Schoolyard Habitat Resource Guide

A comprehensive compilation of program information, gardening resources, and sample documents for quick and easy reference throughout the Schoolyard Habitat project.
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Timeline
## Schoolyard Habitat Implementation Timeline - Stamford/Greenwich

<table>
<thead>
<tr>
<th>November</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brainstorm ideas</strong></td>
<td>“good for people, good for wildlife”</td>
<td>Review challenges and successes from year 1 - are there any urgent problems to address? What went really well?</td>
<td>Walk through habitat, are there any concerns?</td>
</tr>
<tr>
<td><strong>Go over logistics</strong></td>
<td>$3000 budget, unveiling in early June, do they want to manage $ themselves or should CG do it?</td>
<td>Review budget - is there remaining $ from year 1?</td>
<td>Review maintenance plan - is it working?</td>
</tr>
<tr>
<td><strong>Introduce guide</strong></td>
<td>Encourage them to download and print additional copies</td>
<td>Go over walk-through worksheet and make sure everyone has a copy</td>
<td>Set goals for year 3</td>
</tr>
<tr>
<td><strong>Set meeting dates</strong></td>
<td>for entire year</td>
<td>Work on maintenance plan</td>
<td>Review budget - is there remaining $ have all receipts been submitted?</td>
</tr>
<tr>
<td><strong>Walk site</strong></td>
<td>and discuss potential priority projects and other long-term projects</td>
<td>Target phase 2 project</td>
<td></td>
</tr>
<tr>
<td><strong>homework</strong></td>
<td></td>
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<tr>
<td></td>
<td>Hear from students and other members of school community on what they want to see in habitat, compile responses, test soil (if weather permits), set up official site walk (if weather permits)</td>
<td>Finalize remaining budget questions, finalize maintenance plan, New leaders attend Leadership Team workshop in November</td>
<td>Finalize remaining budget questions, finalize maintenance plan, <strong>May attend leadership team workshop in November</strong></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Attend Leadership Team workshop in November</td>
<td>Schedule school-day visits, if you have not already</td>
<td></td>
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<tr>
<td></td>
<td>Make arrangements to attend the all-day curriculum workshop date TBD</td>
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<tr>
<td></td>
<td>Schedule 5 free field trips with Audubon CT</td>
<td></td>
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</tr>
<tr>
<td>December</td>
<td>January</td>
<td>homework</td>
<td></td>
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<tr>
<td>--------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------</td>
<td></td>
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</tbody>
</table>
| ○ Review responses from school community and make decisions on what elements to include in master plan  
  ○ Target priority project  
  ○ begin draft map of master plan  
  ○ Create committees: budget, materials/ resources and signage  
  ○ Make draft list of materials | ○ Review budget and materials list and make sure it is complete and that priority project is within budget.  
  ○ Check in regarding sourcing materials: *do you have a source for everything?*  
  ○ Begin work on mission and identifying/ developing artwork for the sign | ○ Continue work on mission statement by engaging greater school community  
  ○ Finalize mini-grant application |
| ○ Finalize master plan  
  ○ Begin planning for phase 2 project  
  ○ Begin mini-grant application due in February- including detailed budget  
  ○ Committee reshuffle- are there new members? Will the same committees still work? | ○ Same as Year 1                                                                 | ○ Begin to source materials for project  
  ○ Finalize mini-grant application |
| ○ Establish committees to begin working on year 3 goals  
  ○ Create a draft budget and materials list | Finalize budget and materials list in order to submit mini-grant due in February | ○ Begin to source materials for project  
  ○ Finalize mini-grant application |

**Education**

| homework | ○ Continue work on mission statement by engaging greater school community  
  ○ Finalize mini-grant application |
|----------|--------------------------------------------------------------------------|
|          | ○ FIVE classroom teachers attend curriculum workshop, date TBD  
  ○ Schedule on-site workshop for March |

| homework | ○ Establish committees to begin working on year 3 goals  
  ○ Create a draft budget and materials list |
|----------|--------------------------------------------------------------------------|
|          | ○ Begin to source materials for project  
  ○ Finalize mini-grant application |

| homework | ○ Establish committees to begin working on year 3 goals  
  ○ Create a draft budget and materials list |
|----------|--------------------------------------------------------------------------|
|          | ○ Begin to source materials for project  
  ○ Finalize mini-grant application |

| Education | ○ Establish committees to begin working on year 3 goals  
  ○ Create a draft budget and materials list |
|-----------|--------------------------------------------------------------------------|
|          | ○ Begin to source materials for project  
  ○ Finalize mini-grant application |

| Education | ○ Establish committees to begin working on year 3 goals  
  ○ Create a draft budget and materials list |
|-----------|--------------------------------------------------------------------------|
|          | ○ Begin to source materials for project  
  ○ Finalize mini-grant application |
<table>
<thead>
<tr>
<th>February</th>
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</thead>
<tbody>
<tr>
<td>○ Set dates for workdays</td>
<td>○ Submit mini grant application</td>
<td>○ Submit mini grant application</td>
</tr>
<tr>
<td>○ Confirm sources for all materials and designate who will place orders</td>
<td>○ Set dates for workdays</td>
<td>○ Plan event to engage greater school community in habitat</td>
</tr>
<tr>
<td>(make sure delivery dates are cleared with admin)</td>
<td>○ Confirm sources for all materials and designate who will place</td>
<td>○ Plan event to engage greater school community in habitat:</td>
</tr>
<tr>
<td>○ Check in on sign progress- Spring is right</td>
<td>orders (make sure delivery dates are cleared with admin)</td>
<td>community work day, student centered unveiling etc</td>
</tr>
<tr>
<td>around the corner, I promise!</td>
<td>○ Plan event to engage greater school community in habitat</td>
<td></td>
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<tr>
<td>○ Finalize mission statement</td>
<td></td>
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<table>
<thead>
<tr>
<th>homework</th>
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</thead>
<tbody>
<tr>
<td>Place orders for plants and soil.</td>
<td>←Same as year 1, minus work on signage</td>
<td></td>
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<tr>
<td>Confirm workdays with school community and recruit volunteers.</td>
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<tr>
<td>Send final copy of mission statement and all artwork/pictures for the</td>
<td></td>
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<tr>
<td>sign to Jim Sirch</td>
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<table>
<thead>
<tr>
<th>Education</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Make all arrangements for on-site workshop in March</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schedule school day visits for April</td>
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<table>
<thead>
<tr>
<th>March</th>
<th></th>
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<tbody>
<tr>
<td>○ Plan for workdays</td>
<td>←Same as Year 1</td>
<td>○ Begin work on year 3 project</td>
</tr>
<tr>
<td>○ Make sure map of priority project is accurate so that workdays</td>
<td></td>
<td>○ Secure all materials needs</td>
</tr>
<tr>
<td>go smoothly</td>
<td></td>
<td>○ Set dates for schoolwide event, if applicable</td>
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<tr>
<td>○ Review budget—is everything on track?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>○ Set date for unveiling</td>
<td></td>
<td></td>
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<tr>
<td>○ Draft maintenance schedule</td>
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<thead>
<tr>
<th>Homework</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Signage lead regularly communicates with Jim Sirch to finalize sign</td>
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<tr>
<td>to be ordered on April 1</td>
<td></td>
<td></td>
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<tr>
<td>Follow up on additional plant and soil orders and reach out to</td>
<td></td>
<td></td>
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<tr>
<td>Parks Dept about woodchips if necessary</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Education</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site workshops take place in March</td>
<td>New teachers can attend on-site workshops at new schools</td>
<td>New teachers can attend on-site workshops at new schools</td>
</tr>
<tr>
<td>April</td>
<td>Finalize logistics for work days: who will be there? Do you need tools? Are the maps complete and accurate? Will all the plants be there or do they need to be picked up? Will there be access to the building? Begin to plan unveiling: who will attend? What time of day? Who will speak? Will all students take part? Make a draft schedule</td>
<td>Finalize workday schedules and plan for volunteers Secure all tools ahead of workday</td>
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<tr>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>homework</td>
<td>Workdays! Take pictures!</td>
<td>Workdays! Take pictures! Think about implementing investigations and projects that result in student products</td>
</tr>
<tr>
<td>Education</td>
<td>School day visits with Audubon</td>
<td>Same as year 1</td>
</tr>
<tr>
<td>May</td>
<td>Finalize plan for unveiling; send invitations, press release, secure materials etc.</td>
<td>Review maintenance plan Check in to make sure budget is on track and well documented</td>
</tr>
<tr>
<td>Homework</td>
<td>Workdays! Take pictures!</td>
<td>Workdays! Take pictures!</td>
</tr>
<tr>
<td>Education</td>
<td>Teachers implement their chosen lessons from the guide. Contact Francesca for help if needed</td>
<td>Continue work on student products</td>
</tr>
<tr>
<td>June</td>
<td>Unveiling, debrief, summer maintenance schedule Begin revisions to master plan based on final outcome of priority project Begin thinking through long-term maintenance needs</td>
<td>Revisit master plan and long-term maintenance needs</td>
</tr>
<tr>
<td>Education</td>
<td>Complete post-tests and student products and return</td>
<td>Share student work with us!</td>
</tr>
<tr>
<td>Summer</td>
<td>Follow maintenance schedule</td>
<td>Follow maintenance schedule</td>
</tr>
</tbody>
</table>


## Schoolyard Habitat Implementation Timeline - New Haven

<table>
<thead>
<tr>
<th>Month</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐ Brainstorm ideas: “good for people, good for wildlife”</td>
<td>☐ Review challenges and successes from year 1 - are there any urgent problems to address? What went really well? ☐ Review budget - is there remaining $ from year 1?</td>
<td>☐ Walk through habitat, are there any concerns? ☐ Review maintenance plan - is it working? ☐ Set goals for year 3 ☐ Review budget - is there remaining $ have all receipts been submitted?</td>
</tr>
<tr>
<td></td>
<td>☐ Go over logistics: $3000 budget, unveiling in early June, do they want to manage $ themselves or should CG do it?</td>
<td>☐ Go over walk-through worksheet and make sure everyone has a copy ☐ Work on maintenance plan ☐ Target phase 2 project</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>☐ Introduce guide, encourage them to download and print additional copies</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td>☐ Set meeting dates for entire year</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>November</td>
<td>☐ Walk site and discuss potential priority projects and other long-term projects</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td><strong>Homework</strong></td>
<td><strong>Finalize remaining budget questions, finalize maintenance plan, May attend leadership team workshop</strong></td>
<td><strong>Finalize remaining budget questions, finalize maintenance plan, May attend leadership team workshop</strong></td>
</tr>
<tr>
<td></td>
<td>Hear from students and other members of school community on what they want to see in habitat, compile responses, test soil (if weather permits), set up official site walk (if weather permits)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td></td>
<td>☐ Attend Leadership Team workshop in November</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td><strong>Education</strong></td>
<td><strong>Schedule school-day visits, if you have not already</strong></td>
<td><strong>Schedule 5 free field trips</strong></td>
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<tr>
<td></td>
<td>Make arrangements to attend the all-day curriculum workshop January 11 at Common Ground</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td>Schedule 5 free field trips with Diane Litwin</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td></td>
<td><a href="mailto:fieldtrips@commongroundnct.org">fieldtrips@commongroundnct.org</a></td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>December</td>
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<tr>
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<tr>
<td>- Review responses from school community and make decisions on what elements to include in master plan</td>
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<tr>
<td>- Target priority project</td>
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<tr>
<td>- Begin draft map of master plan</td>
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<tr>
<td>- Create committees: budget, materials/ resources and signage</td>
<td></td>
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<tr>
<td>- Make draft list of materials</td>
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<tr>
<td>- Finalize master plan</td>
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<td></td>
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</tr>
<tr>
<td>- Begin planning for phase 2 project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Begin mini-grant application due in February including detailed budget</td>
<td></td>
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<tr>
<td>- Committee reshuffle: are there new members? Will the same committees still work?</td>
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<tr>
<td>- Establish committees to begin working on year 3 goals</td>
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<tr>
<td>- Create a draft budget and materials list</td>
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<table>
<thead>
<tr>
<th>Homework</th>
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<tbody>
<tr>
<td>- Budget team: make draft budget for priority project</td>
</tr>
<tr>
<td>- Materials: start research on plants and other elements</td>
</tr>
<tr>
<td>- Technical lead set up meeting between signage team and Jim Sirch at Peabody</td>
</tr>
<tr>
<td>- Complete additional site assessment if necessary</td>
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<table>
<thead>
<tr>
<th>Education</th>
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</thead>
<tbody>
<tr>
<td>- Confirm attendance for January 11 workshop</td>
</tr>
<tr>
<td>- Make arrangements for teachers to attend workshop on student products in January</td>
</tr>
<tr>
<td>- Make arrangements for teachers to attend workshop on student products in January</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>January</th>
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<tbody>
<tr>
<td>- Review budget and materials list and make sure it is complete and that priority project is within budget.</td>
</tr>
<tr>
<td>- Check in regarding sourcing materials: do you have a source for everything?</td>
</tr>
<tr>
<td>- Begin work on mission and identifying/ developing artwork for the sign</td>
</tr>
<tr>
<td>- Same as Year 1</td>
</tr>
<tr>
<td>- Finalize budget and materials list in order to submit mini grant due in February</td>
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<thead>
<tr>
<th>Homework</th>
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</thead>
<tbody>
<tr>
<td>- Continue work on mission statement by engaging greater school community</td>
</tr>
<tr>
<td>- Finalize mini-grant application</td>
</tr>
<tr>
<td>Begin to source materials for project</td>
</tr>
<tr>
<td>Finalize mini-grant application</td>
</tr>
<tr>
<td>Begin to source materials for project</td>
</tr>
<tr>
<td>Finalize mini-grant application</td>
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<thead>
<tr>
<th>Education</th>
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<tbody>
<tr>
<td>- Five classroom teachers attend January curriculum workshop at Common Ground</td>
</tr>
<tr>
<td>Schedule on-site workshop for March</td>
</tr>
<tr>
<td>Attend curriculum and student products workshop in January</td>
</tr>
<tr>
<td>Attend curriculum and student products workshop in January</td>
</tr>
<tr>
<td><strong>February</strong></td>
</tr>
<tr>
<td>--------------</td>
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</tbody>
</table>
| ○ Set dates for workdays  
○ Confirm sources for all materials and designate who will place orders (make sure delivery dates are cleared with admin)  
○ Check in on sign progress - Spring is right around the corner, I promise  
○ Finalize mission statement | ○ Submit mini grant application  
○ Set dates for workdays  
○ Confirm sources for all materials and designate who will place orders (make sure delivery dates are cleared with admin)  
○ Plan event to engage greater school community in habitat  
○ Community work day, student centered unveiling etc |
| | ○ Submit mini grant application  
○ Plan event to engage greater school community in habitat  
○ ____________________  
○ ____________________ |

<table>
<thead>
<tr>
<th><strong>Homework</strong></th>
<th><strong>March</strong></th>
<th><strong>Homework</strong></th>
</tr>
</thead>
</table>
| Place orders for plants and soil.  
Confirm workdays with school community and recruit volunteers and schedule crew, if applicable  
Send final copy of mission statement and all artwork/pictures for the sign to Jim Sirch | ○ Plan for workdays - Make sure map of priority project is accurate so that workdays go smoothly  
○ Review budget—is everything on track?  
○ Set date for unveiling  
○ Draft maintenance schedule | Signage lead regularly communicates with Jim Sirch to finalize sign to be ordered on **April 1** follow up on additional plant and soil orders and reach out to Parks Dept about wood chips if necessary |
| | ←Same as Year 1 | ○ Begin work on year 3 project  
○ Secure all materials needed  
○ Set dates for school wide event, if applicable |

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<thead>
<tr>
<th><strong>Education</strong></th>
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</table>
| Make all arrangements for on-site workshop in March  
Schedule school day visits for April | New teachers can attend on-site workshops at new schools |

<table>
<thead>
<tr>
<th><strong>Education</strong></th>
<th><strong>Homework</strong></th>
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</table>
| On-site workshops take place in March  
Teachers choose which lessons they will teach | New teachers can attend on-site workshops at new schools |
<table>
<thead>
<tr>
<th>Month</th>
<th>Task Description</th>
<th>Task Description</th>
<th>Task Description</th>
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</thead>
</table>
| April  | - Finalize logistics for work days: who will be there? Do you need tools? Are the maps complete and accurate? Will all the plants be there or do they need to be picked up? Will there be access to the building? - Begin to plan unveiling: who will attend? What time of day? Who will speak? Will all students take part? Make a draft schedule | - Finalize workday schedules and plan for volunteers - Secure all tools ahead of workday | - ________________
|        | **Homework** Workdays! Take pictures!                                               | **Workdays! Take pictures!**                                                      | **Take pictures and share your work with us!**                                   |
|        | **Education** School day visits with Ken and Melissa                               | **Think about implementing investigations and projects that result in student products** | **Think about implementing investigations and projects that result in student products** |
| May    | - Finalize plan for unveiling; send invitations, press release, secure materials etc. - Debrief workdays that have already happened: what still needs to be done? - Begin work on long-term maintenance plan - Check in to make sure budget is on track and well documented - Turn in all receipts to Jill | ________________ | - Review maintenance plan - Check in to make sure budget is on track and well documented - Turn in all receipts to Jill |
|        | **Homework** Workdays! Take pictures!                                               | **Workdays! Take pictures!**                                                      | **Take pictures and share your work with us!**                                   |
|        | **Education** Teachers implement their chosen lessons from the guide. Contact Francesca for help if needed | **Continue work on student products**                                              | **Continue work on student products**                                             |
| June   | - Unveiling, debrief, summer maintenance schedule - Begin revisions to master plan based on final outcome of priority project - Begin thinking through long-term maintenance | - Revisit master plan and long-term maintenance needs | |
|        | **Education** Complete post-tests and student products and return                   | **Share student work with us!**                                                   | **Share student work with us!**                                                   |
| Summer | **Follow maintenance schedule**                                                     | **Follow maintenance schedule**                                                   | **Follow maintenance schedule**                                                   |
Contacts and Communications

Program Background and Contacts

Communications

Schoolyard Habitat in the News
Program Background

and Contacts
Schoolyard Habitats
The Schoolyard Habitat Program is a joint program of Audubon Connecticut and USFWS

- Creating Bird-Friendly Communities -

Get Started!

1. Conduct a Site Visit
   - Walk the entire school grounds – note areas of heavy use, student traffic patterns, evidence of wildlife use, and existing areas of habitat
   - Brainstorm ideas for wildlife and people, e.g., benches for people; water feature for wildlife
   - Determine property lines and identify areas that might be off limits

2. Form a Leadership Group
   - Organize a team of more than two people to ensure long-term project success
   - The best teams are made up of parent volunteers, administrators, teachers and students

3. Design Your Schoolyard Habitat
   - DREAM BIG!...START SMALL!
   - Create a Master Plan with a 3-year timeline – focus on how you can get students involved

4. Volunteer, Planting and Unveiling Events
   - Involve students and their families
   - Have a planting day
   - Unveiling day: Invite community leaders, contact press, send invitations, and hold a ribbon-cutting ceremony

Educational Benefits:

Students use their Schoolyard Habitat to learn about nature (L.Rogers, R.Stark)

We will expand children's knowledge of the natural world and incorporate the outdoors into their everyday learning experience through use of:
- The Audubon Curriculum Guide
- Teacher Workshops
- After School Programs
- On-site School Programs

A Schoolyard Habitat will help students, teachers, and parent volunteers to have a hands-on experience of designing and creating an area at their schools that they can share with wildlife that will last for future generations to enjoy.
Download the Schoolyard Habitat Guides

**U.S. Fish and Wildlife Service Project Guide**


**Audubon Curriculum Guide**

![Audubon Curriculum Guide](https://goo.gl/WV4VSu)
About the Program

On October 30, 2013 U.S. Fish and Wildlife Service Director Dan Ashe officially designated a project that has been taking place in the New Haven Harbor Watershed as an urban wildlife refuge partnership—one of only eight such partnerships in the nation.

Wildlife Refuges are usually vast, wilderness areas that provide habitat for iconic species such as Bald Eagles, bears, and sea turtles. And they are usually located far away from people.

With 80 percent of Americans living in cities, USFWS created a new type of refuge initiative to forge connections between the National Wildlife Refuge System, natural resource conservation and urban communities. This program is bringing “wild” to urban areas like New Haven.

The New Haven Harbor Watershed Urban Wildlife Refuge Partnership is creating a network of wildlife-friendly habitat oases and habitat improvements in municipal parks, schoolyards, vacant lots, front yards, and units of Stewart B. McKinney National Wildlife Refuge while providing high quality educational experiences for children and youth.

Audubon Connecticut, the New Haven Urban Resources Initiative, the Yale School of Forestry & Environmental Studies, New Haven Departments of Education and Parks, Recreation and Trees, Common Ground High School, Urban Farm and Environmental Education Center, the Yale Peabody Museum and local neighborhood groups are partnering with USFWS to implement its Schoolyard Habitat program, Audubon Connecticut’s Habitat Oases Program, engaging the on-the-ground conservation and educational expertise and capacity of Yale's Urban Resource Initiative and Common Ground High School and engaging a host of other partners to create habitat oases sites, provide environmental education programs and deliver workshops to local students and teachers.

Results: More beautiful and livable neighborhoods, parks and schools for New Haven residents; high quality educational experiences that connect our children to nature and a matrix of bird-friendly habitats to enhance biodiversity that help improve water quality in the Long Island Sound and increase habitat connectivity across the city.

Our motto: Connect, restore, inspire! Connect people and habitats in urban spaces. Restore open spaces to enhance biodiversity, improve water quality in the Long Island Sound and increase habitat connectivity across New Haven. Inspire the next generation of conservation leaders.
Partners:
- U.S. Fish and Wildlife Service
- Audubon Connecticut
- Common Ground High School, Urban Farm and Environmental Education Center
- New Haven Department of Parks, Recreation and Trees
- New Haven Parks Friends Groups (see below for individual parks)
- New Haven Public Schools (see below for individual schools)
- Yale Urban Resources Initiative
- Yale Peabody Museum
- Yale School of Forestry & Environmental Studies

Urban Oases Created:
- Beaver Ponds Park (Between Sherman Pkwy & Crescent)
- Dover Beach Park (Quinnipiac River)
- East Shore Park (Morris Cove on Harbor)
- West River Park and Barnard Nature Center (Rte. 34 & Boulevard)
- Southern Connecticut State University
- Long Wharf Nature Preserve (New Haven Land Trust property)
- Edgewood Park (at Edgewood and Yale Ave.)

