A Monarch’s View of the City:
Conservation Design for Monarchs in Developed Areas
Does nature need cities?
### Guides & templates

#### Framework for planning
- Urban Monarch Conservation Guidebook
- Social survey and interview guide (English & Spanish)
- Best practices by land use type
- Rapid color guide: Creating monarch habitat in your Midwestern garden

#### Sampling & mapping tools
- Urban milkweed baseline Tool
- Urban scenario planning Tool
- Natural areas sampling protocol
- Metro transect methodology
- Maps and conservation designs for pilot cities

[fieldmuseum.org/monarchs](http://fieldmuseum.org/monarchs)
Milkweed scenario modeling

Diagram:
- Land cover
- Land use
  - Plantable space by land use
    - Census blocks
    - Fieldwork Metro transects
  - Baseline milkweed estimate by census block
- Enhanced sites
- Social science data
  - User input adoption rates
    - Future scenario estimates
  - Baseline milkweed estimate by census block
Baseline milkweed stems by metropolitan area

- Chicago: 18,720,672 stems, 1.9 M acres
- Twin Cities: 13,052,765 stems, 2.6 M acres
- Kansas City: 6,633,682 stems, 2.4 M acres
- Austin: 2,559,354 stems, 0.4 M acres

Total estimated stems: 41,000,000
Total analysis acreage: 7.3 M acres
Potential plantable space by land use type: Chicago metro region
Social world of monarch conservation

- Information
- Materials
- Beliefs
- Perceptions
- Values
- Power
- Action
- Motivation
- Learned practices
- Time
- Seeds
Best practices and insights by land use type

Example/demonstration habitat spaces go far in educating others and encouraging them to create monarch habitat.

Home gardens and adjacent green space often function as informal **environmental education** spaces. Native plants spark conversation among neighbors and may inspire others to create monarch habitat. These conversations may build local **social cohesion**.

Creating habitat for monarchs or pollinators may seem less daunting and more concrete than other, broader ecosystem services goals where the results are less immediately visible or tangible (e.g., **conserving water**).

However, focus on a particular species may deter those concerned about restrictions that official "threatened" or "endangered" designations could bring. In these cases, it may be more effective to frame a project in terms of **overall ecological health** and/or connect it to practical concerns like **occupational safety** and **decreased mowing costs**.

One-on-one in-person communication is a highly effective method of education/promotion of monarch-friendly practices.

Hands-on, up-close encounters with monarchs and their host plants are most compelling when educating people about monarchs and creating habitat. The next best option is compelling video and/or photos.

To create a landscape that will be received well by its occupants and neighbors, be flexible and willing to balance native plants with more manicured plantings that signal awareness of mainstream aesthetic conventions.

Learning about monarchs promotes **observational skills** and **knowledge of geography** in youth. Children end up learning about more ecology and conservation more broadly, and that they can have a positive impact on their environment.

Plants used for **stormwater management** efforts such as bioswales and rain gardens may also provide monarch habitat; thus stormwater related grants and resources may be leveraged to help the monarch.
### Best practices and engagement insights

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Milkweed Scenario Modeling

Millions of stems of milkweed
[Chicago Metropolitan area]
Steps for running the scenario planning tool

1. Zoom to research area.
2. Open baseline map.
3. Select census blocks for your area of interest.
4. Run the scenario planning tool.
How the scenario planning tool works: Case study Village of Glenview
Glenview: Flooding and green infrastructure improvement projects also create monarch habitat
Green space conversions: Case study of vacant lots and public schools in Cook County, IL
Scenario planning: Vacant lots

Vacant Lots
(Cook County / Chicago)

Example conversion of vacant land

20% land owner adoption results in 296,000 added stems

Milkweed Stems
- Existing Stems
- Forecasted Stems

Piet Oudolf
Scenario planning: Public schools

Public and private schools (Cook County / Chicago)

Example conversion of school green space

20% of public school green spaces results in 38,000 added stems

Milkweed Stems
- Existing Stems
- Forecasted Stems
Next steps

Learning from all of you as we begin to...

- Translate this effort to work in small and mid-sized cities (Peoria, Lincoln, Carbondale)

- Test out best practices for engaging different stakeholders in cities (South Chicago & Gary, IN)

- Understand how to connect and support pollinator work across urban intersections
Next steps

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