BSC GROUP

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Nature-Based Solutions Implementation Resource Guide

Nature-based Solution (NbS): Food Production and Forage

Project Number per matrix: **25**

PREREQUISITES

- Approval of Town or City Conservation Commission.
- Permitting review of local new construction regulations.
- Forest management partner.
- Review EOEA MVP Pocket Forest how to and Maintenance Guide (see links below). Appendices include recommendations for species selection, sourcing, and planting methods.

RECOMMENDED IMPLEMENTATION STEPS

- **Project Planning and Administration**
  - When designing a permaculture garden or wild foods landscape, plants are chosen based on their ability to perform multiple functions within the ecosystem, such as nitrogen fixation, pollinator attraction, soil improvement, pest control, and habitat creation.
  - Emphasis is placed on selecting plants that provide edible yields, including fruits, vegetables, herbs, nuts, and perennial crops. Both native and non-invasive exotic species may be considered, focusing on varieties that are well-suited to the local climate and soil conditions.
  - Assess bordering threats such as the proximity of established invasive seed sources.
  - Ensure access to temporary establishment irrigation.

- **NbS Installation**
  - Plant species selections should be chosen to create beneficial relationships between different species. This includes companion planting, where plants with complementary characteristics are grown together to enhance growth and minimize pest issues.
  - The plant palette is designed to achieve vertical and horizontal layering, mimicking the structure of natural ecosystems. An ideal planting palette will incorporate trees, shrubs, groundcovers, and climbing plants to optimize space, light, and resource utilization.
  - Permaculture gardening favors polyculture, where diverse plant communities coexist. This approach increases resilience, biodiversity, and overall ecosystem health.
  - Plant selections consider the specific site conditions, including soil type, moisture levels, sun exposure, and microclimates. Native species and locally adapted varieties are preferred for their ability to thrive in the local environment.
  - Permaculture gardening incorporates principles such as organic cultivation, water conservation, soil regeneration, and minimal use of synthetic inputs to ensure long-term sustainability and ecological harmony.

- **Maintenance**
  - Regular annual monitoring and maintenance will be required.

NATURE-BASED SOLUTION SPECS

- Typical project size: N/A

BUDGET ESTIMATE

- Typical project budget (order of magnitude): N/A
- Use the BSC Group Nature-based Solutions budget tool to develop more detailed concept budgets

SCHEDULE ESTIMATE

- 3-year establishment.
- Three times-annual maintenance during establishment. Annual maintenance after the initial 3-year period.
- Annual assessment and adjustment with supplemental plantings.

LINKS

- **https://pdf.usaid.gov/pdf_docs/PA00KWCK.pdf**
- **https://extension.usu.edu/permaculture/files/IntroToPermaculture_RoslynnBrain_BlakeThomas.pdf**