Schoolyard Habitats Created:
- Barnard Environmental Magnet School
- Columbus Family Academy
- Common Ground High School
- Worthington Hooker School
- East Rock Community Magnet School
- Edgewood Magnet School

Example Activities:
- Field trips for students at Outer Island Unit of the Stewart B. McKinney Wildlife Refuge
- Scientific data collection by students through pre and post planting bird, insect and vegetation surveys of urban oasis sites
- High School students mentoring elementary students
- Community Advisory Council provides input into conservation planning process and selects new sites for habitat restoration

In the next year:
The project is expanding to add two new schools and three new public sites in 2016. The schoolyard and urban oases habitat projects will continue building a corridor of people and bird-friendly sites across the City. In 2016, the City of New Haven will receive further designation as an Urban Bird Treaty City- a city recognized for their efforts in providing habitat to migratory songbirds while creating an environmentally conscious citizenry.
Urban Oases for Migrating Songbirds
About the Program

The goal: to identify, improve and conserve important stop-over habitat for migrating songbirds all along the Atlantic migratory flyway, focusing on urban areas and other landscapes where there is limited quality habitat.

A program of Audubon Connecticut, it is performed in collaboration with numerous partners including Audubon chapters, local botanical gardens, state and municipal parks departments, and other NGOs. Together, we improve the quality of public and private lands as stop-over habitat for migrating birds through restoration projects and promote the protection of critical habitats and green spaces valuable to birds and people.

Why these spaces matter to birds: The Atlantic flyway—a major migratory route stretching all along the Eastern Seaboard—is traversed by tens of millions of songbirds twice each year. To make these remarkable journeys, birds require places to rest and refuel all along the way. These transcontinental journeys are challenging for the hardiest of birds, and the challenges are only increased as vast areas of natural habitat along migration pathways are altered or eliminated. The forests, shrublands and coastal habitats of the Eastern Seaboard are steadily giving way to development, making it difficult for exhausted birds to find suitable places to rest and refuel.

The conservation of migratory birds, many of which are experiencing serious population declines, requires the protection of a network of stop-over sites all along their migratory pathway. In this rapidly changing landscape, our parks, gardens and backyards may serve as valuable habitat oases for hungry migrants. By applying management and landscaping practices that provide high quality habitat and food sources for migrating birds and other wildlife, our urban green spaces and remnant forests may serve as important stepping stones for birds along their journeys.

The results of these projects for communities: More beautiful and livable neighborhoods, parks and schools for Connecticut residents; high quality educational experiences that connect our children to nature and a matrix of bird-friendly habitats to enhance biodiversity that help improve water quality in the Long Island Sound and increase habitat connectivity across the City.

Some of our partners in Stamford:
- Audubon Connecticut
- City of Stamford
- Stamford Public Schools
- Friends of Mianus River Park
- Cove Island Wildlife Sanctuary
- Aquarion Water Company
- Bartlett Arboretum
- Generous support—various private, foundation and government support and grants
Urban Oases Created in Fairfield County:
- Armstrong Court Urban Oasis, Greenwich
- Mianus River Park Urban Oasis, Stamford
- Cove Island Park Wildlife Sanctuary, Stamford

Schoolyard Habitats Created in Fairfield County:
- Parkway School, Greenwich
- Brunswick School, Greenwich
- Hart School, Stamford
- Rogers International, Stamford
- Springdale Elementary, Stamford
- Julia A. Stark School, Stamford

Example Urban Oases Activities:
- Students & Teachers creating habitats and outdoor classrooms
- Scientific data collection by citizen scientist
- Garden clubs teaching pre-school students in habitats
- Park Friends’ Groups stewarding restoration sites

In the next year:
The project continues to engage new audiences and develop additional urban oases sites, expanding the network of migratory bird stop-over habitat. Several new schools in Greenwich and one new school in Stamford will create schoolyard habitats on school grounds. The Mianus Park Urban Oasis site in Stamford has applied for a forest for the birds habitat assessment and continues to identify other restoration sites in the park. A network of urban oases continues to grow in the City of New Haven, one of the nation’s first U.S. Fish & Wildlife Service federally-designated Urban Wildlife Refuge Partnerships.
New Haven Harbor Watershed Urban Wildlife Refuge Partnership

New Haven, Connecticut

Schoolyards, vacant lots, city parks and front yards on public and private lands in New Haven will provide habitat for migratory birds and other species as part of an Urban Oases project. The project has been taking place in the city between the U.S. Fish and Wildlife Service, Audubon Connecticut, along with other partners, and aims to use these lands to create a network of wildlife-friendly habitat areas and improvements throughout the city. The Service designated the Urban Oases project as the New Haven Harbor Watershed Urban Wildlife Refuge Partnership on October 30, 2013.

The project builds on existing work by partners in New Haven to improve or create wildlife habitat in urban areas, foster environmental education and hands-on conservation with youth, and encourage community-based land stewardship.

For the initial phase of the project, efforts will focus on Beaver Pond Park and West River Memorial Park, both in close proximity to schools and active neighborhood groups. The Friends of the West River will undertake an erosion control and habitat enhancement project and the Friends of Beaver Ponds Park will remove invasive vegetation, and restore native plants for wildlife habitat in coordination with New Haven Parks, Recreation and Trees. Additionally, Audubon Connecticut and Common Ground High School, Urban Farm and Environmental Center is supporting the expansion of the Schoolyard Habitat program to include two new elementary schools with assistance from the Yale School of Forestry & Environmental Studies. Students from Common Ground High School and Hillhouse High School will also help plant and maintain habitat gardens at schools, parks, vacant lots and public and private front yards.

The program will also provide training, workshops and other resources to schoolteachers to teach lessons about ecology and wildlife diversity and provide environmental education and job training to students through the New Haven Urban Resources Initiative and the Yale Peabody Museum. Service staff, students and neighborhood groups will monitor the progress and impact of the restoration projects throughout the city by participating in citizen science surveys coordinated by Audubon Connecticut.

In May 2013, the project competed nationally to be designated as an Urban Wildlife Refuge Partnership. The designation of the New Haven Harbor Watershed Urban Wildlife Refuge Partnership is a formal recognition of excellence under the Service's Urban Wildlife Refuge Initiative. Under the initiative, the Service is striving to make the outdoors more meaningful and accessible to urban audiences. This partnership provides a cost effective, innovative way to enable urban communities to learn more about the National Wildlife Refuge System and wildlife conservation, and to gain an appreciation for the outdoors.

The partnership aims to provide environmental education programs to students and establish wildlife-friendly habitat sites throughout New Haven.
Schoolyard Habitat Leader Job Description

Who are Schoolyard Habitat Leaders?

Principals, administrators, staff, teachers or parents from New Haven and Fairfield County Schools who:

1. Are already part of their school’s Schoolyard Habitat Leadership Team, or

2. Are new members to their school’s Schoolyard Habitat Leadership Team and expect to take a leadership role, or

3. Expect to begin a schoolyard habitat project soon at their school and take a leadership role on their school’s Schoolyard Habitat Leadership Team.

Schoolyard Habitat Leaders will:

Communicate with the Technical Lead* assigned to your school on your school’s process and progress throughout the academic year. Your Technical Lead is also your source for helping you navigate challenges and helping put you in touch with resources needed to make your project a success. *Ask us who your lead is. Contact information is in the Resource Guide

Lead internal meetings with your school’s Schoolyard Habitat Leadership Team in between your meetings with your Technical Lead. You will set meeting dates with your team and create agendas to keep your meetings productive.

Keep your team moving forward through developing a Master Plan and Phase 1, 2 or 3+ project (depending on what year of the program you are in) meeting milestones and deadlines put forth in the SYH Timeline and those communicated to you by your Technical Lead.

Have an understanding of the Schoolyard Habitat Project Guide and refer your team to the guide as you move through the process. You may have expertise in particular areas of project development (such as site design), but the goal for the Leader is to have a thorough understanding of all of the components so you can help your team see the big picture and all the pieces of the process.

Can help initiate teacher involvement in the design and planning of the habitat so that it serves as an outdoor classroom that is integrated into the curriculum.

Bring any questions, concerns, requests etc. from your team to your Technical Lead, who will get you the answer, materials, recourse etc. you need.
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<td>Parks &amp; Recreation – Tree Replacement &amp; Planting</td>
<td>Urban Resources Initiative (URI) managed by Yale University</td>
<td>203-432-6189</td>
<td><a href="mailto:uri@yale.edu">uri@yale.edu</a></td>
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<td><a href="mailto:ask.info@rwater.com">ask.info@rwater.com</a></td>
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<td>New Haven</td>
<td>Soil Testing</td>
<td>CT Agricultural Experiment Station</td>
<td>203-974-8521</td>
<td><a href="mailto:Gregory.Bugbee@ct.gov">Gregory.Bugbee@ct.gov</a></td>
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<td>New Haven</td>
<td>Soil Testing</td>
<td>UConn Dept. of Plant Science - Soil Nutrient Analysis Laboratory</td>
<td>860-486-4274</td>
<td><a href="mailto:soiltest@uconn.edu">soiltest@uconn.edu</a></td>
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<td>Stamford</td>
<td>City Parks</td>
<td>Kevin Murray, Parks and Facilities Manager (Stamford Dept. of City Parks)</td>
<td>203-977-4606</td>
<td><a href="mailto:kmurray@stamfordct.gov">kmurray@stamfordct.gov</a></td>
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<td>Stamford</td>
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<td>James Federici - Stamford Health Dept. Laboratory Director</td>
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<td>Jason Glenn - Stamford Health Dept. Laboratory Technician</td>
<td>203-977-4365</td>
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<td><a href="mailto:soiltest@uconn.edu">soiltest@uconn.edu</a></td>
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</table>
Tell Us Your Story

Tell Us Your Story and Receive a Schoolyard Habitat Project Sign

The U.S. Fish and Wildlife Service is providing signs to schools to identify Schoolyard Habitat projects throughout the nation. The information you submit will be entered into a database and used to promote Schoolyard Habitat efforts. Any woodland, meadow or wetland project qualifies for a sign.

Please fill out the following questions with brief responses and return to: Schoolyard Habitat Program, U.S. Fish and Wildlife Service, 2800 Cottage Way Suite 1916, Sacramento, CA 95825 or R8SchoolYardHabitat@fws.gov

Tell us where you are and what you did:

1. School Name & Website if applicable
   Address:
   Phone #:  ____________________________
   Contact:  ____________________________

2. Date Project Started __________________ Date Completed ________________

3. What grade level students were involved? How many?

4. Describe the type of project(s) you completed and the size of each project in square feet:

   ___________________________________________

   ___________________________________________

   ___________________________________________

5. List any other habitat features added to the project including the following: nesting boxes, brush piles, trails, outdoor seating areas etc.

   ___________________________________________

   ___________________________________________

   ___________________________________________

U.S. FISH AND WILDLIFE SERVICE  continued on other side...
Tell us a little more about your schoolyard work:

6. What is most successful about your project?  

7. What is the most challenging aspect of your project?  

8. How were students involved in planning and installing the project?  

9. Do you have plans for future projects? If so, describe.  

10. How do you use the habitat for instruction?  

11. How did you receive this guide?  

12. What part of this guide was the most use to you?  

13. Please include any photos with proper photo releases you would like us to consider using.
It's as easy as 1, 2, 3!

To subscribe to the schoolyard habitat list:
1. Click on the following link, or enter it exactly as written in your web browser:
   http://list.audubon.org/scripts/wa-AUDUBON.exe?SUBED1=SCHOOLYARDHABITAT&A=1
2. Enter your full name and email address.

The email address that you indicated will receive an automatic message saying:
   Your command:
   SUBSCRIBE SCHOOLYARDHABITAT <....>
   requires confirmation.

3. Please choose one of three methods to confirm your subscription:
   1. Click on the link provided in the automatic email response you just received
   2. Type OK as the text of an email reply to the message you received
   3. Send a new message to LISTSERV@LIST.AUDUBON.ORG with “OK 337B8DE5” as the text of your message

After confirming this command by performing one of the three actions above, your moderators will approve your subscription and additional directions will follow.

THANK YOU!
Schoolyard Habitat in the News
Audubon to expand schoolyard habitat program

By Peregrine Frissell

Published 12:00 am, Sunday, October 16, 2016

The schoolyard habitat sign to designate an Audubon-sponsored project.

GREENWICH — Audubon Connecticut is expanding its schoolyard habitat program by eight schools this year and has planned a workshop to explain the process.

The program, a partnership between Audubon Connecticut and the U.S. Fish and Wildlife Service, helps schools create bird-friendly habitats on their grounds and craft educational curricula around.

The workshop is set for Oct. 25 at Greenwich Audubon and is geared toward both educators at schools that already participate and those who are interested in learning more about it.

“It’s not particular to folks who have a habitat, but it’s a day of professional development to either beefen an outdoor habitat or learn to plant pollinators and how to engage a community,” said Katie Blake, bird friendly communities manager for Audubon Connecticut. “It’s such a powerful exchange to see this peer-to-peer process.”

So far, the program has attracted 18 applications from schools vying for one of eight available spots, Blake said. Audubon is set to select the new schools by the end of the month.

“It is such an amazing program, we see the results and excitement and enthusiasm in a school and they really bring it to life,” Blake said. “It’s such a privilege to work with the schools to make it happen, to create the stepping stones for birds and safe and accessible learning programs for students.”
The program consists of two components: expertise and education. Member schools can have Audubon members come to their campus and walk the site, providing insight into which native plants would grow best and funding to establish a bird-friendly habitat on the grounds. Audubon also can provide employees who can come into classrooms to co-teach with teachers, formulate curricula and organize after-school activities oriented around bird conservation, Blake said.

"We are involved in both pieces. Audubon works with schools on both fronts, the technical expertise on what plants to plant and how to get rid of invasive species."

There are currently 17 schools that have developed bird-friendly habitats in the state because of the program, Blake said. About half of them are in New Haven.

The schools in Greenwich that take part are Parkway Elementary School, Brunswick School and the Armstrong Court preschool.

"Armstrong Habitat is an urban oasis, a spot in an urban area where birds are able to rest and refuel," Blake said. "It's created so it has all these plants where birds can eat and find shelter, but it's also important for people. It's part of the community garden there."

In Stamford, the Julia A. Stark Elementary School, Springdale Elementary School, Rogers International School, Hart Magnet Elementary School and the Beacon School all take part. Stamford was home of the Connecticut debut of the program.

Norwalk's program school is Columbus Magnet School.

To support the program, Audubon Connecticut gets funding from the Dalio Foundation, the 1830 Foundation, the Disney Conservation Fund, the U.S. Fish and Wildlife Service and the National Fish and Wildlife Foundation.

More information on the workshop can be found on the Audubon website, http://bit.ly/2dSUm1j. pfriess@hearstmediact.com; @PeregrineFriss
Audubon Connecticut hosts Second annual Schoolyard Habitat Summit
CT educators and partners gather for training in outdoor education

By Greenwich Post on October 24, 2016 in Clubs & Organizations, Community, Lead News, News, Regional · 0 Comments

Audubon Connecticut in partnership with the U.S. Fish & Wildlife Service, Common Ground High School, Urban Farm & Environmental Education Center, and the Yale Peabody Museum will host the second annual Schoolyard Habitat Summit on Tuesday, Oct. 25, from 9-3:45, at Audubon Greenwich Center, 613 Riversville Road. Educators, staff and parents from 18 schools across Connecticut as well as representatives from a dozen local and statewide non-profit organizations and nature centers will be in attendance.

The Schoolyard Habitat Summit is an opportunity for partner schools and newly interested schools and conservation organizations to develop or deepen their schoolyard habitat projects. Participants will be welcomed by keynote speaker Akiima Price — one of the leading African-American environmental educators in the country. Akiima currently works with the DC Promise Initiative (DCPNI), a social service organization working to end poverty in communities throughout the District of Colombia. She uses nature as a medium to bring together various leaders and organizations, and is a proponent for providing nature-based programming to local communities.

Participants will also hear from peer educator panelists on success stories from their school projects, including but not limited to how Schoolyard Habitat can extend learning across a broad range of subjects including science, technology, engineering, art and math.

Audubon Connecticut, the state office of the National Audubon Society with more than 9,000 members in the state, works to protect birds, other wildlife, and their habitats through education, research, conservation, and legislative advocacy for the benefit of humanity and the earth’s biological diversity. Through our network of nature centers, protected wildlife sanctuaries, and local, volunteer Chapters, we seek to connect people with nature and inspire the next generation of conservationists. Learn more at AudubonCT.org.
Since 1936, the National Wildlife Federation has worked to conserve the nation’s wildlife and wild places. As part of our 80th anniversary celebration, we are recognizing important moments in our history that continue to make an impact today.

Wildlife habitat exists all around us, and school grounds can provide not only a place for wildlife to thrive, but a space for the conservationists of tomorrow to understand the world around them. Since 1996, the National Wildlife
Federation’s Schoolyard Habitats® program has provided schools and school districts with the resources to do just that: create and restore wildlife habitat and outdoor learning space on their grounds to help students and educators discover how to attract and support local wildlife.

Students enjoy getting their hands dirty. Photo by Jennifer Hammonds/ NWF

Now with 5,000 participating schools, our Schoolyard Habitat program is the single largest school garden program in America. Children in day care centers and preschools, nature centers, and thousands of students in grades K-12, along with parents, university students, teachers, administrators, community members, and volunteers have created unique habitat gardens and living learning laboratories nationwide.

These wildlife habitats become places where students not only learn about wildlife species and ecosystems, but also outdoor classrooms where they hone their academic skills and nurture their innate curiosity and creativity.

Creating a certified Schoolyard Habitat is done in five steps:

1. Start a habitat team of school staff, students, parents, etc. to work together
2. Choose a site to build and cultivate a suitable, sustainable habitat for wildlife
3. Create a work plan. Have your team set goals, tasks, and track progress
4. Involve the community to help support the project
5. **Certify your Schoolyard Habitat**

To increase the number of schools certifying their green spaces for wildlife, the National Wildlife Federation and LEGO Community Fund U.S. recently launched the Monarch Mission, including a full set of Next Generation Science Standards (NGSS) aligned lessons for grades K-12, empowering students to create and improve Schoolyard Habitats for monarchs.
This Monarch Mission, and the Monarch Recovery Gardens that result, are part of a long-term learning experience that:

- Creates more habitat for monarchs to survive and reproduce, leading to an increase in their population
- Provides a variety of field experiences for students, allowing them to apply new learning and practice critical science, engineering, and 21st century skills
- Builds awareness about a national environmental issue, while also providing local solutions that can help bring the community together to make a positive impact for monarchs and other pollinators

So far the participating schools in Connecticut have seen success with monarch caterpillars coming to feed on native host plants such as milkweed, and the students and school staff are excited to see more monarchs in the area. The Monarch Mission will soon be available nationwide.

NWF is also a member of the Monarch Joint Venture. Their goal is to conserve and protect monarch populations and their migratory phenomena in the U.S. by implementing science-based habitat conservation and restoration measures in collaboration with multiple stakeholders.
The Monarch Mission is just one example of how Schoolyard Habitats are making a positive difference for wildlife and communities. To earn additional recognition and awards for environmental efforts, schools can explore the Schoolyard Habitats pathway of the Eco-Schools USA program and make a difference for wildlife and the school community.

Learn more about Schoolyard Habitats and how you can build one in your local school community.
WHEN ANIMATION AND NATURE COLLIDE

Posted on May 29, 2015 By thomascharlesblog

Last winter, students at Barnard Environmental Magnet School, in New Haven, Conn., learned how their schoolyard can be both a classroom as well as habitat for wildlife. Made possible by PBS, Audubon Connecticut, and the New Haven Urban Wildlife Refuge Partnership, these third-graders got to connect with nature through one of their favorite mediums: cartoons.

Students at Barnard Environmental Magnet School are working hard on their creature and habitat posters.

The producers of Plum Landing, an animated program on PBS, talked with the students about why they decided to make a cartoon about the environment. They also talked to kids about what their jobs are like, and how they chose that particular career path.

Here, teacher Francesca Williams teaches students about the environment.

During one of the program’s days, students bundled up against the cold to learn about the wildlife that reside right on their school grounds. Shaun Roche of Stewart B. McKinney National Wildlife Refuge and Francesca Williams of Audubon Connecticut taught lessons about their local environment, as well as encouraged students to explore...
the concept of schoolyard habitats. Students then developed their own sketches of what their schoolyard habitat could look like.

"Shaun and Francesca were wonderful to work with. They made the concepts come to life using our Schoolyard Habitat. Many of our students live in areas where it’s not safe for them to go outside," said Mrs. Sousa, a third-grade teacher at Barnard Environmental Magnet School.

Barnard Environmental Magnet School is home to one of the first designated Schoolyard Habitats within the New Haven Urban Wildlife Refuge Partnership, an initiative designed to get kids in urban areas outside to explore nature, a goal shared by PBS’s Plum Landing animated program.

![Shaun Roche instructs students as they explore the habitat in their snowy schoolyard.](image)

Said Mrs. Sousa, “The Schoolyard Habitat here at Barnard provides them with an opportunity to connect with nature that they may not otherwise have.”
Worthington Hooker Unveils Schoolyard Habitat

by MEAGAN JORDAN | Jun 17, 2014 7:41 am

After spending hours putting plants in the ground for their school’s new “habitat,” Worthington Hooker students got a chance Monday to plant rocks. The rock-planting took place Monday at a ribbon-cutting ceremony at the school, at 691 Whitney Ave., marking the official opening of a new outdoor space that includes flower beds and rock and vegetable gardens. The Schoolyard Habitat is designed for environmental education, to help students at the K-8 school learn about the world of plants.

Once the ribbon was cut, students were able to enter the habitat, where they placed stones in the rock garden as part of a new tradition.

Students, staff, parents and contributed to the project, with the help of the U.S. Fish and Wildlife Service, Audubon Connecticut, and Common Ground High School.

At Monday’s ceremony, students gave presentations explaining why the school habitat is essential, and expressed their excitement about the new project.
Plans for the habitat began coming together last spring. “This is the first year. We began earnest planting in the fall. The kids right from the beginning were instrumental in what plants they would like to see,” said Principal Sheryl Hershonik.

She said she was grateful to the all parents who participated. “Without our parents this would have not happened.”

Aicha Woods, mother of two and a “habitat parent leader” said she was very happy with the outcome. “I’m so proud and happy to see the kids out here. It’s been really fun,” said Woods.

Her son, 4th-grader Cody Woods, spent hours putting plants in the ground. “It was hard to make, but it was a good result,” he said.

His friend Alan Krauthanmer agreed: “I really like the design of the garden. It looks really nice.”

“The vision has come alive,” said Francesca Williams, Audubon’s education specialist. “Every student that shared their stories about today really hit home, it makes us extremely proud,” stated Williams.
Kim Gregory and Patty Sechi stand in the community garden at Armstrong Court. Photo: Bobby Baird

“We designed it along with their guidelines, and then over a few years it started to get a little rough around the edges, and Kim’s conservation group came in this past week and added more plants,” Sechi said. “I added some plants and we’ve kind of renovated it because it’s part of this commitment that we have to not only providing food for pollinators but also this garden provides respite for the migratory birds.”

The Pollinator potluck also featured wine tasting with samples provided by The Study Fine Wine and Spirits.

