

3 Ways to Restore, Maintain, and Improve Cities

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Background

- Urban parks and forests are essential for maintaining healthy cities
- These tend to be severely degraded due to urban pressures (e.g. air pollution, water pollution)
- It is critical for organizations to have well-conceived plans to carry out effective restoration projects
- The purpose of this study was to find out what projects consist of and what techniques are used to ensure successful outcomes

Research Question:

What are the main components of effective urban ecological restoration projects?

Internship/Methods

- Worked hands on to restore a section of the North Beacon Hill Greenbelt at Cheasty green space with Green Seattle Partnership (GSP).
- Responsibilities: Plant ID, invasive species removal, building and disassembling racks for drying out invasives, preparing cleared areas for planting, and planting desired native species (see fig. 1 and 2)



Figure 1 Planting shrubs after clearing an area (Moran)



Figure 2 Tools provided by GSP e.g. shovels, buckets, pitchforks, clippers, mattocks, etc. (Moran)

- Literature review of urban ecological restoration resources
- Distributed online survey to GSP Forest Stewards to gauge their perspective on urban forest restoration projects

Results

In order to reach the highest level of ecosystem recovery possible, restoration projects should:

- 1.) Draw on diverse types of knowledge: e.g. acquired practitioner knowledge, Traditional Ecological Knowledge, local ecological knowledge and scientific evidence/data (see fig. 3)

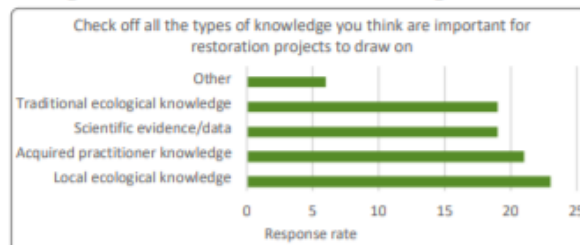


Figure 3 Survey question and response rate

- 2.) Identify Native Reference Ecosystems to serve as a guide for planning projects and a benchmark for evaluating success (see fig. 4)

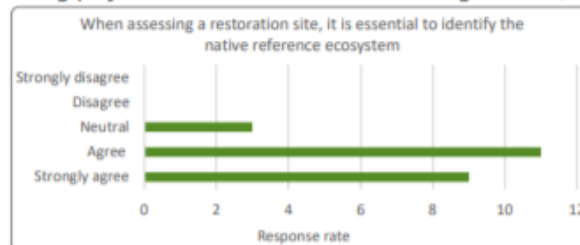


Figure 4 Survey question and response rate

- 3.) Have a flexible plan with similar components: a vision, measurable goals and objectives, stakeholder involvement, a timeline that outlines activities/responsibilities, and a plan for maintenance and monitoring to evaluate how well objectives have been met

- Plans can be adapted to the size, complexity, degree of degradation, status, and budget of any project (see fig. 5)

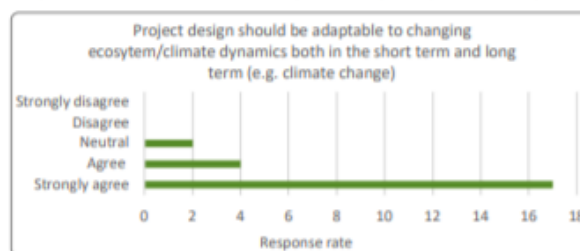


Figure 5 Survey question and response rate

Significance

Adopting these three standards of ecological restoration can help organizations like GSP reach the highest level of ecosystem recovery possible (see fig. 6)



Figure 6

- Effective restoration helps cities take advantage of natural processes which saves money, energy, and resources
- These 3 standards are intended to provide guidance for how to design, implement, and assess restoration projects while recognizing that not all activities are applicable to all projects
- This information can be used as a tool to improve current and future restoration projects to maximize the ecological and social benefits from urban ecological restoration (see fig. 7)



Figure 7 Participants of the 2nd annual MLK work party at Cheasty (Poole)

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