakeholders and experts
Finalise the LBSAP	
<i>Implementation stage</i>	
Raise the awareness on the LBSAP	Some examples: run awareness campaigns of the LBSAP, organise appropriate (biodiversity) trainings etc.
Monitor the implementation	Staff from public administration should be in charge of the implementation of the LBSAP, e.g.: looking for funding possibilities, checking the milestones and timeframe to be met, developing appropriate indicators to monitor the progress

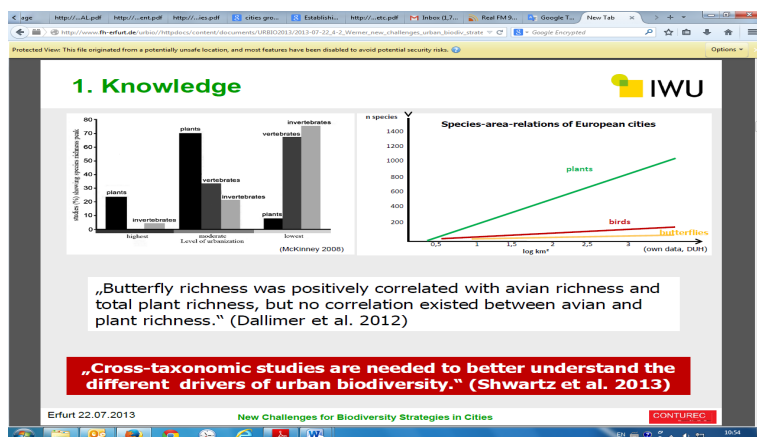
**Table 2: Establishment of LBSAP strategy; focus on how actions can be implemented and by whom; some actions are presented as examples (actions act as an example, the list is not exhaustive)**

Actions	How might be done	Who	Funding
Inventory of local species that are threatened or at risk	Desktop research Monitoring results (if exist) Local knowledge and observations (primary data obtained)	Regional council Stakeholder and/or experts groups Association or other groups/societies in the analysed territory	Investigation
Make biodiversity information available to all council staff	Make information available on the (regional) council Produce dissemination materials	Stakeholder and/or experts groups Regional council	Investigation
Identify high priority or high risk sites for conservation	New sightings and fields assessments	Stakeholder and/or experts groups	Investigation

[1] Each enclosed action should be well and clearly designed in terms of the successful implementation (i.e. which organisation is going to implement it, in which timeframe, under which context etc.). Moreover the funding requirements and potential funding sources should also be mentioned (ICLEI, 2013).

## Environmental benefits

The conservation of biodiversity is an important task within the municipalities. In Figure 1 the relation between number of species and area in the European cities is illustrated whereas in Figure 2 the percentage of species in relation to the level of the urbanisation is also depicted (Werner, 2013). As a general remark, from both figures it is resulted that the number of species increases in non-compacted cities or in areas with low level of urbanisation (Werner, 2013).



**Figure 1: Number of species in relation to the area of European cities (Werner, 2013)**

**Figure 2: Percentage of studies showing species richness peak in relation to level of urbanisation (McKinney, 2008; Werner, 2013)**

Another significant benefit of the formulation of LBDAP is the creation of a healthy and attractive living environment for the inhabitants. In particular, the improvement of the health and wellbeing of the inhabitants within cities is well achieved (DEFRA, 2007).

Furthermore LBSAP contributes to the establishment of natural habitat, which perform best in terms of the climate change impact (DEFRA, 2007).

## **Side effects**

There no reported cross media effects from the implementation of LBSAP.

## **Applicability**

The compilation and development of biodiversity plans and strategies is a fully applicable best practice by the public administration. However, the success of those plans and strategies is highly influenced by their practicability as well as the priorities set according to the needs of the public administration. Likewise, the frequency of the dialogue with the external stakeholders and experts (from the given examined territory), the elaboration and eventually the implementation of the selected biodiversity measures as well as the continuous staff involvement from the public administration are important key elements, which are responsible for the LBSAP success (Werner, 2013).

## **Economics**

It is rather difficult to provide economic figures regarding the development and formulation of a LBSAP. However, it should be noted that public administration has access to several financial instruments that might be used either for the formulation or for the implementation of the proposed biodiversity actions (described in LBSAP).

The healthy and sustainable ecosystems create economic benefits increasing land value through improved landscape by providing a valuable tourism. Therefore there is the possibility for absorbing the costs for the preparation of the LBSAP by the significant outcomes and benefits.

## Driving forces for implementation

The LBSAP is a valuable tool that can contribute to build a sustainable city. In particular they are important tools, which contribute to the conservation of the biodiversity in a given territory as well as contributing to the improvement of the wellbeing within the cities.

## Reference organisations

ICLEI (Local Governments for Sustainability) provides a good portal for the required information concerning biodiversity actions within cities. In the following website more relevant information can be found: <http://www.iclei-europe.org/topics/biodiversity/>.

The entire LBSAP for Barcelona city is online available at: [https://w110.bcn.cat/MediAmbient/Continguts/Documents/Documentacio/BCN2020\\_GreenInfraestructureBiodiversityPlan.pdf](https://w110.bcn.cat/MediAmbient/Continguts/Documents/Documentacio/BCN2020_GreenInfraestructureBiodiversityPlan.pdf)

## Literature

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