“We know Kim Gregory from the store, and from the neighborhood, and she invited us to come and do wine tasting and pairing for all of these different pollinator potlucks that they’ve done at different locations throughout Greenwich nonprofits, which has been really cool. It’s actually been great for us to come and see all of these talks,” Noah Goldberg said.
Pollinator Potluck Brings Community Together for Brick Oven Pizza

By: BOBBY BAIRD | June 3, 2016

The Pollinator Potluck at the Armstrong Court Gardens featured oven-fresh pizza, fine wine, and an educational speech about the value of public gardens to migratory birds.

In its second year, the Greenwich Garden Club (GGC) is using potlucks to bolster a sense of community. The meeting focused on raising awareness for migratory birds that are in desperate need of habitats like community gardens.

“We decided we wanted to do something open to the public, and we thought the potluck was the best way to not have to charge for something, and everybody brings the beverages, the food, and it’s just a real community gathering,” said Kim Gregory, the conservation chair of the GGC. “It’s all this bringing what we have for our resources, and sharing it, and we don’t have to charge, it’s free, and we get to learn lots of stuff from great people like Patty Sechi, and the Audubon, and other conservationists in town.”
Students, their parents, and teachers have been planting and caring for milkweed, cranberry, and bearberry bushes, among other plants along the Edgewood Avenue side of the school as the first phase of a three-phase project. Besides providing kids a peaceful, interesting place to learn, the habitat feeds birds and bees.

At a ceremony Friday morning, fourth-grader Matthew Judd, one of the students who worked hard on the habitat, helped Mayor Toni Harp cut the ribbon while second-graders Betsy Nardini and Iyla Bhandary-Alexander unveiled a habitat sign for which they designed the art.

Then students conducted tours for visitors. Kamiyah and Sasha have been watering the honeysuckle, and learning the finer points of the plant. “You take the honeysuckle on the bottom,” Kamiyah said. “See the green part here? That’s the part you eat the nectar from. You should wait until it blooms all the way...” “... or,” Sasha continued, there won’t be much nectar to taste.
New Edgewood Habitat Nurtures The Kids—and The Birds & Bees

by PAUL BASS | Jun 12, 2015 3:50 pm

Nature erupted outside another New Haven school Friday, where fourth-graders Kamiyah Emery and Sasha Cohen Cox spread the word about the right time to taste the nectar from the honeysuckle they’re tending.

Kamiyah and Sasha shared their wisdom at the opening of an urban wildlife habitat that opened outside Edgewood School. It was the second such habitat opening this week. (Read about the other, at East Rock Community Magnet, here.) Six schools in all are creating greenspaces to give kids outdoor learning spaces while bringing more nature to the city. Besides Edgewood and East Rock, they include Barnard Environmental Studies Magnet, Columbus Family Academy and Worthington Hooker Elementary Schools. Common Ground High School has been helping all the schools design and put in the greenspaces, with support from Audubon Connecticut and the U.S. Fish and Wildlife Service.
The garden, once the flowers are in full bloom, was planted in the hope of attracting migratory songbirds, butterflies and other wildlife, as well as for students who will use the space as an outdoor learning center.

“It’s so exciting to come to this space and open a classroom like this,” said Superintendent of Schools Garth Harries. “This garden is beautiful now and it’s only just been planted.”

The new schoolyard habitat at Bishop Woods was officially opened Wednesday morning, with a short ceremony to thank all of the parents, teachers, students and community members who helped make the project a reality.

The project idea initially began as a vegetable garden, said Cara Campo, director of the school’s schoolyard habitat committee. But the idea quickly shifted to a wildlife sanctuary and learning space because the Bishop Woods Bird Sanctuary is located behind the school.

The U.S. Fish and Wildlife Service’s Schoolyard Habitat program is meant to encourage schools to create a space for students to experience nature and connect with the outdoors through observation, according to Cindy Corsair of the federal agency. Audubon Connecticut, Common Ground, and Yale Peabody Museum also worked in partnership with Bishop Woods to create the space.

Bishop Woods is the sixth school in New Haven to dedicate a space as a schoolyard habitat, joining East Rock Community Magnet School, Edgewood Magnet School, Columbus Academy, Worthington-Hooker and Barnard schools, said Francesca Williams, schoolyard habitat coordinator for Audubon Connecticut.

Williams reminded the students Wednesday that their school garden, in addition to being a fun, new place to learn, also is good for the environment. It will help filter rainwater and keep pollution from getting into Long Island Sound and provide an important habitat for birds, butterflies and bees.

“Your habitat also serves an important ecological role,” Williams said.

Students have been a part of the project from the very beginning, Campo said, and many have pledged to continue their efforts over summer by coming to the school to help water the plants and weed the beds.

Students gave up time at recess to help dig, lay mulch, weed and plant, Campo said. In addition, each student in the school painted a small rock, all of which line two of the flower beds. During the dedication ceremony, students sang, read poems and presented artwork that focused on the importance of an outdoor learning space at school.

Conte West Hills will join the list of schools with an outdoor schoolyard habitat with an opening ceremony this fall.
New Haven’s Bishop Woods school opens garden for learning and ecological benefits

By Anna Bisaro, New Haven Register

A new schoolyard habitat has opened at Bishop Woods Executive Academy in New Haven. Anna Bisaro — New Haven Register

NEW HAVEN >> A new garden outside Bishop Woods Executive Academy is designed to look like a rainbow when all of the flowers start to bloom.
New Outdoor Classroom Unveiled at New Haven School

By Matt Austin

A new outdoor classroom was unveiled at Edgewood Magnet School in New Haven Friday.

It’s one of so-called Schoolyard Habitats which were built at five schools including also at East Rock Community Magnet, Barnard Environmental Studies Magnet, Columbus Family Academy, and Worthington Hooker Elementary Schools.

At Edgewood, the habitat is between the playground and an adjoining road. It includes plants, trees, and a trail connecting it all.

“When we planned the space, we really planned it for all different types of learners,” says Leslie Cohen, a parent of an Edgewood student. Parents teamed up with Audubon Connecticut, the U.S. Fish & Wildlife Service, and others to design these Schoolyard Habitats at five New Haven Schools.

Grant money along with a little outdoors work by students, staff, and volunteers brought them to life.

Now it's not just the soil that is rich.

The school says this area helps kids develop with special learning plans, science lessons, and just a place to explore.

“They’re excited. They want to show everyone. They want to bring in their relatives to our Schoolyard Habitat to show them what we’re doing and I think it builds upon a natural curiosity that students have anyway,” says Shanta Smith, principal of Edgewood Magnet School.

Edgewood hopes, like the plants and kids, this area keeps growing, offering more opportunities when students ditch the desk and discover the outdoors.
add institutions of higher education to the list of honorees this year for the first time in the award’s history."

The schools, districts, and post secondary institutions were confirmed from a pool of candidates voluntarily nominated by 30 state education agencies, with honorees selected from 28 jurisdictions. The list of 81 total selectees includes 52 public schools and six private schools. The public schools include two charter and three magnet schools. The schools serve various grade levels, including 35 elementary, 19 middle and 17 high schools are among them, with several schools having various K-12 configurations, from 28 of the nominating authorities. Forty-seven percent of the 2015 honorees serve a disadvantaged student body, 22 percent are rural, and one-third of the post secondary institutions are community colleges. The list of all selected schools, districts, colleges, and universities, as well as their nomination packages, can be found here.

Connecticut Green LEAF Schools is a program Connecticut Departments of Education, Energy and Environmental Protection, Administrative Services, and Public Health, in collaboration with more than thirty-five environmental and educational partners. Seventy-six schools have signed on to the program. Nine schools and one district, have achieved Green Ribbon recognition, including this year’s honorees, and Common Ground High School, Barnard Environmental Studies Magnet, both on New Haven, and Environmental Science Magnet at Mary Hooker from Hartford, Interdistrict Discovery Magnet School of Bridgeport, and Greenwich Academy, Greenwich.

Connecticut Green LEAF helps schools to grow greener and focuses on “Leading, Educating, Achieving, and Fostering healthy, green schools for all.” There are three goals, to the program including: Providing effective environmental and sustainability education; improving the health and wellness of students and staff; and reducing environmental impact and cost.

Connecticut Green LEAF Schools is free and open to all K-12 schools, both public and private. Schools receive support in meeting the goal, including webinars, lessons, and professional development. There are currently 76 schools participating in the program.

All participating schools will be recognized for their accomplishments. Schools that show substantial progress in greening their schools may be eligible for nomination for the U.S. Department of Education’s Green Ribbon Award.

The Connecticut Green LEAF School program supports Connecticut schools in providing effective environmental and sustainability education, improving the health and wellness of their students and staff and reducing their environmental impact and costs. LEAF stands for “Leading, Educating, Achieving and Fostering green, healthy schools for all”. The program is a collaborative effort led by the Connecticut Departments of Administrative Services, Education, Energy and Environmental Protection and Public Health, along with other state educational and environmental organizations. The program celebrates and recognizes those Connecticut schools making progress toward sustainability. The Connecticut Green LEAF School program will also support the nomination of a select group of schools to the U.S. Department of Education’s Green Ribbon School program. For more information, please visit www.ctgreenleaf.org.
Parkway Named Green Ribbon School by US Education Secretary

By: GREENWICHFREEPRESS | April 23, 2015

Parkway School

Parkway School is one of four schools in addition to one district to be named a 2015 US Department of Education Green Ribbon Schools.

The announcement was made by Managing Director of the White House Council on Environmental Quality Christy Goldfuss and US Secretary of Education Arne Duncan on April 22.

In addition to Parkway, the other three Connecticut schools nominated by Connecticut Green LEAF Schools are Academy of Engineering and Green Technology in Hartford, Greens Farms Academy in Westport and Rogers International School in Stamford.

“We are very proud of the important ‘green’ work that the Parkway School community has been engaged in for some time now,” said Greenwich Schools Superintendent Dr. William S. McKersie in a release.

Parkway is a PK-5 elementary school in Greenwich serves 260 students. “Green” education activities at Parkway include constructing a pollinator garden that is certified as a National Fish and Wildlife Schooyard Habitat, partnering with a local organic farmer to sell produce and learn about healthy eating, hosting Green LEAF Night to share lessons about sustainable living with families, and service learning projects.

In total, across the country, 58 schools and 14 districts were honored for their exemplary efforts to reduce environmental impact and utility costs, promote better health, and ensure effective environmental education, including civics and green career pathways. In addition, 9 colleges and universities were honored for the Post Secondary Sustainability Award. Duncan and Goldfuss made the announcement at the U.S. Department of Education, in Washington, DC.

“These honorees are compelling examples of the ways schools can help children build real-world skill sets, cut school costs, and provide healthy learning environments,” Duncan said. “US Department of Education Green Ribbon Schools are an inspiration and deserve the spotlight for embodying strong examples of innovative learning and civic engagement. We also are thrilled to
New Haven Register (http://www.nhregister.com)

New Haven’s East Rock school students help to build bird habitat

Students join in planning and planting

By Evan Lips, New Haven Register

Monday, June 8, 2015

NEW HAVEN >> Discard the idiom — East Rock Global Studies Magnet School truly is for the birds, literally.

On Monday, officials with Audubon Connecticut and the U.S. Fish and Wildlife Service visited the school to honor students and teachers for transforming the grounds that encircle the building’s play area into what they hope will become a bird sanctuary.

Months of hard work spent learning about the types of native flora best suited for attracting migratory songbirds means the school at the corner of Nash and Willow streets soon will be chirping with energy as various plants grow and become permanent fixtures on the grounds.

“You are providing stepping stones for migratory songbirds,” Katherine Blake of Audubon Connecticut told the assembly of students, who ranged in age from kindergarten through seventh grade. “I’ve heard you’ve already seen a bunch of birds visiting your habitat. You build it and they will come.”

The space now features a variety of native plants, including black-eyed susans and flowering sedum stonecrops.

Georgia Basso, a wildlife biologist with the U.S. Fish and Wildlife Service, noted that East Rock is not the only school to transform a portion of its campus into a natural habitat.

Later this month the Worthington Hooker and Edgewood Magnet schools will show off their own “urban oases” as part of the New Haven Urban Wildlife Refuge Partnership. The U.S. Fish and Wildlife Service in 2013 designated parts of New Haven as some of the nation’s first.
East Rock and Edgewood schools are unveiling their first urban oases this month, joining the Worthington Hooker, Columbus and Barnard Schools, who unveiled theirs last year.

“They are designated locations in urban areas where partners come together to restore habitats and inspire the next generation of conservation leaders,” said Melissa Gibbons, an environmental teacher at Common Ground High School in West Rock.

Gibbons added that representatives from Common Ground, Audubon Connecticut and U.S. Fish and Wildlife led a training course for teachers to show them “how to integrate their schoolyard habitat into their curriculum.”

The morning’s activities also featured a performance from the school’s kindergarten class, who sang a rendition of Sam Cooke’s “The Best Things in Life are Free,” while seventh-grade student Liz Marie Ortiz read aloud a poem she wrote, “Bird in Search of a School Yard,” told from the point of view of a bird looking for the perfect place to nest in a city.

More than 20 students were honored for the artwork they made that now appears on the sign in the courtyard designating the new habitat.

“Your artwork will be on our sign in our habitat forever,” said speech teacher Emily Phillips, one of several faculty members who helped lead the effort. “You’re now a permanent part of East Rock.”

The sign features drawings of flowers, butterflies, bumblebees, worms, trees, ladybugs and grasshoppers.

Basso also presented a sign to the school designating its place on a national register of schoolyard habitats while Blake praised the work done by administrators and teachers.

“It takes a lot of planning throughout the entire academic year and this team showed incredible leadership and dedication to make sure everything you see here happened,” Blake said, referring to the team led by special education teacher Samantha Pacelli.

Each schoolyard habit was funded with the help of grants distributed by organizations ranging from the Long Island Sound Futures Fund to the American Honda Federation.

The next unveiling ceremony will take place Wednesday at Worthington Hooker School.


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Why the Green Schoolyard Movement Benefits Kids, Communities and the Environment

By Carla Thompson / The Huffington Post
April 15, 2015

Imagine if every neighborhood in every city in America had a safe, vibrant and accessible outdoor place that served as a neighborhood hub. A place where kids could play and participate in sports, where neighbors could get together for a shared meal or a musical performance; where teachers could conduct lessons in science, poetry or art under a canopy of trees; where kids could plant a garden, tend crops and harvest a little healthy food for themselves.

Most city neighborhoods already have a local schoolyard, and it's the perfect space to be transformed into an outdoor hub -- serving students during the school day and the entire community when school isn't in session.

Multi-purpose, environmentally beneficial schoolyards like these are called "green schoolyards," and they're becoming a reality in cities across the country.

The green schoolyard movement owes much to chef Alice Waters' Edible Schoolyard project, which began 20 years ago in Berkeley, California, in response to a neglected schoolyard of crumbling asphalt.

In Boston, the Boston Schoolyard Initiative revitalized 88 schoolyards between 1995 and 2013. And in San Francisco, Education Outside is creating an extensive network of green schoolyards. Green schoolyards are part of a broad movement to connect kids and families to nature in their everyday lives, led by a coalition called the Children & Nature Network.

Schools and communities have been overwhelmingly receptive to green schoolyards. The challenge has been securing funding for design and construction, as well as resources for ongoing maintenance. Education Outside continues with a mix of public and private funding, along with help from a spirited corps of young people who serve as dedicated stewards of the schoolyards.

One of the most exciting, recent green schoolyard initiatives is Chicago-based Space to Grow, which held opening ceremonies for its first four green schoolyards last fall. Space to Grow is overseeing the creation of an additional 30 green schoolyards across Chicago in the next five years, a $51 million investment in underserved urban neighborhoods.
What makes Space to Grow special is an innovative public-private partnership that leverages the strengths of two local, nonprofit organizations — Healthy Schools Campaign (HSC) and Openlands — and three public agencies — Chicago Public Schools, City of Chicago Department of Water Management and Metropolitan Water Reclamation District of Greater Chicago.

Space to Grow receives funding from the W.K. Kellogg Foundation and other private sources, as well as public education dollars, but the key to its success is public water district funding, which has been directed toward the green schoolyards because they address stormwater control.

To be selected for a Space to Grow schoolyard, a school has to be located in one of Chicago’s many flood-prone areas. Each Space to Grow schoolyard replaces asphalt paving with water-permeable groundcovers and play surfaces, as well as landscape features that absorb rainwater, reducing runoff that causes local flooding and flushes street pollutants into the Chicago and Calumet rivers and Lake Michigan.

Though it benefits from federal, state and city funding, Space to Grow isn’t a government project but a local initiative that engages the entire school community — including neighborhood residents — to help plan and create a schoolyard that serves many needs.

The first of the Space to Grow opening ceremonies, at Morrill Math & Science Elementary School, offered ample evidence of a shared community effort: hundreds of volunteers showed up early to complete the landscape planting; neighbors mingled with teachers and city alders; kids struck up soccer and basketball games even before the ribbon was cut.

“It’s a big win for the kids and for the city,” said Rochelle Davis, HSC president and CEO, who was on hand for the festivities along with other Space to Grow partners.

Space to Grow has not gone unnoticed. Last month, Davis was in Washington, D.C., to accept one of three Champions Awards from the National Physical Activity Plan Alliance. Next month, Space to Grow will receive the Illinois Association of Floodplain and Stormwater Management’s Sustainability Award. They have also been nominated for an Emerald Award from the U.S. Green Building Council’s Illinois Chapter.

With initiatives like Space to Grow to serve as models, we should envision greening every schoolyard in the country. And the real winners, of course, will be the kids.
New Haven schools create habitats for outdoor learning

Students will learn from nature habitats

By Rachel Chinapen, New Haven Register

Monday, June 16, 2014

NEW HAVEN >> Research on what flowers would be best for the habitat at Worthington Hooker School was hard, but it was worth it, said third-grader Annie Liu.

“The outdoor habitat looked very pretty and soon the trellis was set up and the habitat looked even more welcoming,” Liu said. “Now the outdoor habitat is done and the result is totally worth the hard work.”

Worthington Hooker, Columbus Family Academy and Barnard Environmental Magnet School all spent the year transforming their campuses to include schoolyard habitats and outdoor classrooms. The work was funded by grants to each school from the American Honda Foundation, the Carolyn Foundation and the Long Island Sound Futures Fund. The habitats are parts of the New Haven Urban Wildlife Refuge Partnership with the U.S. Fish and Wildlife Service.

The Fish and Wildlife Service recognized the urban oases project in the New Haven Harbor Watershed in October as one of eight pilot partnerships across the nation aimed at connecting cities with nature.

In New Haven, the partnership aims to connect students to Long Island Sound, to restore three public park habitat-restoration sites and inspire youth to become conservation leaders. The partnership also included developing four schoolyard habitat projects at various schools.
Audubon Connecticut, Common Ground High School, the Urban Farm and Environmental Center and Yale Peabody Museum of Natural History collaborated to expand the national Schoolyard Habitat Program and educate students and staff about habitats and nature.

“Schoolyard habitats are areas on school grounds that benefit people and wildlife. It’s about us and it’s about the natural world,” said Common Ground Director of Development & Community Engagement Joel Tolman. “They’re ecologically sound, they’re part of your curriculum, so you get to learn in these places, and they’re designed to encourage long-term stewardship.”

The students and school community created three-year plans for their campuses with the help of leaders and experts from the various agencies. The school’s sixth-grade extracurricular ECHOS group, designed and helped to create an outdoor classroom near the school’s entrance. It consists of hardy logs of wood for seating and is placed under well-grown trees for shade.

Francesca Williams, education specialist at Audubon, said the habitat provides students with abundant learning opportunities to observe, conduct yearlong research, read, write, reflect and, of course, play.

The habitat also helps to reduce pollution by filtering rain water and serves as a “stepping stone” for migratory song birds to rest and “refuel” as they travel through New Haven, she said.

Third-grader Alexander Robinson said he thinks the habitat is a “great opportunity” for the students to “get fresh air and play” while learning.

“Kids need to explore during childhood so this is a great chance,” Robinson said.

“I am really excited to see this happening,” said fourth-grader Amelie Corazzini. “A schoolyard habitat will help a lot of the animals that live around here. Did you know that most animals are endangered because we’re wiping out their natural habitats?”

Corazzini said the habitat will provide food, shelter and “maybe even a stopping point during their migration” for various species.

Over at Columbus, students and staff will work with the community to create a courtyard habitat for butterflies and also will create areas for digging, exploring and learning about medicinal uses of plants.

At Barnard, the project’s initial steps will include clearing a trail around a potential outdoor learning classroom. Work at Barnard will be supported with the help of Common Ground.

Call Rachel Chinapen at 203-789-5714. Have questions, feedback or ideas about our news coverage? Connect directly with New Haven Register editors at AskTheRegister.com
Trailblazing Success for Parkway Elementary School

By: GREENWICHFREEPRESS | May 10, 2016

Parkway Elementary School’s Student Habitat committee is thrilled to announce the launch of Parkway’s Harmony Trail! The Parkway PTA, Junior League of Greenwich, Sam Bridge Nursery and other organizations teamed up with students, parents and teachers to construct a 650 foot trail at Parkway Elementary School.

Students, parents, and Parkway PTA along with the Junior League of Greenwich, Sam Bridge Nursery and other organizations, recently teamed up to construct a 650 foot “Harmony Trail” and wildlife habitat at Parkway Elementary School.

“We created this trail for our children and the community to enjoy and learn about the birds and plants that are so abundant in our little corner of backcountry,” said Melissa Devaney, one of the organizers and a Parkway School parent. “As a newly minted nationally certified Green Ribbon School, we hope to connect the curriculum to nature using this outdoor classroom that is rich with opportunities for discovery and learning,” Devaney said.
Harmony Trail, named after the cattle farm that was present on that land until 1958, includes a lovely variety of native plantings, a science table, and a sign for the entrance. This second phase of Parkway’s Student Habitat project was made possible due to generous donations from the Junior League of Greenwich and Sam Bridge Nursery along with the guidance of Audubon Greenwich.

Parkway School is fortunate to have local support by Audubon Greenwich as they advance their outdoor class. “We have been working with Parkway School to train some of the teachers in our curriculum,” said Audubon naturalist Sean Graesser, who was helping out on trail day.

“Parkway first created a wild native pollinator garden in the front of the school and now we’re working on this back trail area where native plantings will create food and structure for migrant birds that are coming through,” Graesser said.

Wildlife habitats, such as Harmony Trail, help reconnect today’s children to the outdoors.

Harmony Trail will be an ongoing project. Supporters intend to add educational signs to the trail and hope to extend it in the future.

If you have any interest in helping please contact Melissa Devaney devaneymelissa@gmail.com or Liz Tommasino liztommasino@live.com.
The Schoolyard Habitat Program - Impacting the Environment and Education

The Schoolyard Habitat Program, a program in partnership with Audubon Connecticut, the U.S. Fish & Wildlife Service, Common Ground High School, Urban Farm, and Environmental Education Center, and Yale Peabody Museum of Natural History, is part of the Greater New Haven Harbor Watershed Urban Wildlife Refuge Partnership that works to create wildlife refuge sites across New Haven and Stamford. School teams comprised of teachers, administrators, parents, students, and community volunteers work together to design a long-term master plan for transforming school grounds into viable wildlife habitat that is used as an outdoor classroom. Schoolyard habitats are ecologically sound, integrated into the curriculum, and designed to encourage long-term stewardship.

During the 2014-2015 academic year, nine elementary schools in New Haven, Stamford, and Greenwich created or expanded their schoolyard habitats:

- East Rock Community Magnet School
- Edgewood Magnet School
- Barnard Environmental Magnet School
- Columbus Family Academy
- Worthington Hooker School
- Stark Elementary School
- Springdale Elementary School
- Hart Magnet Elementary School
- Parkway School

The vision of each school's Leadership Team came alive as native plants were installed, student artwork was featured on signage, and teachers led lessons outdoors in the habitat. As schoolyard habitats, the
outdoor classrooms provide places were students can observe, reflect, write, draw, and collaborate. These spaces provide abundance opportunities for authentic and engaged learning outdoors. These spaces also serve an important ecological role, as the areas help reduce pollution by filtering rainwater and help keep it out of areas like the Long Island Sound. Schoolyard habitats provide an important stepping stone for migrating songbirds travelling through New Haven, Stamford, and Greenwich who need places to rest and refuel, and support pollinators like butterflies and bees that need native plants to sustain their full life cycle. What’s more is that these certified schoolyard habitats join a network of urban oases sites across the area in front and back yards, nearby parks, and other schoolyards.

The Schoolyard Habitat Program boasts high impact both ecologically, as described above, and academically. During the 2014-2015 academic year, 33 teachers participated in the Program and demonstrated a 57% increase in how frequently they went outside to teach a lesson. Teacher attitudes about teaching outdoors increased by the end of the program, and teachers reported an increase in comfort and understanding of teaching outside. Forty-six percent of teachers reported sharing their experience and/or lessons from Audubon CT’s Schoolyard Habitat Curriculum Guide in some way with non-participating teachers, thus serving as a mentor for others. Students showed gains as well: 66% of students showed an increase in content knowledge and attitudes as demonstrated by pre- and posttests. Eight of 10 lessons showed that post-test scores were significantly higher than pre-test scores as revealed by matched-paired t-tests. Students also indicated an increase in knowledge and awareness of Long Island Sound, and a willingness to take action for the environment with their families, as a result of the program.

The Schoolyard Habitat Program is an example of what habitat restoration in urban areas can look like, and what the power of a small group of committed students and teachers can do to create a meaningful place for people and wildlife.
Education

Brainstorming

Evaluation
Brainstorming
K-5 Next Generation Science Standards in the Garden

A list of NGSS that are well suited for Garden-Based Learning

Key to codes:
Grade - LS (Life Sciences), ESS (Earth and Space Sciences), PS (Physical Sciences) - Standard Number

K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive

K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time

K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs

K-ESS3-1 Use a model to represent the relationship between the needs of different plants of animals (including humans) and the places they live

K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment

1-LS1-1 Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs

2-PS1-1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties

2-LS2-1 Plan and conduct an investigation to determine if plants need sunlight and water to grow

2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants

2-LS4-1 Make observations of plants and animals to compare the diversity of life in different habitats

2-ESS2-1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land

3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death

List created by Life Lab. Learn more about connecting Next Generation and Common Core Standards to Garden-Based Learning at http://www.lifelab.org/2013/07/content-standards/
3-LS3-1 Analyze and interpret data provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.

3-LS4-2 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

3-LS4-3 Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

3-LS4-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.

3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

4-LS1-1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

5-PS3-1 Use models to describe that energy in animals’ food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

5-LS1-1 Support and argument that plants get the materials they need for growth chiefly from air and water.

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.
Common Core Standards Frequently Used
In Cooking and Tasting Activities

Math:

K.CC.4: Understand the relationship between numbers and quantities; connect counting to cardinality.

K.CC.5: Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

K.CC.6: Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. (Groups with up to 10 objects)

K.OA.1: Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

K.OA.2: Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

K.MD.1: Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

2.MD.10: Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in a bar graph.

3.NF.1: Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.

3.MD.2: Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (L). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.

5.MD.1: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.
Language Arts

K.RL.5 Actively engage in group reading activities with purpose and understanding.

K.W.3 Use a combination of drawing, dictating, and writing to narrate a single event or several loosely linked events, tell about the events in the order in which they occurred, and provide a reaction to what happened.

K.L.5.a Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.

K.L.5.c Identify real-life connections between words and their use (e.g., note places at school that are colorful).

1.RF.4.a Read on-level text with purpose and understanding.

1.L.5.c Identify real-life connections between words and their use (e.g., note places at home that are cozy).

1.W.3 Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.

2.L.5.d Distinguish shades of meaning among verbs differing in manner (e.g., look, peek, glance, stare, glare, scowl) and adjectives differing in intensity (e.g., large, gigantic) by defining or choosing them or by acting out the meanings.

2.RI.5 Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.

2.RI.10 By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.

2.SL.1 Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

2.L.5.a Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy).

2.L.5.b Distinguish shades of meaning among closely related verbs (e.g., toss, throw, hurl) and closely related adjectives (e.g., thin, slender, skinny, scrawny).

3.RF.4.a Read on-level text with purpose and understanding.
3.RI.10 By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.

3.SL.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

4.RF.4.a Read on-level text with purpose and understanding.

4.SL.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.

4.RI.10 By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.

5.SL.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

5.RI.10 By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 4–5 text complexity band independently and proficiently.
- Fresh air
- Visible/tangible (public)
- Nature is the primary source
- Connects divisions if done the right way
- Inspires
- Brings out strengths (making connections)
-部分 of something greater
- Learning so much content
- Connects to nature
- Sustainability
- Making changes for the long term
Learning Goals for Your Habitat

- Exploration
  - Investigations ➔ using EVIDENCE,
  - not having the right answer
- Reasoning
- Note-taking (observations) ➔ DETAIL
- Questioning
- Wonder ➔ investigating
- Scientific method ➔ indigenous people

Each grade ➔ remove constraints and think big "Dream"

Scaffolding
Edgewood: Learning Goals for our 5th:

- life cycles
- Insects
- Form + Function
- Photosynthesis
- Soil + Rocks
- Data Collection
- Art
- Observations
- Non-Fiction Reading + Writing
- Math - graphing
East Rock: Learning Goals for our SYH:

- Cross curriculum
- Utilize experiential activities
- Hands on experiential activities
- Connecting to real world

- Discern between students/teachers
- Higher level thinking
- Learning can be "Fun!"
Designing Our Schoolyard Wildlife

We need your ideas....

The Schoolyard Habitat Team wants to improve the wildlife habitat value of our schoolyard. We are beginning our plan and would like to know your thoughts and ideas.

- How would you like to use your schoolyard? What do you want to change?
- What type of wildlife would you like to see in our schoolyard?
- Are you interested in helping with this project?
Challenges

Weather → planning
Ticks; poison ivy
Time to get there... get dressed
Pollen, bees, allergies
Space management

Making it part of my regular curriculum. (content)

Carrying Materials

Distractibility

Worried parents—(ticks)
Kids w/ sensory issues—squeemish about touching things
Timing—cause we switch classes often.

Cooperation @ grade level teams
Schoolyard Habitat (SYH) Curriculum Guide
Grade Level References and Choosing Lesson(s)

The SYH Curriculum Guide has been designed to meet your instructional needs. Arranged by topics, lessons in the Guide can be used for multiple grade levels and for interdisciplinary purposes.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Grade Level (CT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insects</td>
<td>1 (Structure/Function), 2 (Life Cycles)</td>
</tr>
<tr>
<td>Plants</td>
<td>3 (Life Cycles, Heredity and Evolution)</td>
</tr>
<tr>
<td>Animals</td>
<td>3 (Heredity and Evolution)</td>
</tr>
<tr>
<td>Matter and Energy</td>
<td>4 (Ecosystems, Land and Water)</td>
</tr>
<tr>
<td>Energy, Science and Technology</td>
<td>5 (Sound as energy, Tools in science)</td>
</tr>
<tr>
<td>Ecosystems and Watersheds (Food Webs and Pollution)</td>
<td>6 (Ecosystems, Long Island Sound)</td>
</tr>
</tbody>
</table>

- Please take the time to browse through the entire Guide and see the various resources that are available.
- Decide which lesson(s) or topic(s) you intend to implement this spring.
- Please contact Francesca Williams at francesca.williams18@gmail.com as soon as possible with your decision (for internal evaluation purposes only).
- Francesca will provide you with pre-tests for your students to complete based on the lesson(s) you plan to implement this spring.
SCHOOLYARD HABITAT PROGRAM PRE-TEST
Animals, Lesson 2: Bird Nests

School Name
Teacher Name
My Initials

Multiple Choice.

1. What can you do to provide good habitat for songbirds? Circle all that apply.
   a. Make sure there are plants for food.
   b. Make sure there are plants for shelter.
   c. Provide water, such as in a birdbath.
   d. All of the above can help provide good habitat for songbirds.

2. Gray catbirds feed on insects as well as fruits of trees and shrubs. They build their nests in shrubs. Which is the best location of your schoolyard for a gray catbird to build its nest and feed its young?
   a. on a patch of grass by the parking lot
   b. by the playing field
   c. in the tall trees in the park by your school
   d. at the edge of your schoolyard
3. Birds like chickadees, woodpeckers, and nuthatches will only nest in tree cavities. If your schoolyard does not have dead trees with cavities, what can you do to help these types of birds nest in your schoolyard?

- a. Put up a nestbox to give a cavity-nesting bird a place to raise their family.
- b. Start building a nest with twigs in a shrub.
- c. There is no way to attract cavity-nesting birds to my schoolyard.
- d. Put up a birdfeeder in your schoolyard filled with bird seed.

4. My schoolyard is a good place for plants and animals to live.

- 🙁 No it is not
- 😞 Probably not
- 😞 Not sure
- 😀 Maybe
- 😊 Yes it is

5. I like learning outside in my schoolyard.

- 😞 No I do not
- 😞 Not usually
- 😞 Not sure
- 😊 Sometimes
- 😊 Yes I do
6. My schoolyard is a place to have fun in nature.

No it is not  Probably not  Not sure  Maybe  Yes it is

7. I like learning about science/nature and may want a science/nature job when I grow up.

No  Not really  Not sure  Maybe  Yes
Design
Planting for Wildlife: Create Structure with your Plantings
Why? Different Birds use Different Parts of the Landscape.
Planting for Wildlife: Plant for All Seasons
Why? You will support a wider diversity of birds that visit your yard
YOU CAN SAVE BIRDS FROM FLYING INTO WINDOWS!

Millions of birds die every year flying into windows, because they can’t tell reflections from trees, plants and sky. Most of those windows are on houses.

Never had a bird hit your window? Perhaps you have been lucky—so far. More likely, you haven’t been around to see or hear it when it happened, and the bird has either flown off to die elsewhere or been scavenged by a neighborhood cat, raccoon, or crow. But the odds are that sooner or later, your windows will kill a bird.

Not all windows are equally hazardous. Check to see which of your windows are most reflective, and closest to areas where you see birds when they are active. Collisions happen more frequently during spring and fall migration periods or when resident birds fledge young or leave territories to seek food in winter.

Even small windows can be dangerous, as many birds fly into small spaces such as tree cavities or between branches.

Research has identified solutions to alert birds to windows. The easiest of these involve applying visible markings to the outside of windows in patterns that the birds can see while requiring minimal glass coverage to keep your view unobscured. Although we don’t yet have all the answers, we know that most birds will avoid windows with vertical stripes spaced four inches apart or less, or horizontal stripes spaced two inches or less apart. Stripes should be at least $\frac{1}{4}$” wide and light colors are generally more visible. More complicated or irregular patterns will also work as long as they follow the general spacing guidelines specified above.

On the other side of this page, we provide information on some of the products you can use to help prevent birds from crashing into your windows and where to find them.

For more information contact:
Dr. Christine Sheppard, ABC Bird Collisions Campaign Manager,
csheppard@abcbirds.org
Here are some quick and affordable ways to protect birds from your windows. These should be applied to the outside of the glass to break up reflections.

1. Apply Tempera paint (available at most art supply and craft stores) free-hand with brush or sponge, or use a stencil. Tempera is long-lasting, even in rain, and non-toxic, but comes right off with a damp rag or sponge. Find stencils at www.michaels.com, www.amazon.com, or download stencils for free at www.spraypaintstencils.com.

2. Use tape to create patterns. Any opaque tape can work, but translucent ABC BirdTape transmits light and is made to last outdoors (www.abcbirdtape.org).

3. Most window films designed for external use are not patterned and will not deter birds. However, interior window films come in many colors and styles, and can be applied on the outside of windows to prevent collisions (see www.thesunshieldpros.us/WindowFilm/decorative_film.html). CollidEscape, designed for external use, is see-through from the inside, opaque from the outside (www.collidescape.org).

4. If you don't want to alter the glass itself, you can stretch lightweight netting, screen, or other material over the window. The netting must be several inches in front of the window, so birds don't hit the glass after hitting the net. Several companies, (www.birdscreen.com, www.birdsavers.com) sell screens or other barriers that can be attached with suction cups or eye hooks (also see www.birdgone.com, www.nixalite.com, or www.birdmaster.com).

5. What about prefabricated decals? Birds see decals shaped like raptors as obstacles but not as predators. To be effective, any type of decal must be spaced as described above, more closely than recommended by most manufacturers (www.windowdressingetc.com, www.windowalert.com, www.duncraft.com). Or make your own! Arti Stick Window Color paints come in 18 colors and are marketed for children. Drawings on sheets of plastic become translucent as they dry, and can be peeled off and applied to windows (visit www.dickblick.com).

For more information, contact:

AMERICAN BIRD CONSERVANCY
P.O. Box 249, 4249 Loudoun Avenue
The Plains, VA 20198
www.abcbirds.org • info@abcbirds.org
540-253-5780 • 888-247-3624
<table>
<thead>
<tr>
<th>Self-watering Planters</th>
<th><strong>RECYCLED WATER BOTTLE GARDEN IDEAS AND INSPIRATION</strong></th>
<th>Water bottle green houses</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.seattlesundries.com/blogs/news/11749733-how-to-selfwatering-seed-starter-pots">http://www.seattlesundries.com/blogs/news/11749733-how-to-selfwatering-seed-starter-pots</a></td>
<td><img src="image1.png" alt="Image of self-watering planters" /></td>
<td><img src="image2.png" alt="Image of water bottle greenhouse" /></td>
</tr>
<tr>
<td>Socia bottle sprinklers</td>
<td><img src="image3.png" alt="Image of Socia bottle sprinklers" /></td>
<td><img src="image4.png" alt="Image of water bottle bird feeders" /></td>
</tr>
<tr>
<td><a href="http://www.clevercraftycookinmama.com/2012/07/make-your-ownsprinkler-kid-craft.html#.Vkn8rberRIU">http://www.clevercraftycookinmama.com/2012/07/make-your-ownsprinkler-kid-craft.html#.Vkn8rberRIU</a></td>
<td><img src="image5.png" alt="Image of how to make a fast fill slow release" /></td>
<td><img src="image6.png" alt="Image of water bottle bird feeders" /></td>
</tr>
<tr>
<td><img src="image7.png" alt="Image of seed storage" /></td>
<td><img src="image8.png" alt="Image of more wonderful ideas" /></td>
<td><img src="image9.png" alt="Image of seed storage" /></td>
</tr>
<tr>
<td><img src="image7.png" alt="Image of seed storage" /></td>
<td>More WONDERFUL recycled water bottle ideas and crafts to enhance your schoolyard habitat! <a href="http://www.woohome.com/diy-2/40-diydecorating-ideas-with-recycled-plasticbottles">http://www.woohome.com/diy-2/40-diydecorating-ideas-with-recycled-plasticbottles</a></td>
<td><img src="image7.png" alt="Image of seed storage" /></td>
</tr>
</tbody>
</table>
Worthington Hooker, New Haven Before/After
Columbus Family Academy, New Haven Before/After
Barnard Environmental Magnet, New Haven Before/After
Parkway School, Greenwich
Before/After
Rogers International, Stamford
Before/After
Plants and Habitat

Habitats for Birds

Plant Lists and Resources

Soil and Water Testing
Habitats for Birds
IMPORTANT BIRD AREAS

Audubon's Important Bird Areas (IBA) Program is a global effort to identify and protect habitat that will protect sustainable populations of birds. The IBA Program allows Audubon and other conservation partners to make sound conservation decisions in the face of considerable uncertainty from the changing climate, the economy, and gaps in our knowledge of the abundance and distribution of our highest priority species.

Connecticut's IBA Program strives to complement the conservation programs of our state, federal, and non-profit partners. By connecting people with nature, working with land stewards to develop conservation strategies, and supporting implementation of these plans at a local level, the IBA Program fills an important niche in statewide conservation efforts by working to protect areas that aren't easily protected under other conservation programs.

Connecticut currently has 27 publicly announced IBAs and is working to announce additional sites in the future.

Current IBAs (Bold = Globally Important Bird Areas):

- Audubon Center at Bent of the River, Southbury
- Audubon Greenwich (including Quaker Ridge), Greenwich
- Baffin Sanctuary Complex, Pomfret
- Barn Island Wildlife Management Area, Stonington
- Connecticut College Arboretum, Waterford and New London
- Cove Island Park, Stamford
- East Rock Park, New Haven
- Falkner Island Unit of McKinney NWR, Guilford
- Good Hill Farm Sanctuary, Woodbury and Roxbury
- Great Captain's Island, Greenwich
- Greenwich Point Park, Greenwich
- Hammonasset Beach State Park, Madison
- Mamacoke Island, Waterford
- Menunketesuck and Duck Islands, Westbrook
- Milford Point/Wheeler Marsh, Milford
- Naugatuck State Forest, Naugatuck and Beacon Falls
- Northwest Park, Windsor
- Quinnipiac River Tidal Marsh, North Haven, New Haven, Hamden
- Salt Meadow Unit of McKinney NWR, Westbrook
- Sandy Point, West Haven
- Silver Sands State Park and Charles Island, Milford
- Station 43, South Windsor
- Stratford Great Meadows Area
- TNC's Devil's Den, Weston, Redding
- Topsmead State Forest, Litchfield
- White Memorial Foundation, Litchfield, Morris
- Lighthouse Point Park, New Haven

How you can help:

- Construct American Kestrel Nesting Boxes and install them in your backyard or local park.
- Kestrel Nest Box Stewards: volunteers needed to help search for suitable kestrel habitat, and monitor kestrel nest boxes. Contact Art Gingert at: artgingert@optonline.net (areas west of the CT River) or Tom Sayer at sayers.tom@gmail.com.
- Volunteer at our annual Hawk Watch this fall here at Audubon Greenwich and help collect vital migration data. Contact Ted Gilman at 203-930-1353 or email tgilman@audubon.org.
- If you find an injured bird of prey please keep a safe distance and call a certified wildlife rehabilitation center.
Global Warming and Birds

Public Policy Fact Sheet

Global warming is the greatest threat to birds and other wildlife in human history. The rate of global warming is already impacting birds, their prey, and their habitat. Those impacts will become more severe over the coming decades, leading to the loss of one-quarter to one-third of all species on earth, including many bird species.

Although some amount of change is inevitable, we can still take steps to prevent the most dangerous impacts of global warming and begin to stabilize the climate again. In the meantime, conservation, especially of larger areas with migratory corridors and buffer zones; better control of invasive species; and adaptive management are critical to stem the loss of bird and wildlife species. This loss will impact agriculture, forestry, public health, recreation, and hunting. The financial impact will be many billions of dollars annually.

Why Does Global Warming Matter for Birds?

Global warming impacts birds and wildlife in many ways. Birds and other wildlife will face habitat loss due to sea level rise, more frequent and severe wildfires, flooding and droughts, invasive species, changes in vegetation and precipitation, and loss of snow and ice, among others. Birds, like most species, are highly adapted to particular vegetation and habitat types. To compensate for the warmer temperatures, the ranges of these habitats may move closer to the poles or higher elevations. Habitat types that cannot colonize new areas may rapidly decline or cease to exist. New pests, invasive species, and diseases will create additional risks. The timing of birds’ migration, reproduction, breeding, nesting, and hatching are all highly adapted to match specific local conditions, such as the availability of suitable habitat and adequate food sources. Since climate change will affect different species differently, bird behavior may no longer be in sync with their food sources and other habitat needs. For example, robins in the Rocky Mountains arrive an average of two weeks earlier in spring than they did a few decades ago, but the worms and other food that they eat are not yet available for their newly hatched offspring.

Is Global Warming Already Affecting Birds?

Scientists are already seeing alarming impacts of global warming on birds. More than 80% of plant and animal species studied have shown changes in the timing of migration or reproduction, shifts in habitat or migratory routes, or other changes associated with climate change. Some of the observed impacts on birds include:

- Several North American warbler species have shifted northward more than 65 miles. The Golden-winged Warbler’s range has moved nearly 100 miles north just in the past two decades.
- Between 1971 and 1995, many British bird species began laying their eggs an average of nine days earlier each year. A dozen species in Great Britain have shifted their ranges an average of 12 miles northward in the past 20 years.
Help Protect Birds from Global Warming

Strong federal legislation is needed to combat global warming. It's your voice that will make the difference. Ask your Senators and Representatives to support:
- S 509, the Global Warming Pollution Reduction Act, introduced by Senators Bernie Sanders (I-VT) and Barbara Boxer (D-CA) in the Senate
- HR 1590, the Safe Climate Act, introduced by Representative Henry Waxman (D-CA) in the House of Representatives.

Individual Actions Add Up:
- Drive less by taking public transportation, walking, bicycling, or carpooling. Drive a more energy-efficient vehicle.
- Switch from conventional incandescent light bulbs to energy-efficient compact fluorescents. The next time you buy a major or even minor appliance, look for the Energy Star label to be sure you’re getting a high efficiency model.
- Reduce, reuse, recycle.
- Buy local produce and other goods.

Sign up for Audubon’s E-Activist list at www.audubonaction.org/audubon and add your voice to thousands of others fighting global warming! Already signed up? Send a letter to Congress here: www.audubonaction.org/campaign/global_warming.

- On Michigan’s Upper Peninsula, 15 species—including the Rose-breasted Grosbeak and Black-throated Blue Warbler—are arriving up to 21 days earlier than in the 1960s.
- Adélie Penguins are taking longer routes to find food in the ocean as icebergs break off the Ross Ice Shelf.

Will Some Species or Habitat Types Be More Vulnerable than Others?
Birds that already live at high altitudes or latitudes may not be able to move with the changing climate. Endangered species with limited habitat or small gene pools may also not be able to adapt quickly enough to avoid extinction. Coastal and polar species will be vulnerable as coastlines advance inland and ice melts. Sea level rise and erosion will jeopardize the threatened Western Snowy Plover and other shorebirds. More frequent and severe droughts in the central U.S. are likely to cause prairie pothole wetlands to dry up, jeopardizing millions of waterfowl during breeding season. The projected loss of neotropical migrant songbirds is very high: 53% in the Great Lakes region, 45% loss in the Mid-Atlantic, 44% loss in the northern Great Plains, and 32% fewer in the Pacific Northwest.

Why Can’t Birds Adapt to Global Warming?
In the past, species and ecosystems were able to respond to global temperature shifts in part because average global temperatures changed slowly. As they did, habitat patterns changed gradually and wildlife could either follow their preferred habitat to new locations or adapt to new conditions. Now, though, the change is simply too fast for many species to adapt. The rate of temperature increase over the next century will be ten times faster than the rate of increase since the last Ice Age.

In addition, species that could otherwise move or adapt are now limited by urban and industrial development, large-scale agriculture, and adjacent habitat fragmentation and destruction. For instance, the endangered Red-cockaded Woodpecker in the southeastern U.S. depends on mature pine forest, a habitat type that cannot spread to new areas quickly or at all.

Why is Loss of Bird Species Important for People?
Birds have great economic and personal value to people. One-third of all human food comes from plants that are pollinated by birds, butterflies, and other wild pollinators. Birds also disperse seeds and help to control rodents, insects, and other pests that would otherwise devastate crops, forests, and ecosystems. In the western U.S., Savannah Sparrows, Sage Thrashers, egrets, and other birds help control grasshopper populations that would otherwise destroy many crops. In the eastern U.S., nesting wood warblers consume 84% of the eastern spruce budworm that would otherwise decimate forests.

Birds are loved for their aesthetic value, playing an essential role in the U.S. economy and improving the quality of life for many Americans. More than 80 million Americans observe, fish, hunt, and otherwise enjoy birds and other wildlife. Together, they support more than 2.6 million jobs in the U.S. According to the U.S. Fish and Wildlife Service, America’s 46 million birders spend $32 billion annually, generating $85 billion in overall economic output and $13 billion in state and federal income taxes.

Birds are also important state symbols. Yet many states in the U.S. risk losing their state birds as the birds become extirpated or as their ranges shift because of climate change. These species include the Brown Thrasher in Georgia, the American Goldfinch in Iowa and Washington, the Baltimore Oriole in Maryland, the Black-capped Chickadee in Massachusetts, the Purple Finch in New Hampshire, and the California Quail in California.
Plant Lists and Resources
Native Plant Resources

The Audubon Native Plant Database is a helpful and fun-to-use resource to make your local area friendlier to birds. Just put in your zip code in the search box, and we’ll show you which plants are best for birds in your area.

c.t.audubon.org/plants-for-birds

Lady Bird Johnson Wildflower Center is a regional database for native plants where you can even refine the search for specific colors, sun exposure, height, etc.

www.wildflower.org/plants/

Missouri Botanical Garden - “Plant finder” allows you to look up over 6,400 plants by scientific name, common name and/or selected plant characteristics. This site has great information but focus is on Missouri. Plant lists cannot be customized to plants native to other states.

www.missouribotanicalgarden.org/plantfinder/plantfindersearch.aspx

USDA Natural Resources Conservation Service Plants Database provides information about plant species found in the United States and its territories.

plants.usda.gov/

Xerces Society provides a great start if you are interested in pollinators. It gives you how-to instructions, regional plant lists and the pollinators they support. They also provide regional pollinator seed mixes, suppliers and more information on pollinators.

www.xerces.org/pollinator-resource-center/
Local Resources

UConn Plant Database is searchable by plant name, this list also includes invasive plant species. www.hort.uconn.edu/plants

Connecticut Botanical Society is run by amateur and professional botanists. Offers links to related sites, information on growing conditions, and has native plant information. www.ct-botanical-society.org

The Native Plant Center run by Westchester Community College educates people about the natural beauty and value of native plants. Information about native plant sales available. www.sunywcc.edu/about/npc/plants

Mail Order:
- North Creek Nurseries - www.northcreeknurseries.com
- Ernst Conservation Seeds - www.ernstseed.com
- Prairie Moon Nursery - www.prairiemoon.com
- Prairie Nursery - www.prairienursery.com
- Eastern Plant Specialties - easternplant.blog

Retailers:
- Broken Arrow Nursery - Hamden, CT
- Colonial Seed Co.- Windsor, CT
- Earth Tones Nursery - Woodbury, CT
- Little River Natives - Tolland, CT
- Pan Acres - Canterbury, CT
- Warner Nursery & Garden Center - Simsbury, CT
- Woodland Trails Wildflower Nursery - Ashford, CT

Wholesalers:
- Arch Wild - archewild.com
- Blackledge River Nursery - Marlborough, CT - richsnarski.com/Nursery.htm
- East Haven Landscape Products - East Haven, CT - www.ehlp.com
- NEWFS (Nasami Farms) - Whatley, MA - www.newfs.org/visit/nasami-farm
- Natureworks - Northford, CT- naturework.com
- New Moon Nursery - NJ - www.newmoonnursery.com
- Planters Choice- Newtown CT- planterschoice.com
- Summer Hill Nursery - Madison, CT- www.summerhillnursery.com
**Suggested Plants for Schoolyard Habitats:**
To Benefit Birds and Other Wildlife

Below is a suggested list of plants that work well in various schoolyard habitat locations/conditions. Bloom times were taken into consideration to be heavy during the academic school year. All of the plants on this list will take average conditions with full sun or part sun unless noted otherwise. All of the plants on this list are at least somewhat deer resistant. However, deer do not read lists. Hunger is often a determiner of what is eaten, and with increased hunger lots of things normally not eaten get munching.

### Shrub and Small Trees:

<table>
<thead>
<tr>
<th>Name</th>
<th>Height</th>
<th>Bloom</th>
<th>Color</th>
<th>Sun Exposure</th>
<th>Soil Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Redbud</strong> <em>(Cercis canadensis)</em></td>
<td>20-25 ft</td>
<td>April</td>
<td>Pink</td>
<td>Full Sun</td>
<td>Moist</td>
</tr>
<tr>
<td><strong>Shadbush</strong> <em>(Amelanchier canadensis)</em></td>
<td>15-20 ft</td>
<td>April/May</td>
<td>Pink</td>
<td>Full Sun-Shade</td>
<td>Medium</td>
</tr>
<tr>
<td><strong>Flowering Dogwood</strong> <em>(Cornus florida)</em></td>
<td>15-20 ft</td>
<td>May/June</td>
<td>White</td>
<td>Full Sun-Shade</td>
<td>Moist</td>
</tr>
<tr>
<td><strong>Pagoda or Alternate leaves Dogwood</strong> <em>(Cornus alternafolia)</em></td>
<td>15-20 ft</td>
<td>May/June</td>
<td>White</td>
<td>Full Sun-Shade</td>
<td>Moist</td>
</tr>
<tr>
<td><strong>American Holly</strong> <em>(Ilex opaca)</em></td>
<td>40 ft very slowly</td>
<td>May</td>
<td>White</td>
<td>Full Sun-Shade</td>
<td>Dry to Wet</td>
</tr>
<tr>
<td><strong>Northern Bayberry</strong> <em>(Myrica pensylvanica)</em></td>
<td>6-10 ft</td>
<td>May/June</td>
<td>White</td>
<td>Full Sun-Shade</td>
<td>Medium to Dry</td>
</tr>
<tr>
<td><strong>Inkberry</strong> <em>(Ilex glabra-&quot;Compacts&quot;)</em></td>
<td>4-6 ft</td>
<td>June-Sept</td>
<td>White</td>
<td>Full Sun-Shade</td>
<td>Average to wet</td>
</tr>
<tr>
<td><strong>Winterberry</strong> <em>(Ilex verticillata)</em></td>
<td>varies by variety</td>
<td>June</td>
<td>White</td>
<td>Full Sun-Shade</td>
<td>Average to wet</td>
</tr>
</tbody>
</table>

*Indicates at least 1 male plant is needed for fruit

### Wildflowers:

<table>
<thead>
<tr>
<th>Name</th>
<th>Height</th>
<th>Bloom</th>
<th>Color</th>
<th>Soil Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wood Iris</strong> <em>(Iris cristata)</em></td>
<td>1 ft</td>
<td>April/June</td>
<td>Blue</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td><strong>Northern Blue Flag Iris</strong> <em>(Iris versicolor)</em></td>
<td>2-3 ft</td>
<td>May/June</td>
<td>White</td>
<td>Average to wet</td>
</tr>
<tr>
<td><strong>Beardtongue</strong> <em>(Penstemon digitalis)</em></td>
<td>2-3 ft</td>
<td>May/June</td>
<td>White</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td><strong>Lupine</strong> <em>(Lupinus perennis)</em></td>
<td>2 ft</td>
<td>April/June</td>
<td>Blue</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td><strong>Blue Wild Indigo</strong> <em>(Bapista australis)</em></td>
<td>3 ft wide</td>
<td>May/June</td>
<td>Blue</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td><strong>Short toothed mountain mint</strong> <em>(Pycnanthemum muticum)</em></td>
<td>3 ft</td>
<td>July/Sept</td>
<td>Pink</td>
<td>Moist</td>
</tr>
<tr>
<td><strong>Wild Petunia</strong> <em>(Ruellia humilis)</em></td>
<td>2 ft</td>
<td>May/Sept</td>
<td>Purple</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td><strong>Swamp Milkweed</strong> <em>(Asclepias incarnata)</em></td>
<td>2-4 ft</td>
<td>June/Aug</td>
<td>Deep Pink</td>
<td>Medium to wet</td>
</tr>
</tbody>
</table>
Wildflowers (Cont.):

<table>
<thead>
<tr>
<th>Common Milkweed</th>
<th>3 to 5 ft</th>
<th>June / Aug</th>
<th>Pink</th>
<th>Dry to Wet</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Asclepias syriaca)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bee Balm</td>
<td>2 to 5 ft</td>
<td>May / Aug</td>
<td>Pink</td>
<td>Dry to Moist</td>
</tr>
<tr>
<td>(Monarda fistulosa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cone Flowers</td>
<td>2 to 5 ft</td>
<td>May / Aug</td>
<td>Purple</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td>(Echinacea purpurea)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ox-eye Sunflower</td>
<td>3 to 5 ft</td>
<td>June / Sept</td>
<td>Yellow</td>
<td>Moist</td>
</tr>
<tr>
<td>(Heliopsis helianthoides)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Eyed Susan</td>
<td>2 to 3 ft</td>
<td>June / Aug</td>
<td>Yellow</td>
<td>Dry to Moist</td>
</tr>
<tr>
<td>(Rudbeckia hirta)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardinal flower</td>
<td>1 to 6 ft</td>
<td>May / Sept</td>
<td>Red</td>
<td>Average to wet</td>
</tr>
<tr>
<td>(Lobelia cardinalis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joe-pye weed</td>
<td>5 to 7 ft</td>
<td>July / Sept</td>
<td>Pink/purple</td>
<td>Average to wet</td>
</tr>
<tr>
<td>(Eutrochium sp.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Stemmed Goldenrod</td>
<td>2 to 3 ft</td>
<td>Aug/Oct</td>
<td>Yellow</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td>(Solidago canadensis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New England Aster</td>
<td>4 to 6 ft</td>
<td>Sept/Oct</td>
<td>Purple</td>
<td>Medium to wet</td>
</tr>
<tr>
<td>(Symphyotrichum novae-angliae)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smooth Aster</td>
<td>1 to 3 ft</td>
<td>Sept/Oct</td>
<td>Purple</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td>(Symphyotrichum laeve)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calico Aster</td>
<td>1 to 3 ft</td>
<td>Sept/Oct</td>
<td>White</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td>(Symphyotrichum lateriflorum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wildflower: (Part Shade/ Shade)

<table>
<thead>
<tr>
<th>Name</th>
<th>Height</th>
<th>Bloom</th>
<th>Color</th>
<th>Sun Exposure</th>
<th>Soil Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foam Flower</td>
<td>1 ft</td>
<td>April / May</td>
<td>White</td>
<td>Part shade/shade</td>
<td>Moist</td>
</tr>
<tr>
<td>(Taliella cordifolia)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Columbine</td>
<td>2 to 3 ft</td>
<td>May / July</td>
<td>Red</td>
<td>Part shade/shade</td>
<td>Moist</td>
</tr>
<tr>
<td>(Aquilegia canadensis)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giant Hyssop</td>
<td>2 to 4 ft</td>
<td>July / Aug</td>
<td>Purple</td>
<td>Shade</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td>(Agastache foeniculum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black Cohosh</td>
<td>2 to 3 ft</td>
<td>June / Aug</td>
<td>White</td>
<td>Shade</td>
<td>Moist</td>
</tr>
<tr>
<td>(Actaea racemosa)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Leaved Skullcap</td>
<td>2 to 3 ft</td>
<td>July / Aug</td>
<td>Purple</td>
<td>Part shade/shade</td>
<td>Dry to Medium</td>
</tr>
<tr>
<td>(Scutellaria ovata)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hairy alumnroot</td>
<td>8 in</td>
<td>June / Sept</td>
<td>White</td>
<td>Shade</td>
<td>Dry to Moist</td>
</tr>
<tr>
<td>(Heuchera villosa - Autumn Bride, Coral Bride, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snakeroot</td>
<td>2 to 3 ft</td>
<td>Sept / Oct</td>
<td>White</td>
<td>Part shade</td>
<td>Dry to Moist</td>
</tr>
<tr>
<td>(Eupatorium rugosum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vines:

<table>
<thead>
<tr>
<th>Name</th>
<th>Height</th>
<th>Sun Exposure</th>
<th>Soil Moisture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virginia Creeper</td>
<td>Up to 20 ft</td>
<td>Sun to Shade</td>
<td>Moist</td>
</tr>
<tr>
<td>(Parthenocissus quinquefolia)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trumpet Honeysuckle</td>
<td>15 to 20 ft</td>
<td>Sun to Part Shade</td>
<td>Moist</td>
</tr>
<tr>
<td>(Lonicer a sempervirens)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Caroline Bailey
Pollinators are a diverse and fascinating group of animals. In addition to their beauty, pollinators provide an important link in our environment by moving pollen between flowers and ensuring the growth of seeds and fruits. The work of pollinators touches our lives every day through the food we eat. Even our seasons are marked by their work: the bloom of springtime meadows, summer berry picking, pumpkins in the fall.

Native bees are the most important group of pollinators. Like all wildlife they are affected by changes in our landscapes. The good news is that there are straightforward things that you can do to help: providing patches of flowers is something that we all can do to improve our environment for these important insects. Native plants are undoubtedly the best source of food for bees, but there are also some garden plants that are great for pollinators.

This fact sheet will help you provide flowers that these vital creatures need and make the landscape around us—from small urban backyards to large natural areas—better for bees. On the back you’ll find a simple guide to selecting plants for bees.

For more information, visit our web site, www.xerces.org, where you will find other fact sheets and more detailed guidelines on how to enhance habitat for pollinators. You’ll also find information about the Pollinator Conservation Handbook.
Choosing the Right Flowers

To help bees and other pollinator insects—like butterflies—you should provide a range of plants that will offer a succession of flowers, and thus pollen and nectar, through the whole growing season. Patches of foraging habitat can be created in many different locations, from backyard and school grounds to golf courses and city parks. Even a small area planted with the right flowers will be beneficial, because each patch will add to the mosaic of habitat available to bees and other pollinators.

In such a short fact sheet it is not possible to give detailed lists of suitable plants for all areas of the Northeast. Below are two lists of good bee plants, the first of native plants and the second of garden plants. Both are short lists; there are many more bee-friendly plants. However, these lists, combined with the following notes, will get you started on selecting good bee plants. Your local chapters of the Wild Ones, the Native Plant Society and native plant nurseries are worthwhile contacts for advice on choosing, obtaining, and caring for local plant species.

- **Use local native plants.** Research suggests native plants are four times more attractive to native bees than exotic flowers. In gardens, heirloom varieties of herbs and perennials can also provide good foraging.
- **Choose several colors of flowers.** Flower colors that particularly attract native bees are blue, purple, violet, white, and yellow.
- **Plant flowers in clumps.** Flowers clustered into clumps of one species will attract more pollinators than individual plants scattered through the habitat patch. Where space allows, make the clumps four feet or more in diameter.
- **Include flowers of different shapes.** Bees are all different sizes, have different tongue lengths, and will feed on different shaped flowers. Consequently, providing a range of flower shapes means more bees can benefit.
- **Have a diversity of plants flowering all season.** By having several plant species flowering at once, and a sequence of plants flowering through spring, summer, and fall, you can support a range of bee species that fly at different times of the season.

### Native Plants

Native plants should be your first choice to help our native bees. Listed below are some plants that are good sources of nectar and pollen for bees. This list is not exhaustive; there are many other plants good for bees. Individual species have not been included. Not all of these genera will have species in your local area, but they do represent plants that will grow in a variety of environments. Use a wildflower guide or contact local nurseries to find your local species.

<table>
<thead>
<tr>
<th>Aster</th>
<th>Symphyotrichum</th>
<th>Mountain mint</th>
<th>Pyranthemum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azalea</td>
<td>Rhododendron</td>
<td>New Jersey tea</td>
<td>Ceanothus</td>
</tr>
<tr>
<td>Basswood</td>
<td>Tilia</td>
<td>Serviceberry</td>
<td>Ameianchier</td>
</tr>
<tr>
<td>Beebalm</td>
<td>Monarda</td>
<td>Sneezeweed</td>
<td>Helenium</td>
</tr>
<tr>
<td>Blueberry</td>
<td>Vaccinium</td>
<td>Spiderwort</td>
<td>Tradescantia</td>
</tr>
<tr>
<td>Boneset</td>
<td>Eupatorium</td>
<td>Sunflower</td>
<td>Helianthus</td>
</tr>
<tr>
<td>Goldenrod</td>
<td>Solidago</td>
<td>Turtlehead</td>
<td>Chelone</td>
</tr>
<tr>
<td>Hawthorn</td>
<td>Caulaengus</td>
<td>Wild geranium</td>
<td>Geranium</td>
</tr>
<tr>
<td>Lobelia</td>
<td>Lobelia</td>
<td>Wild indigo</td>
<td>Baptisia</td>
</tr>
<tr>
<td>Lupine</td>
<td>Lupinus</td>
<td>Wild mint</td>
<td>Mentha</td>
</tr>
<tr>
<td>Meadowweet</td>
<td>Spiraea</td>
<td>Wild rose</td>
<td>Rose</td>
</tr>
<tr>
<td>Milkweed</td>
<td>Asclepas</td>
<td>Willow</td>
<td>Salix</td>
</tr>
</tbody>
</table>

### Garden Plants

Flower beds in gardens, business campuses, and parks are great places to have bee-friendly plants. Native plants will create a beautiful garden but some people prefer ‘garden’ plants. Many garden plants are varieties of native plants. This list includes plants from other countries—‘exotic’ plants—and should be used as a supplement to the native plant list. As with the native plants, this list is far from exhaustive.

<table>
<thead>
<tr>
<th>Basil</th>
<th>Ocimum</th>
<th>Hyssop</th>
<th>Agastache</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blazing star</td>
<td>Liatris</td>
<td>Lavender</td>
<td>Lavandula</td>
</tr>
<tr>
<td>Borage</td>
<td>Borago</td>
<td>Purple coneflower</td>
<td>Echinacea</td>
</tr>
<tr>
<td>Catmint</td>
<td>Nepeta</td>
<td>Russian sage</td>
<td>Perovskia</td>
</tr>
<tr>
<td>Cosmos</td>
<td>Cosmos</td>
<td>Sculli</td>
<td>Scilla</td>
</tr>
</tbody>
</table>

For more pollinator conservation information, go to www.xerces.org

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Pollinators are a vital part of a healthy environment.

Butterflies are a beautiful part of our gardens.

Flowers that provide nectar and caterpillar hostplants can be grown in almost any garden, and will help butterflies.

Western tiger swallowtail drinking nectar from milkweed.

Photograph © Russell Wood

Like beautiful flowers, butterflies are gems when you find them flying, feeding, or basking in your backyard. They come in a range of sizes and colors and, depending upon the species, show up at different times of year—even in the winter.

To create a landscape that is inviting for butterflies you should consider their life stories. They begin as eggs, hatch into caterpillars that eat plants, spend time as a chrysalis, and, eventually, transform into winged adults that flit around looking for food, mates, and places to lay new eggs. During each of these stages butterflies have very different needs. The more of these needs you can supply, the greater the chance that your backyard will become a home for butterflies.

This fact sheet will help you provide the nectar flowers and caterpillar hostplants that these beautiful creatures need. It also contains suggestions on what else you can do to make the landscape around us—from small urban backyards to large natural areas—better for butterflies.

For more information, visit our website, www.xerces.org, where you will find other fact sheets and more detailed guidelines on how to enhance habitat for pollinators. You'll also find information about the Pollinator Conservation Handbook and Butterfly Gardening: Creating Summer Magic in Your Garden.
Caterpillar Food: Hostplants

The caterpillars of each species of butterfly has its own, limited menu of plants upon which it will dine. Female butterflies lay their eggs on or near these plants and will be attracted to your backyard if you supply their hostplants. To start with, grow hostplants for the more common butterflies you already see flying through your property and then branch out as you learn more. The list below includes native and non-native hostplants to consider planting in your garden.

<table>
<thead>
<tr>
<th>Caterpillar Food: Hostplants</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspen, poplar <em>Populus</em></td>
<td>many species</td>
</tr>
<tr>
<td>Bleeding heart <em>Dicentra</em></td>
<td>Parrissians</td>
</tr>
<tr>
<td>Clover <em>Trifolium</em></td>
<td>sulphurs, blues</td>
</tr>
<tr>
<td>Goebnally <em>Sphaeralcea</em></td>
<td>painted ladies, skippers</td>
</tr>
<tr>
<td>Grasses and sedges</td>
<td>skippers</td>
</tr>
<tr>
<td>Lupines <em>Lupinus</em></td>
<td>blues</td>
</tr>
<tr>
<td>Milk vetch <em>Astragalus</em></td>
<td>blues, hairstreaks</td>
</tr>
<tr>
<td>Milkweed <em>Asclepias</em></td>
<td>monarch</td>
</tr>
<tr>
<td>Oak <em>Quercus</em></td>
<td>hairstreaks, duskywings</td>
</tr>
<tr>
<td>Penstemon <em>Penstemon</em></td>
<td>checkerspots, buckeye</td>
</tr>
<tr>
<td>Rose <em>Rosa</em></td>
<td>mourning cloak</td>
</tr>
<tr>
<td>Sagebrush <em>Artemisia</em></td>
<td>swallowtails, painted lady</td>
</tr>
<tr>
<td>Snowberry <em>Symphocarpus</em></td>
<td>checkerspots</td>
</tr>
<tr>
<td>Spirea <em>Spirea</em></td>
<td>Spirea</td>
</tr>
<tr>
<td>Thistle <em>Cirsium</em></td>
<td>painted ladies, crescets</td>
</tr>
<tr>
<td>Violets <em>Viola</em></td>
<td>fritillaries</td>
</tr>
<tr>
<td>Vetch <em>Vicia</em></td>
<td>sulphurs, blues</td>
</tr>
<tr>
<td>Wild lilac <em>Ceanothus</em></td>
<td>hairstreaks, duskywings</td>
</tr>
<tr>
<td>Willow <em>Salix</em></td>
<td>many species</td>
</tr>
<tr>
<td>Yellowrocket <em>Barbarea</em></td>
<td>orange tips, whites</td>
</tr>
</tbody>
</table>

Adult Food: Nectar, Fruit, and Sap

Adult butterflies need sugar to fuel their search for mates and egg-laying sites. The main source of sugar is nectar from flowers. However, some butterflies, such as the mourning cloak, also get sugars from rotten fruit or the sap leaking from wounded trees. By providing flowering plants or plates of rotting fruit (like peaches, melons, or bananas) many of these beautiful insects will be attracted to your yard. Here is a selection of plants to consider growing in your garden.

<table>
<thead>
<tr>
<th>Adult Food: Nectar, Fruit, and Sap</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Asier <em>Aster</em></td>
<td>Milkweed <em>Asclepias</em></td>
</tr>
<tr>
<td>Bee balm <em>Monarda</em></td>
<td>Penstemon <em>Penstemon</em></td>
</tr>
<tr>
<td>Beggar-ticks <em>Bidens</em></td>
<td>Pincusinon flower <em>Scabiosa</em></td>
</tr>
<tr>
<td>Black-eyed Susan <em>Rudbeckia</em></td>
<td>Purple coneflower <em>Echinacea</em></td>
</tr>
<tr>
<td>Daisies <em>Chrysanthemum</em></td>
<td>Sagebrush <em>Artemisia</em></td>
</tr>
<tr>
<td>Elderberry <em>Sambucus</em></td>
<td>Spirea <em>Spirea</em></td>
</tr>
<tr>
<td>Goldenrod <em>Solidago</em></td>
<td>Stonecrop <em>Sedum</em></td>
</tr>
<tr>
<td>Joe-pye weed <em>Eupatorium</em></td>
<td>Sunflowers <em>Helianthus</em></td>
</tr>
<tr>
<td>Lavender <em>Lavandula</em></td>
<td>Thistle <em>Cirsium</em></td>
</tr>
<tr>
<td>Blazing-star <em>Liatris</em></td>
<td>Yarrow <em>Achilles</em></td>
</tr>
</tbody>
</table>

Adult butterflies need to be warm in order to fly. Therefore, nectar flowers and larval host plants should be grown in an open, sunny area that is protected from the wind by large shrubs, a hedgerow, a fence, or some other windbreak. You also could provide butterflies with large, flat rocks placed in the sun. These rocks will soak up the sun’s heat and give the adult butterflies a place to warm themselves.

Hiding Places for Pupae and Other Useful Things

**Pupation sites.** The transformation from caterpillar to adult, the phase called pupation, is done within the protection of a chrysalis. Before building a chrysalis, however, a caterpillar wanders in search of a safe site. Depending upon the species, this haven could be a bush, tall grass, or piles of leaves or sticks. If you leave these features in your yard, you will encourage butterflies to stay around and drink the nectar you provide.

**Overwintering sites.** Depending upon the species, butterflies may overwinter (hibernate) as eggs, larvae, pupae, or even adults. You might find them on plants around the garden, under leaf litter, under loose bark, or in piles of logs and other debris. To help these hibernators, a little untidiness goes a long way. Two or three weeks before the severe cold of winter sets in, clean up only the leaves and garden debris that you must and pile up some logs or leaves around the edge of your yard.

**Do not use insecticides in your garden.** Finally, don’t use pesticides in your garden. Alternative methods for controlling specific garden pests without using chemicals are available, but even these should be used with caution and keeping in mind the various life stages of butterflies.

For more pollinator conservation information, go to www.xerces.org

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# BUTTERFLY NECTAR SOURCES

## ANNUALS, BIENNIALS, AND TENDER PERENNIALS

- Ageratum
- Cleome
- Cosmos
- Cuphea (Elf Herbs and Firecracker flower)
- Gomphrena (Globe Amaranth)
- Heliotrope
- Hesperis (Dame's Rocket)
- Lantana
- Larkspur
- Lobelia
- Lunaria (Money Plants)
- Marigolds
- Morning Glory
- Nicotiana
- Pentas
- Petunia
- Scabiosa (annual form)
- Statice
- Sweet William
- Thunbergia (Black Eyed Susan Vine)
- Tithonia (Mexican Sunflower)
- Verbena
- Zinnia

## PERENNIALS

- Achillea (Yarrow)
- Allium
- Aurinia (Basket of Gold Alyssum)
- Arabis
- Aster
- Aubrieta (Rock Cress)
- Centranthus (Red Valerian)
- Chrysanthemum superbum (Shasta Daisy)
- Coreopsis
- Dendranthamum (daisy types)
- Echinacea ( Coneflower)
- Echinops
- Erigeron
- Eupatorium (Joe Pye Weed)
- Foeniculum (Fennel)
- Gaillardia Daisy
- Geranium (Cranesbills, perennial form)
- Helenium
- Helianthus (Perennial Sunflowers)
- Hesperis (Dame's Rocket)
- Hibiscus
- Hyssop
- Liatris
- Lilium
- Lobelia cardinalis
- Mint
- Monarda (Bee Balm)
- Myosotis (Forget-me-not)
- Nepeta (Catmint)
- Phlox
- Physostegia (Obedient Plant)
- Prunella
- Pycnanthemum (Mountain Mint)
- Rudbeckia (Black Eyed Susan)
- Salvia (Sage)
- Sedum
- Thyme
- Veronica (Ironweed)

## SHRUBS AND VINES

- Abelia
- Buddleia (Butterfly Bush)
- Caryopteris (Blue Mist Shrub)
- Clethra (Summersweet)
- Lonicera (Honeysuckle)
- Syringa (Lilac)
BUTTERFLY LARVAL FOOD SOURCES

ANNUALS, BIENNIALS, AND TENDER PERENNIALS

Alfalfa
Asclepias (milkweed)
Cabbage, Broccoli
Daucus carota (Queen Anne's Lace)
Foeniculum (Fennel)
Marigold
Parsley
Phaseolus (Bean)
Snapdragon
Sorrel
Thistle

PERENNIALS

Asclepias (milkweed)
Aster
Astragalus (vetch)
Chelone (Turtlehead)
Clover
Grasses and sedges
Helenium (Sneezeweed)
Hoops
Lupine
Mallow
Nettie
Plantain
Polygonum (Knotweed)
Sedum
Violet

SHRUBS, TREES AND VINES

Aristolochia (Pipevine)
Aspen (Poplar)
Betula (Birch)
Celtis (Hackberry)
Cornus (Dogwood)
Gleditsia (Locust)
Liriodendron tulipifera (Tulip tree)
Prunus (Cherry)
Quercus (Oak)
Salix (Willow)
Sassafras
Spear
Ulmus (Elm)
Vaccinium (Blueberry)

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Nectar Garden and Meadow Plants

Bird-Friendly Communities encourages homeowners to reduce the amount of turf on their property. While a green expanse may seem vibrant and alive it is actually an ecologically impaired zone. Floristic diversity supports biological diversity. To keep lawns lush and green an exorbitant amount of harmful chemicals is often applied, killing the soil biota and making it harmful and even deadly to wildlife. Small children and pets may also be harmed by these chemicals.

We encourage reducing lawn and establishing areas of nectar gardens or wildflower meadows. Large expanses of lawn require more fertilization, water and chemicals to maintain. Over time native plants require little water or fertilization.

The following plants are native options that are not only beautiful providing pops of color in the landscape but are beneficial to wildlife as well.

Anise, *Anís hissop*  
New England Aster, *Aster novae-angliae*  
Bee Balm, *Monarda didyma*  
Bee Balm spreads so give its own area  
Wild bergamot, *Monarda fistulosa*  
Black-eyed Susan, *Rudbeckia hirta*  
Great blue lobelia, *Lobelia siphilitica*  
Butterfly weed, *Asclepias tuberosa*  
Cardinal flower, *Lobelia cardinalis*  
Cat Mint, *Nepeta spp.*  
Keep Cat Mint in contained areas  
Columbine, *Aquilegia canadensis*  
Common mountain mint, *Pycnanthemum virginianum*  
Coneflowers, *Echinacea spp.*  
They come in various colors, essential in any butterfly garden  
Coreopsis, *Coreopsis lanceolata* or *Coreopsis verticillata*  
Goldenrod, *Solidago canadensis*  
New York ironweed, *Vernonia noveboracensis*  
Connecticut had four different varieties of Joe-pye weed  
Purple milkweed, *Asclepias purpurascens*  
Common milkweed, *Asclepias syriaca*  
Swamp milkweed, *Asclepias incarnata*  
Keep milkweeds out of cultivated areas as it can take over  
Purple salvia, *Salvia nemorosa* ‘Mainacht’  
Sunflowers, *Helianthus annuus*  
White clover, *Trifolium repens*  
Herbs:  
Parsley, *Petroselinum crispum*  
Dill, *Anethum graveolens*  
Fennel, *Foeniculum vulgare*  
Oregano, *Origanum vulgare*  
Mint, *Mentha spp.*  

Some important host plants that butterflies can detect from miles away include:  
Pipevine, *Aristolochia serpentosa*  
Pipevine is a host plant for the rare pipevine swallowtail  
Spicebush, *Lindera benzoin*  

Density of plantings is important to consider. Native pollinators such as bees, butterflies and birds prefer densely planted stands with lots of color.
Common Connecticut Butterflies and their Host Plants

American Copper - sheep sorrel, curled dock, other docks
Baltimore Checkerspot - turtlehead, plantain, yellow foxglove, honeysuckle, lousewort, viburnum species
Black Swallowtail - carrot, celery, dill, fennel, parsley, queen anne's lace, rue and citrus family
Cabbage White - common winter cress, other mustard species
Clouded Sulfer - Alfalfa, clover, sweet clover, vetch, other legumes
Comma - nettles, false nettles, wood nettles, hops, elm
Common Buckeye - butter and eggs, plantain, gerardia, ruellia, toadflax
Eastern Tiger Swallowtail - magnolia, sweet bay, tulip tree, cherry, ash
Giant Swallowtail - prickly ash, torchwood, hop tree, citrus species
Great Spangled Fritillary - violets
Least Skipper - grasses such as blue grass and rice cutgrass
Monarch - Milkweed species
Mourning Cloak - willows, poplars, elm, hackberry, birch
Painted Lady - thistle, burdock, hollyhock, lupine, other legumes
Pearl Crescent - asters
Peck's Skipper - grasses such as blue grass and rice cutgrass
Pipevine Swallowtail - pipevine
Question Mark - elm, hackberry, nettles, hops
Red Admiral - nettles, false nettles, wood nettles
Spicebush Swallowtail - spicebush and sassafras
Spring and Summer Azure - dogwoods, viburnums, blueberry, Labrador tea, cherry
Viceroy - willows, aspens, poplar
Wood Nymph - grasses (beard grass, blue grass, bluestem, oat grass, tall red top, purple top)
Connecticut
Native Tree and Shrub Availability List

Connecticut Department of Environmental Protection
Bureau of Natural Resources
Wildlife Division
Connecticut
Native Tree and Shrub Availability List

Department of Environmental Protection
Wildlife Division
79 Elm Street
Hartford, CT 06106

Department of Environmental Protection
Gina McCarthy, Commissioner
David K. Leff, Deputy Commissioner

Bureau of Natural Resources
Edward C. Parker, Chief

Wildlife Division
Dale W. May, Director

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Peter M. Picone
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Habitat Management Program

Cover photograph by Paul J. Fusco.
American robin feeding on winterberry
Introduction

This revised (January 2005) native tree and shrub availability list is designed to assist homeowners, landscapers and conservation organizations in locating native planting stock for wildlife habitat enhancement. It was compiled from a mail survey of Connecticut’s registered nurseries. Of the respondents, many indicated that they have native trees or shrubs in stock or would obtain them by special order. Although some of the listed nurseries are strictly wholesalers, trees and shrubs can be ordered from them through your local nursery or garden center. Present this publication to your local retailer and request if plants can be ordered for you.

Every plant is native to some location. When a plant is grown outside of its original location, it is usually classified as a non-native plant. For example, a Norway maple (Acer platanoides) is a native tree in Norway, but in the United States it is a non-native that now comprises a large segment of the street trees in our cities and suburbs. Some non-native plants are invasive and they aggressively compete with native plants. Norway maple is a listed non-native invasive tree, which when planted in suburban or rural areas it may eventually spread to adjacent woodlots, thus occupying space where native trees and shrubs would grow. The adaptability and vigor of the Norway maple is undeniable; however, if a disease or insect infestation occurs in a monoculture, a large die-off may occur. Planting different species is a good buffer against disease and insect infestations.

By their very nature, native plants have adapted to the climate of the area, making them naturally hardy. Wildlife have evolved using them for food, cover and shelter. Proper selection, care and placement of trees and shrubs can produce a landscape that is both visually attractive and beneficial to wildlife.

Landscaping with native plants may require gathering more information. Native plant descriptions, flowering and fruiting periods, site requirements and wildlife habitat values may be found in the references below.

- Enhancing Your Backyard Habitat for Wildlife, Peter M. Picone, DEP Wildlife Division. 1995. 28 pp. Available from DEP Wildlife Division, P.O. Box 1550, Burlington, CT 06013. Urban Wildlife Program (860-675-8130). E-mail: peter.picone@ct.state.ct.us


The following is a list of suggested native trees and shrubs. Look up the species in which you are interested and write down the numbers from the column on the right. Cross-reference the numbers with the nurseries listed on pages 7-9. These numbers indicate which nurseries have that tree or shrub in stock. **Bold** numbers indicate that the nursery can special order the plant.

### Evergreen Trees

**Cedars**
- Atlantic White Cedar
  *(Chamaecyparis thyoides)*  
  4, 7, 9, 12, 13, 14, 18, 24, 28, 32, 37, 40, 43, 48, 49, 51
- Eastern Red-cedar
  *(Juniperus virginiana)*  
  2, 4, 7, 11, 13, 15, 17, 18, 24, 26, 28, 32, 33, 34, 35, 36, 37, 45, 46, 48, 49, 51
- Northern White Cedar
  *(Thujopsis occidentalis)*  
  2, 4, 7, 8, 11, 13, 14, 15, 17, 18, 21, 24, 26, 27, 28, 31, 32, 35, 36, 37, 41, 43, 45, 47, 48, 50, 51

**Pines**
- Red Pine
  *(Pinus resinosa)*  
  2, 13, 15, 18, 24, 28, 34, 37, 42, 48
- Pitch Pine
  *(Pinus rigida)*  
  2, 13, 18, 24, 26, 28, 33, 48
- White Pine
  *(Pinus strobus)*  
  2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52

**Spruces**
- Black Spruce
  *(Picea mariana)*  
  2, 13, 17, 18, 21, 24, 26, 27, 28, 32, 36, 43, 51
- Red Spruce
  *(Picea rubens)*  
  2, 18, 24, 28

**Eastern Hemlock**
*(Tsuga canadensis)*  
2, 3, 4, 6, 8, 9, 10, 11, 12, 13, 15, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 37, 38, 39, 42, 43, 44, 45, 46, 47, 48, 50, 51, 52

### Deciduous Trees

**Ashes**
- White Ash
  *(Fraxinus americana)*  
  3, 9, 13, 21, 24, 28, 31, 34, 37, 48, 51, 53
- Black Ash
  *(Fraxinus nigra)*  
  24, 28, 48
- Green Ash
  *(Fraxinus pennsylvanica)*  
  2, 4, 8, 13, 24, 26, 27, 28, 31, 34, 35, 37, 38, 42, 43, 47, 48, 51

**Birches**
- Black Birch
  *(Betula lenta)*  
  24, 28, 33, 48, 51, 52
- Paper Birch
  *(Betula papyrifera)*  
  2, 3, 4, 8, 9, 10, 13, 15, 16, 17, 18, 21, 24, 26, 27, 28, 29, 33, 35, 36, 37, 38, 42, 43, 48, 50, 51, 52
- Gray Birch
  *(Betula populifolia)*  
  2, 7, 13, 18, 21, 24, 28, 33, 37, 47, 48, 51, 52

**Cherries/Plums**
- Allegheny Plum
  *(Prunus allegheniensis)*  
  13, 24, 28, 37, 48
- American Plum
  *(Prunus americana)*  
  10, 13, 24, 28, 37, 48
- Pin Cherry
  *(Prunus pensylvanica)*  
  5, 13, 24, 28, 48
- Black Cherry
  *(Prunus serotina)*  
  13, 24, 26, 28, 37, 48
- Choke Cherry
  *(Prunus virginiana)*  
  3, 13, 15, 24, 26, 28, 37, 48

**Chestnuts**
- American Chestnut
  *(Castanea dentata)*  
  13, 17, 18, 24, 28, 37, 48
- American Hybrid-cross
  *(Castanea spp.)*  
  4, 13, 24, 28, 37, 48
- Cottonwood/Aspens
- Eastern Cottonwood
  *(Populus deltoides)*  
  13, 24, 28, 48, 51
- Bigtooth Aspen
  *(Populus grandidentata)*  
  24, 28, 48
- Swamp Cottonwood
  *(Populus heterophylla)*  
  24, 28, 48
- Quaking Aspen
  *(Populus tremuloides)*  
  11, 17, 23, 24, 26, 28, 33, 48

**Elms**
- American Elm
  *(Ulmus americana)*  
  2, 6, 13, 17, 18, 19, 24, 26, 28, 29, 34, 37, 43, 46, 48

**Hawthornes**
- Round-leaved Hawthorne
  *(Crataegus chrysocarpa)*  
  24, 28, 37, 48
- Cockspur Hawthorne
  *(Crataegus crus-galli)*  
  13, 21, 24, 28, 34, 37, 48
- Frosted Hawthorne
  *(Crataegus prunifolia)*  
  24, 28, 37, 48
- Dotted Hawthorne
  *(Crataegus punctata)*  
  13, 24, 28, 37, 48
- Fleshy Hawthorne
  *(Crataegus suaveolenta)*  
  13, 24, 28, 37, 48
Hickories

Butternut Hickory
(Carya cordiformis)
13, 24, 28, 48
Pink Hickory
(Carya glabra)
24, 28, 48
Shagbark Hickory
(Carya ovata)
13, 18, 24, 28, 33, 48
Mockernut Hickory
(Carya tomentosa)
13, 24, 28, 48

Maples

Boswellia
( Acer negundo )
13, 24, 28, 29, 32, 41, 48
Black Maple
( Acer nigrum )
10, 13, 24, 28, 48

Red Maple
( Acer rubrum )
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 34, 35, 37, 38, 39, 43, 45, 47, 48, 50, 51, 52, 53
Silver Maple
( Acer saccharinum )
2, 5, 6, 10, 12, 13, 15, 18, 24, 28, 29, 31, 34, 37, 43, 48
Sugar Maple
( Acer saccharum )
1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 23, 24, 26, 28, 29, 31, 32, 33, 34, 35, 37, 38, 39, 43, 45, 47, 48, 50, 51, 52, 53, 54
Mountain Maple
( Acer spicatum )
24, 28, 48

Oaks

White Oak
( Quercus alba )
2, 5, 6, 9, 10, 13, 15, 17, 18, 21, 24, 26, 27, 28, 29, 31, 32, 34, 35, 37, 42, 43, 45, 48, 51, 52
Swamp White Oak
( Quercus bicolor )
2, 4, 5, 13, 17, 21, 24, 26, 27, 28, 29, 34, 37, 45, 47, 48, 51
Scarlet Oak
( Quercus cocinea )
6, 8, 9, 13, 17, 18, 21, 24, 26, 28, 29, 34, 37, 48, 51
Chinkapin Oak
( Quercus muehlenbergii )
6, 13, 24, 26, 28, 48

Chestnut Oak
( Quercus prinus )
3, 13, 24, 26, 28, 48
Northern Red Oak
( Quercus rubra )
2, 4, 8, 11, 13, 17, 18, 20, 21, 24, 26, 28, 29, 31, 32, 33, 34, 35, 37, 38, 43, 45, 48, 51, 52, 53
Post Oak
( Quercus stellata )
13, 24, 28, 34, 48
Black Oak
( Quercus velutina )
9, 13, 24, 26, 28, 48

Walnut

Butternut Walnut
( Juglans cinerea )
13, 24, 28, 48
Black Walnut
( Juglans nigra )
9, 13, 17, 18, 24, 28, 33, 45, 48

Other Deciduous Trees

American Holly
( Ilex verticillata )
2, 3, 5, 6, 7, 8, 9, 11, 13, 15, 20, 21, 24, 26, 27, 28, 31, 32, 35, 37, 41, 43, 46, 48, 50, 51
Tulip Tree ( Yellow Poplar )
( Liriodendron tulipifera )
2, 4, 6, 7, 9, 10, 11, 13, 15, 18, 21, 23, 24, 26, 27, 28, 29, 32, 33, 34, 35, 37, 39, 42, 43, 48, 51
Red Mulberry
( Morus rubra )
13, 15, 18, 24, 28, 43, 48
Black Gum ( Tupelo )
( Nyssa sylvatica )
2, 4, 7, 11, 21, 24, 26, 27, 28, 29, 31, 32, 34, 35, 37, 39, 42, 43, 48, 49, 50, 51, 52, 53
Eastern Hophornbeam
( Ostrya virginiana )
21, 24, 28, 32, 48, 51
American Sycamore
( Platanus occidentalis )
2, 3, 4, 6, 8, 9, 11, 13, 15, 17, 18, 21, 24, 26, 27, 28, 32, 37, 42, 43, 48
Willow
( Salix spp. )
2, 4, 6, 8, 9, 11, 13, 14, 15, 16, 17, 18, 21, 23, 24, 26, 28, 29, 33, 34, 35, 36, 37, 38, 42, 43, 46, 48, 51
Sassafras
( Sassafras albidum )
2, 7, 13, 18, 21, 24, 26, 28, 48, 51
American Mountain-ash
( Sorbus americana )
2, 18, 21, 24, 28, 33, 43, 48
American Basswood
( Tilia americana )
2, 13, 24, 26, 28, 37, 42, 48, 51
Native Shrubs

Dogwoods
Alternate-leaf Dogwood
(Cornus alternifolia)
2, 7, 10, 13, 17, 18, 21, 24, 26, 28, 29, 32, 33, 37, 39, 48, 51
Silky Dogwood
(Cornus amomum)
2, 10, 16, 18, 21, 22, 23, 24, 26, 28, 32, 33, 37, 47, 48, 50, 51, 53
Gray Dogwood
(Cornus racemosa)
2, 10, 13, 18, 22, 24, 26, 28, 35, 37, 42, 46, 47, 48, 51, 53
Red-osier Dogwood
(Cornus sericea)
2, 4, 8, 10, 15, 16, 17, 18, 20, 21, 24, 26, 28, 29, 31, 32, 33, 37, 39, 40, 43, 46, 47, 48, 51, 52
Roundleaf Dogwood
(Cornus rugosa)
2, 10, 13, 18, 24, 26, 37, 48
Honeysuckles
American Bly Honeysuckle
(Lonicera canadensis)
2, 3, 13, 18, 24, 26, 28, 33, 43, 48
Swamp Bly Honeysuckle
(Lonicera oblongifolia)
2, 13, 18, 24, 26, 28, 48
Laurels
Sheep Laurel, Lambkill
(Kalmia angustifolia)
2, 4, 5, 7, 9, 11, 18, 24, 28, 29, 32, 33, 36, 40, 42, 48, 49, 51
Mountain Laurel
(Kalmia latifolia)
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 39, 40, 42, 43, 45, 46, 47, 48, 49, 51, 52, 53, 54
Bog Laurel
(Kalmia polifolia)
2, 17, 18, 21, 24, 28, 32, 43, 48
Maples
Striped Maple
(Acer pensylvanicum)
7, 13, 24, 26, 28, 31, 32, 33, 48
Mountain Maple
(Acer spicatum)
13, 18, 24, 28, 40, 48
Rhododendrons
Wild Honeyuckle
(Rhododendron radiflorum)
7, 18, 24, 26, 28, 40, 48
Swamp Azalea
(Rhododendrons viscosum)
4, 7, 8, 9, 11, 12, 17, 18, 21, 23, 24, 26, 28, 31, 32, 35, 36, 37, 40, 42, 43, 48, 50, 51, 52, 53
Sumacs
Staghorn Sumac
(Rhus typhina)
13, 21, 24, 26, 28, 29, 32, 33, 42, 48, 51, 52
Shining Sumac
(Rhus copallina)
13, 24, 28, 48
Smooth Sumac
(Rhus glabra)
13, 21, 24, 28, 48, 52
Viburnums
Mapleleaf Viburnum
(Viburnum acerifolium)
2, 4, 5, 13, 18, 21, 24, 26, 28, 33, 37, 43, 48
Hobblebush
(Viburnum alnifolium)
2, 7, 13, 18, 24, 28, 33, 37, 43, 48
Witherod, Wild Raisin
(Viburnum cassinoides)
2, 9, 18, 23, 24, 28, 37, 40, 43, 48, 49
Nannyberry
(Viburnum lentago)
2, 4, 7, 9, 13, 18, 21, 24, 26, 28, 33, 35, 37, 42, 43, 47, 48, 49
Arrowwood
(Viburnum dentatum)
2, 3, 4, 7, 9, 12, 13, 14, 17, 18, 21, 22, 23, 24, 26, 27, 28, 29, 31, 32, 34, 35, 37, 40, 42, 43, 45, 47, 48, 49, 50, 51, 52, 53, 54
American Cranberry Bush
(Viburnum cassinoides)
2, 3, 4, 5, 7, 8, 9, 10, 13, 16, 17, 18, 21, 22, 23, 24, 26, 27, 28, 29, 31, 33, 34, 35, 37, 39, 40, 42, 43, 45, 47, 48, 49, 51, 53, 54

Golden-winged warbler
with flowering dogwood

White pine
More Native Shrubs

Shadbush, Serviceberry
*Amelanchier canadensis*
2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 23, 24, 26, 28, 29, 31, 32, 33, 34, 35, 37, 39, 40, 42, 43, 47, 48, 49, 50, 51, 53

Winterberry
*Ilex verticillata*
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25, 26, 28, 29, 31, 32, 33, 34, 35, 37, 39, 40, 41, 42, 43, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54

Witch-hazel
*Ilanthellis virginiana*
2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 35, 36, 37, 40, 42, 43, 45, 46, 47, 48, 49, 50, 51, 52, 53

Black Chokeberry
*Ifronia melanocarpa*
2, 4, 7, 8, 13, 14, 17, 18, 24, 26, 28, 29, 32, 33, 35, 37, 42, 48, 49, 51, 53

Jersey Tea
*Ceanothus americanus*
13, 18, 24, 28, 29, 42, 48, 49, 51

Leatherleaf
*Chamaedaphne calyculata*
2, 5, 10, 24, 28, 48, 51

Summersweet or Sweet Pepperbush
*Clethra alniifolia*
2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 20, 21, 23, 24, 26, 27, 28, 29, 31, 32, 34, 35, 36, 37, 38, 39, 40, 42, 43, 45, 46, 47, 48, 49, 50, 51, 53

Sweet Fern
*Comptonia peregrina*
4, 7, 8, 11, 13, 21, 24, 26, 28, 32, 33, 37

40, 47, 48, 49, 51, 53

Bush Honeysuckle
*Dierella licercs*
2, 3, 5, 8, 10, 13, 14, 15, 18, 24, 27, 28, 31, 32, 40, 47, 48, 51

Labrador Tea
*Lonicera groenlandicu*
9, 11, 12, 24, 28, 32, 36, 40, 48, 49, 51

Spicebush
*Lindera benzoin*
2, 3, 4, 7, 8, 9, 11, 18, 20, 21, 24, 26, 27, 28, 29, 32, 33, 35, 37, 40, 42, 47, 48, 50, 51, 53

Huckleberry, Maleberry
*Lymna ligustrina*
18, 24, 26, 28, 33, 48

Bayberry
*Mrycia peasylvania*
2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 14, 15, 17, 18, 20, 21, 22, 24, 26, 27, 28, 29, 31, 32, 33, 34, 35, 37, 39, 40, 42, 43, 47, 48, 49, 50, 51, 52, 53, 54

Mountain Holly
*Nemophila macronota*
5, 9, 11, 24, 28, 40, 45, 48, 51

Shrubby Cinquefoil
*Potentilla fruticosa*
2, 3, 4, 6, 7, 9, 11, 13, 14, 15, 17, 18, 24, 25, 26, 28, 29, 31, 32, 35, 36, 37, 38, 40, 43, 47, 48, 50, 51, 53

Elderberry
*Sambucus canadensis*
4, 11, 12, 13, 23, 24, 28, 29, 35, 41, 43, 47, 48, 49, 51, 53

Meadowsweet Spiraea
*Spiraea latifolia*
2, 13, 18, 24, 28, 32, 33, 35, 40, 43, 48

Blaudnut
*Staphylea trifolia*
24, 28, 48

Canada Yew
*Taxus canadensis*
2, 3, 13, 24, 27, 28, 36, 40, 48

Highbush Blueberry
*Vaccinium corymbosum*
1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 26, 27, 28, 29, 31, 32, 33, 34, 35, 37, 40, 45, 46, 47, 48, 49, 50, 51, 52, 53

Leatherwood
*Dicta pedicostata*
2, 18, 24, 28, 48

Common Juniper
*Juniperus communis*
2, 5, 8, 10, 12, 13, 17, 18, 21, 24, 25, 26, 27, 28, 32, 33, 35, 37, 40, 43, 48

Buttonbush
*Cephalanthus occidentalis*
4, 7, 9, 11, 24, 26, 27, 28, 29, 32, 37, 39, 40, 42, 47, 48, 51

Blue jay on white pine
Connecticut Growers of Native Trees and Shrubs

( ** the nursery has indicated it is strictly a wholesaler)

1. Adam's Garden of Eden
   360 N. Anguilla Rd.
   Pawcatuck, CT 06379
   860-599-4241
   Email: Adam@garden@aol.com

2. Ali's Nursery
   Todd Silker-Manager
   421 Buckland St.
   Plantsville, CT 06479
   860-621-0506
   www.alisnursery.com

3. Evergreen Nursery, Inc.
   F. Kuh
   567 Woodruff St.
   Southington, CT 06489
   860-628-1525

4. Balleke's Garden Center
   90 Maple Ave
   East Haddam, CT 06423
   860-873-8878

5. Barretta Gardens, LLC
   945 North St.
   Milford, CT 06477
   203-876-8123

6. Bell Nurseries, Inc.
   1301 Farmington Ave.
   North Haven, CT 06473
   203-281-0164
   www.bellnurseries.com

7. Broken Arrow Nursery, LLC
   R.A. Jaynes
   13 Broken Arrow Rd.
   Hamden, CT 06518
   203-288-1026
   Email: brokenarrow@snet.net
   www.brokenarrownursery.com

8. Burr Farm Garden Center, Inc.
   Garry E. Ober
   25 Obsevo Road South
   Brookfield, CT 06804
   203-775-2477
   Fax: 203-287-1035

9. Cheshire Nursery Garden Center, LLC
   William DeBoo
   1317 South Main St.
   Cheshire, CT 06410
   203-272-3228

10. Eden Farms
    947 Stillwater Rd.
    Stamford, CT 06902-1820
    203-325-3445
    Fax: 203-325-4206
    www.edenfarmsllc.com

11. The Garden Barn Nursery, Inc.
    228 West St.
    Vernon, CT 06066
    860-872-7291

12. Garden Sales
    W. Turull
    312 Oakland St.
    Manchester, CT 06042
    860-649-2466

13. Greenfield Hill Garden Center and Nursery
    1301 Bronson Rd.
    Fairfield, CT 06430
    203-259-5828

14. **Griffin Land & Nurseries, Inc.
    Imperial Nurseries
    PO Box 120
    90 Salmon Brook Rd.
    Granby, CT 06066
    860-653-4512
    www.imperialnurseries.com

15. Grove Gardens
    T. Murray
    341 East Main St.
    Clinton, CT 06413
    860-669-8062
    Email: office@gglandscaping.com
    www.gglanscaping.com

16. High Ridge Nursery
    Gerald Malagasi
    1854 High Ridge Rd.
    Stamford, CT 06903
    203-259-9967

17. Holdridge Farm Nursery, Inc.
    PO Box 29
    Rte. 117
    Ledyard, CT 06339
    860-454-8400
    Fax: 860-454-8987
    www.holdridgegarden.com

18. Hollandia Nurseries, LLC
    103 Old Hawleyville Rd.
    Bethel, CT 06801
    203-743-0267

19. Housatonic Valley Regional
    H.S. FFA
    David Moran
    246 Warren Turnpike Rd.
    Falls Village, CT 06031
    860-824-5123

20. Kennedy Nursery, Inc.
    201 Clapboard Ridge Rd.
    Greenwich, CT 06831
    203-899-3152

    PO Box 128
    Rt. 7
    Kent, CT 06757
    860-927-3480

22. Kogut Nursery, LLC.
    147 Ann St.
    Meriden, CT 06450
    203-686-0252
    Fax: 203-235-8730

23. Litchfield Horticultural Center
    258 Bakeah Street
    Litchfield, CT 06759
    860-567-3717
    Email: info@litchfieldhorticulture.com
    www.litchfieldhorticulture.com

24. Locust Glen Garden Center
    181 Route 37
    New Fairfield, CT 06812
    203-746-2516

25. Manocchio Ent. Inc.
    204 Kelsoy St.
    Newington, CT 06111

26. Millane Nurseries
    Glen Silker
    604 Main St.
    Cromwell, CT 06416
    860-635-3510
    Fax: 860-635-3685
    www.millane.com

27. Monroe Turnpike Nursery
    K. Armitage
    288 Monroe Tpke.
    Monroe, CT 06468
    203-268-6174

28. Natural Attraction Project, Inc.
    Denise Clascko
    190 Sheldon Rd.
    Glastonbury, CT 06033
    860-376-2513
    Fax: 860-376-5839
    Email: info@naturalattractionproject.com
    www.naparine.org

29. Old Farm Nursery
    158 Lime Rock Rd.
    Lakeville, CT 06039
    860-435-2272
    Fax: 860-435-0535
    Email: oldfarmnursery@aol.com
    www.oldfarmnursery.com

30. Pell Farms
    23 Stafford Rd.
    Somers, CT 06071
    860-740-5382
31. Preferred Properties Landscaping
1456 Highland Ave
Cheshire, CT 06410
203-250-1039

32. Quackin’ Grass Nursery
16 Laurel Hill Rd.
Brooklyn, CT 06234
860-779-1732

33. R.S. Merriman
455 Milford St.
Burlington, CT 06013
860-675-3480

34. Running Brook Farms, Nursery & Landscaping
212 Route 80
Killington, CT 06419
860-663-5522
Fax: 860-663-1190
Email: runningbrookfarms@comcast.net
www.runningbrookfarms.com

35. Salem Country Gardens
380 New London Rd.
Salem, CT 06420-4102
860-859-2508
Fax: 860-859-1295
Email: scg@salemeg.com
www.salemeg.com

36. The Seasonal Shop
Anthony & Catherine Grasso
386 Madison Rd.
Durham, CT 06422
860-349-3497

37. **Shemin Nurseries, Inc. - Greenwich
1081 King St.
Greenwich
203-531-6700

38. Somersville Gardens, L.L.C.
PO Box 576
23 Hall Hill Rd.
Somersville, CT 06072
860-749-5535

39. Steck Nursery
100 Patnam Park Rd.
Bethel, CT 06801
203-748-1385
Fax: 203-792-1936
www.atstecks.com

40. **Summer Hill Nursery, Inc.
M. Johnson
888 Summer Hill Rd.
Madison, CT 06443
203-421-3055
Fax: 203-421-5189
Email: summerhillnur@aol.com
www.summerhillnursery.com

41. The Variegated Foliage Nursery
241-245 Westford Rd.
Eastford, CT 06242
860-974-3931
www.variegatedfoliagene.com

42. Twombly Nursery, Inc.
163 Barn Hill Rd.
Monroe, CT 06468
203-261-2133
Fax: 203-261-9230
Email: info@twomblynursery.com
www.twomblynursery.com

43. Van Wilgen Garden Center
51 Valley Rd.
North Branford, CT 06471
203-488-2110
www.vanwilgens.com

44. Village Farmer Nursery
Sydney Waxman
51 Codfish Falls Rd.
Storrs, CT 06268
860-429-4594

45. Wakeman’s Nursery
6923 Main St.
Trumbull, CT 06611
203-261-3926

46. Weston Gardens, Inc.
Craig Smith
1 Goodhill Rd.
Weston, CT 06883
203-227-3871

47. **Planters’ Choice
140 Huntington Rd.
Newtown, CT 06470
203-426-4037

48. Ridehill Nursery
2980 State St.
Haddam, CT 06438
203-288-0634

49. Woodland Trails
Wildflower Nursery
Deborah Lee & Georgianne Copley
32 Ashford Rd. (Eastford)
Ashford, CT 06278
860-974-2300
Email: planters@woodlandtrailswildflowers.com
www.woodlandtrailswildflowers.com

50. Warner Nursery Center
PO Box 662
76 Riverside Rd.
Simsbury, CT 06070
860-651-0204
www.wamernursingcenter.com
www.wamernursingcenter.com

51. Sprucetale Gardens
Paul Larson
20 East Quassett Rd.
Woodstock, CT 06281
860-974-0045
Native Trees and Shrubs for Wildlife Food and Cover

Summer Foods for Wildlife
Red Mulberry (Morus rubra)
Highbush Blueberry (Vaccinium corymbosum)
Shadbush Serviceberry (Amelanchier canadensis)
Black Cherry (Prunus serotina)
Choke Cherry (Prunus virginiana)
Pin Cherry (Prunus pensylvanica)

Fall Foods for Wildlife
Flowering Dogwood (Cornus florida)
Hackberry (Celtis occidentalis)
Common Elderberry (Sambucus canadensis)
Silky Dogwood (Cornus amomum)
Arrowwood Viburnum (Viburnum recognitum)
Nannyberry Viburnum (Viburnum lentago)
Eastern Red-cedar (Juniperus virginiana)
Hawthornes (Crataegus spp.)
Hickories (Carya spp.)
Oaks (Quercus spp.)
Walnuts (Juglans spp.)
American Beech (Fagus grandifolia)
American Filbert / Hazelnut (Corylus americana)

Winter Foods for Wildlife
Northern Bayberry (Myrica pensylvanica)
Winterberry (Ilex verticillata)
Highbush Cranberry Viburnum (Viburnum trilobum)
Mapleleaf Viburnum (Viburnum acerifolium)
Eastern Red Cedar (Juniperus virginiana)
Ground Juniper (Juniperus communis)
American Holly (Ilex opaca)
Staghorn Sumac (Rhus typhina)
Black Chokeberry (Aronia melanocarpa)

Winter Cover for Wildlife
Eastern Red-cedar (Juniperus virginiana)
Northern White Cedar (Thuya occidentalis)
White Pine (Pinus strobus)
American Holly (Ilex opaca)
Atlantic White Cedar (Chamaecyparis thyoides)
Black Spruce (Picea mariana)
Eastern Hemlock (Tsuga canadensis)

Spring Foods for Wildlife
Silver Maple (Acer saccharinum)
Red Maple (Acer rubrum)
American Elm (Ulmus americana)

Trees and Shrubs for Butterflies
Meadowsweet Spirea (Spirea latifolia)
Sweet Peppertush (Clethra alnifolia)
Pinktooth Azalea (Rhododendron nudiflorum)
Swamp Azalea (Rhododendron viscosum)
Connecticut's State Tree: White Oak (Quercus alba), also known as the Charter Oak

Description:
This deciduous tree grows up to 75-100 feet tall. It has grayish white bark and evenly lobed leaves, and it grows on a variety of site conditions. White oak produces acorns, which are highly preferred by deer, turkeys and squirrels.

Connecticut's State Flower: Mountain Laurel (Kalmia latifolia)

Description:
This evergreen shrub grows from 2 to 20 feet tall. It usually grows in the understory and typically in drier soils. Mountain laurel produces showy flowers in early summer, with colors ranging from white to red. The shrub is propagated widely by the nursery industry; many cultivars have been developed by Dr. Richard Jaynes of Broken Arrow Nursery in Hamden.

Wildlife Food Habits

Backyard Songbirds:
American Robin, Northern Catbird

**Summer foods**: serviceberry (Amelanchier canadensis), red mulberry (Morus rubra), blueberries (Vaccinium corymbosum, V. angustifolium)

**Fall foods**: flowering dogwood (Cornus florida), silky dogwood (Cornus amomum), common elderberry (Sambucus canadensis), arrowwood viburnum (Viburnum recognitum), nannyberry viburnum (Viburnum lentago), black cherry (Prunus serotina)

**Winter/spring migration foods**: winterberry (Ilex verticillata), highbush cranberry viburnum (Viburnum trilobum), staghorn sumac (Rhus typhina), northern bayberry (Myrica pensyvania), American holly (Ilex opaca)

**Winter cover**: eastern red cedar (Juniperus virginiana), white pine (Pinus strobus), northern white cedar (Thuja canadensis), eastern hemlock (Tsuga canadensis), black spruce (Picea mariana)

Interior Forest Songbirds:
Wood Thrush, Scarlet Tanager

**Summer foods**: serviceberry, red mulberry, blueberries

**Fall foods**: flowering dogwood, silky dogwood, common elderberry, arrowwood viburnum, nannyberry viburnum, black cherry

**Spring migration foods**: winterberry, highbush cranberry viburnum, staghorn sumac, American holly

Eastern chipmunk with acorn
# Connecticut Invasive Plant List

## October 2013

Connecticut Invasive Plants Council

This list is updated annually by the CT Invasive Plants Council.

Ordered by Scientific Name

Statement to accompany list – January 2004. This is a list of species that have been determined by floristic analysis to be invasive or potentially invasive in the state of Connecticut. In accordance with PA 03-136, the Invasive Plants Council will generate a second list recommending restrictions on some of these plants. In developing the second list and particular restrictions, the Council will recognize the need to balance the detrimental effects of invasive plants with the agricultural and horticultural value of some of these plants, while still protecting the state's minimally managed habitats.

In May 2004, Public Act 04-203 banned a subset of the January 2004 list making it illegal to move, sell, purchase, transplant, cultivate or distribute banned plants. Effective July 1, 2008, Public Act 08-52 removed the ban on Perle schizostegia.

@ column indicates growth form or habitat: A = Aquatic; W = Wetland; G = Grass or Grass-like; H = Herbaceous; S = Shrub; T = Tree; V = Woody Vine

Explanation of symbols after Common Name:

(P) indicates Potentially Invasive (all other plants listed are considered invasive in Connecticut).

* denotes the species, although shown by scientific evaluation to be invasive, has cultivars that have not been evaluated for invasive characteristics. Further research may determine whether or not individual cultivars are potentially invasive. Cultivars are commercially available selections of a plant species that have been bred or selected for predictable, desirable attributes of horticultural value such as form (dwarf or weeping form), foliage (variegated or colorful leaves), or flowering attributes (enhanced flower color or size).

"PROHIBITED BY STATUTE?" column indicates prohibited status: Y = prohibited from importation, movement, sale, purchase, transplanting, cultivation and distribution under CT General Statutes, 22a-31; N/A = not prohibited

* indicates species that are not currently known to be naturalized in Connecticut but would likely become invasive here if they are found to persist in the state without cultivation.

The taxonomic names used by the Connecticut Invasive Plants Council on the Invasive Plant list are consistent with the names used by the United States Department of Agriculture PLANTS database, accessible online at www.plants.usda.gov. The Council also maintains a list of scientific name synonyms for reference purposes.

| COMMON NAME | @ | SCIENTIFIC NAME | SYNONYMS | PROHIBITED BY STATUTE?
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Amur maple (P)</td>
<td>T</td>
<td>Acer ginnala Maxim.</td>
<td>N/A</td>
<td>Y</td>
</tr>
<tr>
<td>Norway maple*</td>
<td>T</td>
<td>Acer platanoides L.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sycamore maple (P)</td>
<td>T</td>
<td>Acer pseudoplatanus L.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goutweed</td>
<td>H</td>
<td>Aegopodium podagraria L.</td>
<td>Bishop's weed</td>
<td></td>
</tr>
<tr>
<td>Tree of heaven</td>
<td></td>
<td>Ailanthus altissima (Mill.) Swingle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garlic mustard</td>
<td>H</td>
<td>Alliaria petiolata (B. Bieb.) Cavara &amp; Grande</td>
<td></td>
<td></td>
</tr>
<tr>
<td>False indigo</td>
<td>S</td>
<td>Amorpha fruticosa L.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porcelainberr*</td>
<td>V</td>
<td>Ampelopsis brevipedunculata (Maxim.) Trautv.</td>
<td>Amur peppervine</td>
<td></td>
</tr>
<tr>
<td>Mugwort</td>
<td>H</td>
<td>Artisia vulgaris L.</td>
<td>Common wormwood</td>
<td></td>
</tr>
<tr>
<td>Hairy jointgrass</td>
<td>G</td>
<td>Arthraxon hispidus (Thunb) Makino</td>
<td>Small cargrass</td>
<td></td>
</tr>
<tr>
<td>Common kochia</td>
<td>S</td>
<td>Bessia scaposa (L.) A.J. Scott</td>
<td>Koelrea scaposea, Fireweed, Summer cypress</td>
<td></td>
</tr>
<tr>
<td>Common barberry</td>
<td>S</td>
<td>Berberis vulgaris L.</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Drooping brome-grass (P)</td>
<td>G</td>
<td>Bromus thunbergii DC.</td>
<td>Cheatsgrass</td>
<td></td>
</tr>
<tr>
<td>Flowering rush (P)</td>
<td>A</td>
<td>Butomus umbellatus L.</td>
<td></td>
<td></td>
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<tr>
<td>Fanwort</td>
<td>A</td>
<td>Cabomba caroliniana A. Gray</td>
<td>Carolina fanwort</td>
<td></td>
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<tr>
<td>Pond water-stawort</td>
<td>A</td>
<td>Calamichroa stagnalia Scop.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Narrowleaf bittercress</td>
<td>G</td>
<td>Cardamine impatiens L.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese sedge®</td>
<td>S</td>
<td>Carex kobomugi Ohwi</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oriental bittersweet</td>
<td>V</td>
<td>Celastrus orbiculatus L.</td>
<td>Asiatic bittersweet</td>
<td></td>
</tr>
<tr>
<td>Spotted knawort</td>
<td>H</td>
<td>Centaurea stoebe L</td>
<td>Centaurea biebersteinii; Centaurea maculosa</td>
<td></td>
</tr>
<tr>
<td>Canada thistle</td>
<td>H</td>
<td>Centaurea maculata L.</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Black swallow-wort</td>
<td>H</td>
<td>Cynanchum louiseae Kartesz &amp; Gandhi</td>
<td>Cynanchum nigricans; Vincetoxicum nigricans</td>
<td></td>
</tr>
<tr>
<td>Pale swallow-wort</td>
<td>H</td>
<td>Cynanchum rossicum (Klo. Borbidi)</td>
<td>Vincetoxicum rossicum</td>
<td></td>
</tr>
<tr>
<td>Japanese knawort</td>
<td>H</td>
<td>Datisa stramonium (L.) Scop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazilian water-weed</td>
<td>A</td>
<td>Egeria densa Planchon</td>
<td>Anacharis, Egeria</td>
<td></td>
</tr>
<tr>
<td>Common water-hyacinth®</td>
<td>A</td>
<td>Echhornia crassipes (Mart.) Solms</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Russian olive (P)</td>
<td>S</td>
<td>Elaeagnus angustifolia L.</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Autumn olive</td>
<td>S</td>
<td>Elaeagnus umbellata Thunb.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crested late-summer mint (P)</td>
<td>H</td>
<td>Elsholtzia ciitata (Thunb) Hylander</td>
<td>Elsholtzia</td>
<td></td>
</tr>
<tr>
<td>Winged euonymus®</td>
<td>H</td>
<td>Euonymus alatus (Thunb.) Sieb.</td>
<td>Burning bush</td>
<td></td>
</tr>
<tr>
<td>Cypress spurge (P)</td>
<td>H</td>
<td>Euphorbia cyparissias L.</td>
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<td></td>
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<tr>
<td>Leafy spurge</td>
<td>H</td>
<td>Euphorbia esula L.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossy buckthorn</td>
<td>S</td>
<td>Frangula alnus Mill.</td>
<td>Rhamnus frangula, European buckthorn</td>
<td></td>
</tr>
<tr>
<td>Slender snake cotton</td>
<td>H</td>
<td>Fregelia gracilis (Hook. Moq.)</td>
<td>Cottonweed</td>
<td></td>
</tr>
<tr>
<td>Ground ivy</td>
<td>H</td>
<td>Glechoma hederacea L.</td>
<td>Gill-over-the-ground, Run-away robin</td>
<td></td>
</tr>
<tr>
<td>Reed mannagrass®</td>
<td>G</td>
<td>Glycine maxima (Lartm.) Holmboe</td>
<td>Tall mannagrass</td>
<td></td>
</tr>
<tr>
<td>Giant hogweed (P)</td>
<td>H</td>
<td>Heracleum mantegazzianum (Sonnin &amp; Leib.)</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Native?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------------------------------------</td>
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<td></td>
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<tr>
<td>Dame's rocket</td>
<td><em>Hesperis matronalis</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese hops (P)</td>
<td><em>Humulus japonicus</em> Sieb. &amp; Zucc.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrilla</td>
<td><em>Hydrilla verticillata</em> (L. f.) Royle</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornamental jewelweed (P)</td>
<td><em>Ippomema glandulifera</em> Royle</td>
<td>Y</td>
<td></td>
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<tr>
<td>Yellow iris (P)</td>
<td><em>Iris pseudacorus</em> L.</td>
<td>Y</td>
<td></td>
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<tr>
<td>Perennial pepperweed</td>
<td><em>Lepidium latifolium</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Border privet (P)</td>
<td><em>Ligustrum obtusifolium</em> Sieb. &amp; Zucc.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>California privet (P)</td>
<td><em>Ligustrum ovalifolium</em> Hassk.</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>European privet (P)</td>
<td><em>Ligustrum vulgare</em> L.</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese honeysuckle*</td>
<td><em>Lonicera japonica</em> Thunb.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amur honeysuckle</td>
<td><em>Lonicera maackii</em> (Rupr.) Herder</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Morrow's honeysuckle</td>
<td><em>Lonicera morrowii</em> A. Gray</td>
<td>Y</td>
<td></td>
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</tr>
<tr>
<td>Tatarian honeysuckle (P)</td>
<td><em>Lonicera tatarica</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Belle honeysuckle</td>
<td><em>Lonicera x bella</em> Zabel</td>
<td>Bell's honeysuckle (misapplied)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dwarf honeysuckle* (P)</td>
<td><em>Lonicera xylosteum</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flag robin (P)</td>
<td><em>Lycidium flexuosum</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moneywort* (P)</td>
<td><em>Lysimachia nummularia</em> L.</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Garden loosestrife* (P)</td>
<td><em>Lysimachia vulgaris</em> L.</td>
<td>Y</td>
<td></td>
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<tr>
<td>Purple loosestrife</td>
<td><em>Lythrum salicaria</em> L.</td>
<td>Y</td>
<td></td>
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<tr>
<td>European watercress (P)</td>
<td><em>Marsilea quadrifolia</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japanese stilt grass</td>
<td><em>Microstegium vittatum</em> (Trin.) A. Camus</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eulalia* (P)</td>
<td><em>Miscanthus sinensis</em> Andersson</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Forget-me-not</td>
<td><em>Myosotis scorpiodes</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Parrotfeather (P)</td>
<td><em>Myophyllum aquaturn</em> (Vell.) Verd.</td>
<td>Y</td>
<td></td>
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<tr>
<td>Variable-leaf watermilfoil</td>
<td><em>Myophyllum heterophyllum</em> Michx.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Eurasian watermilfoil</td>
<td><em>Myophyllum spicatum</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Brittle water-nymph (P)</td>
<td><em>Najas minor</em> All.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Onerow yellow-cress (F)</td>
<td><em>Nasturtium microphyllum</em> Boenn. ex. Rothb.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Watercress</td>
<td><em>Nasturtium officinale</em> W.T. Altn.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>American water lettuce (P)</td>
<td><em>Nelumbo lutea</em> Willd.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Yellow floating heart (P)</td>
<td><em>Nympheris pallata</em> (S.G. Smel.) Kurtz</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Scotch thistle</td>
<td><em>Onocordum acanthum</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Star-of-Bethlehem (P)</td>
<td><em>Ornhigalium umbellatum</em> L.</td>
<td>N/A</td>
<td></td>
<td></td>
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<tr>
<td>Princess tree (F)</td>
<td><em>Paullownia tomentosa</em> (Trin.) Siebold &amp; Zucc.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Reed canary grass</td>
<td><em>Phalaris arundinacea</em> L.</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Common reed</td>
<td><em>Phragmites australis</em> (Cav.) Trin. ex. Steud.</td>
<td>Y</td>
<td></td>
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<tr>
<td>Water lettuce* (P)</td>
<td><em>Pistia stratiotes</em> L.</td>
<td>N/A</td>
<td></td>
<td></td>
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<tr>
<td>Canada bluegrass (P)</td>
<td><em>Poa compressa</em> L.</td>
<td>Y</td>
<td></td>
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<tr>
<td>Eriogon knotted weed</td>
<td><em>Polygonum caespitosum</em> Boemo.</td>
<td>Persicaria longiseta: Oriental lady's thumb</td>
<td></td>
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<tr>
<td>Japanese knotted weed</td>
<td><em>Polygonum cuspidatum</em> Siebold &amp; Zucc.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Mile-a-minute vine</td>
<td><em>Polygonum perfoliatum</em> L.</td>
<td>Persicaria perfoliata</td>
<td></td>
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<tr>
<td>Giant knotted weed* (P)</td>
<td><em>Polygonum sachalince</em> F. Schmid ex. Maxim.</td>
<td>Follia sachalinee</td>
<td></td>
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<tr>
<td>White poplar (P)</td>
<td><em>Populus alba</em> L.</td>
<td>Y</td>
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<tr>
<td>Crisp-leaved pondweed</td>
<td><em>Potamogeton crispus</em> L.</td>
<td>Y</td>
<td></td>
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<tr>
<td>Kudzu (P)</td>
<td><em>Pueraria montana</em> (Lour.) Merr.</td>
<td>Pueraria lobata</td>
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<tr>
<td>Fig buttercup</td>
<td><em>Ranunculus ficaria</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common buckthorn</td>
<td><em>Rhamnus cathartica</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black locust*</td>
<td><em>Robinia pseudoacacia</em> L.</td>
<td>N/A</td>
<td></td>
<td></td>
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<tr>
<td>Multiflora rose</td>
<td><em>Rosa multiflora</em> Thunb.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rugosa rose* (P)</td>
<td><em>Rosa rugosa</em> Thunb.*</td>
<td>Beach, Salt spray, Japanese, or Ramanas Rose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wineberry</td>
<td><em>Rubicus phoenicolasius</em> Maxim.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Sheep sorrel (P)</td>
<td><em>Rumex acetosa</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giant salvinia* (P)</td>
<td><em>Salvinia molesta</em> Mitchell</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tansy ragwort* (P)</td>
<td><em>Senecio jacobae</em> L.</td>
<td>Shaking Willie</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cup plant (P)</td>
<td><em>Silphium perfoliatum</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
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<tr>
<td>Bittersweet nightshade (P)</td>
<td><em>Solanum jacobae</em> L.</td>
<td>Climbing nightshade</td>
<td></td>
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<tr>
<td>Water chestnut</td>
<td><em>Trapa natans</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colt's foot</td>
<td><em>Tussilago farfara</em> L.</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garden heliotrope (P)</td>
<td><em>Valeriana officinalis</em> L.</td>
<td>Garden Valerian</td>
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<td></td>
</tr>
</tbody>
</table>

*Note: This plant is especially aggressive in coastal areas.*
Suggested Books and Resources on creating habitat for birds at home, school & in your community

Audubon Connecticut

Audubon CT Schoolyard Habitat Curriculum Guide available to download: http://ct.audubon.org/school

The Wildlife Gardener’s Guide by Janet Marinelli; Brooklyn Botanical Garden All-Region Guides

Bringing Nature Home: How you Can Sustain Wildlife with Native Plants by Douglass W. Tallamy

Attracting Native Pollinators: Protecting North America’s Bees and Butterflies by Mader, Shepher, Vaughan, Black and LeBuhn; Xerces Society Guide

Greening School Grounds: Creating Habitats for Learning edited by Tim Grant ad Gail Littlejohn; published via Green Teacher Magazine

The Audubon Society Guide to Attracting Birds: Creating Natural Habitats for Properties Large and Small by Stephen W. Kress

The Bird Garden: A comprehensive guide to attracting birds to your backyard throughout the year by Stephen W. Kress

Gardening for Wildlife: How to Create a Beautiful Backyard Habitat for Birds, Butterflies and other Wildlife by Craig Tufts and Peter Loewer; National Wildlife Federation

Native Alternatives to Invasive Plants by C. Colston Burrel, edited by Janet Marinelli and Bonnie Harper-Lore; Brooklyn Botanical Garden All-Region Guides

Caroline Bailey
The Butterfly Book: An Easy Guide to Butterfly Gardening, Identification and Behavior by Stokes

Bard Gardening Book: The Complete Guide to Creating a Bird-Friendly Habitat in your Backyard by Stokes

The Field Guide to Wildlife Habitats of the Eastern United States by Janine M. Benyus

Field Guide to Wildlife Habitats of Western United States by Janine M. Benyus


A Field Guide to the Ecology of Western Forests by John C. Kricher

Nature's Events: A Notebook of the Unfolding Seasons by John Serrao (based in Pennsylvania)

Naturally Curious: A Photographic Field Guide and Month-by-Month Journey through the Fields, Woods, and Marshes of New England by Mary Holland

Beyond the Classroom: Exploration of School Ground and Backyard by Charles E. Roth, Thomas Wellnitz, Cleu Cervoni, Elizabeth Arms

Beyond Ecophobia: Reclaiming the Heart in Nature Education by David Sobel

Compost Stew: An A to Z Recipe for the Earth by Mary Mckenna Kiddals and Ashley Wolff

Into the Field Guide: A Walk in the Woods by Emily Laber-Warren

Last Child in the Woods by Richard Louv

Place-Based Education: Connecting Classrooms and Communities by David Sobel

Schoolyard- Enhanced Learning: Using the Outdoors as an Instructional Tool, K-8 by Herbert W. Broda

Ten-Minute Field Trips by H.R. Russell
<table>
<thead>
<tr>
<th>Large Home Improvement Stores</th>
<th>Garden Centers - Within 7 miles of Stamford</th>
<th>Garden Centers - Within 7-15 miles of Stamford</th>
<th>Garden Products and Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowes</td>
<td>High Ridge Nursery 1854 High Ridge Rd</td>
<td>Colonial Gardens 1174 Bronson Road, Fairfield</td>
<td>PLT Landscape Contractors Inc.</td>
</tr>
<tr>
<td></td>
<td>Stamford, CT 06903</td>
<td>Stamford, CT 06824</td>
<td>(203) 356-1479 45 Liberty St, Stamford, CT</td>
</tr>
<tr>
<td>Norwalk, CT 100 CT Avenue</td>
<td>Designs By Lee Garden Center 129</td>
<td>Earth Garden Florist &amp; Nursery (203) 751-4992 200</td>
<td>Eden Farms Garden Center LLC</td>
</tr>
<tr>
<td></td>
<td>Interlaken Rd., Stamford, CT 06903</td>
<td>Danbury Road Wilton, CT</td>
<td>(203) 325-3445 947 Stillwater Road Stamford, CT</td>
</tr>
<tr>
<td>Home Depot</td>
<td>Eden Farms Garden Center LLC (203) 325-3445 947 Stillwater Road Stamford, CT</td>
<td>Vineyard Gardens (203) 966-4163 197 New Norwalk Road New Canaan, CT</td>
<td></td>
</tr>
<tr>
<td>Norwalk, CT 600 CT Ave</td>
<td>Exquisite Environments Garden Center (203) 323-7444 1351 Stillwater Road Stamford, CT</td>
<td>Gilberties Herb Gardens (203) 227-4175 7 Sylvan Lane Westport, CT</td>
<td></td>
</tr>
<tr>
<td>Norwalk, CT 06854 (203) 854-9111</td>
<td>Pine Hill Flower Shop 1392 High Ridge Rd</td>
<td>Greenfield Hill Nursery 1301 Bronson Road, Fairfield, CT</td>
<td>Izzo's Country Gardens &amp; Landscaping (203) 255-6429 1431 Post Road East Westport, CT</td>
</tr>
<tr>
<td>Port Chester, NY 150 Midland Ave</td>
<td>Port Chester, NY 10573 (914)690-9745</td>
<td>Hoffman Landscapes (203) 834-9656 647 Danbury Road Wilton, CT</td>
<td>Cooper's Mulch &amp; Water Gardens (203) 790-6700 32 Miry Brook Road Danbury, CT</td>
</tr>
<tr>
<td>Ace Hardware</td>
<td>Plant &amp; Things By Franco 55 Market St</td>
<td>Hoffman Landscapes (203) 834-9656 647 Danbury Road Wilton, CT</td>
<td>Stecks Nursery &amp; Landscaping (203) 796-7938 100 Putnam Park Road Bethel, CT</td>
</tr>
<tr>
<td>Wallauer Hardware</td>
<td>PLT Landscape Contractors Inc. (Tuccinardi Garden Center) (203) 356-1479 45 Liberty St, Stamford, CT</td>
<td>Izzo's Country Gardens &amp; Landscaping (203) 255-6429 1431 Post Road East Westport, CT</td>
<td></td>
</tr>
<tr>
<td>Port Chester, NY 10573</td>
<td>Sam Bridge Nursery and Greenhouses 437 North Street Greenwich CT 06830 (203) 869-3418</td>
<td>Nielsen's Florist and Garden Shop (203) 655-2541 1405 Post Road Darien, CT</td>
<td></td>
</tr>
<tr>
<td>Ace Hardware</td>
<td>Chubby's Hardware 68 Westchester Ave</td>
<td>Oman's Garden Center (203) 655-3121 537 Post Road Darien, CT</td>
<td></td>
</tr>
<tr>
<td>Pound Ridge, NY 10576</td>
<td>Stamford, CT 06903</td>
<td>Sarah's Flowers &amp; Garden Center LLC (203) 846-9775 224 Main St. Norwalk, CT</td>
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<tr>
<td></td>
<td>914.764.5125</td>
<td>(203) 259-2722</td>
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</tbody>
</table>

*This list is based solely on the location and distance of these establishments in relation to Stamford. We have not visited these places and this list does not represent our endorsement or lack thereof for these establishments. Before travelling to a destination on this list we recommend background research on the establishment and calling ahead to make sure they are open.*
New Haven- Nearby Habitat and Garden Supplies

*This list is based solely on the location and distance of these establishments in relation to New Haven. We have not visited these places and this list does not represent our endorsement or lack thereof for these establishments. Before travelling to a destination on this list we recommend background research on the establishment and calling ahead to make sure they are open.

<table>
<thead>
<tr>
<th>Large Home Improvement Stores</th>
<th>Garden Centers - Within 7 miles of New Haven</th>
<th>Garden Centers - Within 7-15 miles of New Haven</th>
<th>Garden Products and Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowes</td>
<td>Greenbrier Greenhouse Cliff Street New Haven, CT (203) 777-1886 75</td>
<td>Amity Garden Center 720 Amity Rd Bethany, CT (203) 393-1219</td>
<td>Phil's Garden &amp; Design Center 11 Montowese Ave. North Haven, CT (203) 773-1400</td>
</tr>
<tr>
<td>New Haven, CT 115 Foxon Blvd. Phone: (203) 468-3068</td>
<td>Ferrott's Garden Center 129 Amity Road New Haven, CT (203) 397-8555</td>
<td>Benedict's Home &amp; Garden 480 Purdy Hill Road, Monroe, CT 06468 (203) 268-1479</td>
<td>Fivesi's Garden Center &amp; Stone 1289 Foxon Road North Branford, CT (203) 484-9360</td>
</tr>
<tr>
<td>Orange, CT 50 Boston Post Road Phone: (203) 891-2038</td>
<td>Bell Nurseries, Inc. 1301 Hartford Turnpike, North Haven, CT 06473 (203) 248-5086</td>
<td>D.R. Charles Lawn &amp; Garden Center 189 Monroe Turnpike Monroe, CT 06468 (203) 445-0412</td>
<td>Marcucio Gardens 480 New Haven Ave. Derby, CT (203) 732-2063</td>
</tr>
<tr>
<td>Home Depot</td>
<td>Broken Arrow Nursery 13 Broken Arrow Rd. Hamden CT 06518 (203) 288-1026</td>
<td>Derby Garden Center 4 Caroline Street Derby, CT (203) 732-8360</td>
<td>Flasko's Farm 670 Daniels Farm Road Trumbull, CT (203) 268-2716</td>
</tr>
<tr>
<td>East Haven, CT 75 Frontage Rd N East Haven, CT 06512 (203) 467-2001</td>
<td>D'Addio's Garden Center 520 Washington Ave. #H North Haven, CT (203) 239-7893</td>
<td>Dietrich Gardens 1818 Highland Ave., Cheshire, CT 06410 (203) 271-0690</td>
<td>Mulchnaster Plus LLC (203) 269-4599 4 Barker Drive Wallingford, CT</td>
</tr>
<tr>
<td>Hamden, CT 1873 Dixwell Avenue Hamden, CT 06514 (203) 248-5925</td>
<td>Paradise Nurseries 226 Paradise Ave. Hamden, CT (203) 288-4779</td>
<td>Emerald Green Farm (203) 949-0594 84 Tankwood Road Wallingford, CT</td>
<td>D.R. Charles Lawn &amp; Garden Center Monroe Turnpike Monroe, CT 06468 (203) 445-0412 189</td>
</tr>
<tr>
<td>North Haven, CT 111 Universal Drive N North Haven, CT 06473 (203) 234-1300</td>
<td>Phil's Garden &amp; Design Center 11 Montowese Ave. North Haven, CT (203) 773-1400</td>
<td>Flower Field Nursery Cutlers Farm Road Monroe, CT (203) 268-3645 210</td>
<td>The Hardware, Garden &amp; Pet Center 1250-C Route 79 Madison, CT (203) 421-0027</td>
</tr>
<tr>
<td>Ace Hardware</td>
<td></td>
<td></td>
<td>The Garden 155 Main St North Woodbury, CT (203) 266-4439</td>
</tr>
<tr>
<td>Branford Building Supplies 1145 Main St Branford, CT 06405</td>
<td></td>
<td></td>
<td>Ace Gardens 447 Winthrop Road Deep River, CT (860) 526-9056</td>
</tr>
<tr>
<td>Mulchnaster Plus LLC (203) 269-4599 4 Barker Drive Wallingford, CT</td>
<td></td>
<td></td>
<td>James S. Hosking Nursery 114 Porter Street Watertown, CT (860) 274-8889</td>
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</table>
Soil and Water Testing
Soil Sample Questionnaire for Home Grounds

Fill out this sheet and place in mailing envelop or a small box along with your sample and check for $8.00 per sample payable to UConn. Mail to: UConn Soil Nutrient Analysis Laboratory, 6 Sherman Place, Unit 5102, Storrs, CT 06269-5102.

IMPORTANT! FOLLOW THE SAMPLING INSTRUCTIONS ON THE REVERSE SIDE.
Soil tests aid in diagnosing only those problems resulting from a lack or excess of certain plant nutrients, and the level of soil acidity or alkalinity. Other factors that may adversely affect plant growth include soil drainage, rainfall, sunlight, insects, plant diseases, weeds, winter injury and misuse of pesticides. None of these is identified by the soil test. You should receive soil test results and fertilizer recommendations within 7 to 10 days.

Do not apply more than the recommended amount of fertilizer. Too much nitrogen can pollute groundwater with nitrate.

PLEASE PRINT CLEARLY.

Name ___________________________ Date ___________________________

Address ____________________________

City ___________________________ State ______ Zip ____________

Phone __________________________ Fax: ___________________________

Sample ID (name or number, i.e. area 1, lawn, veg garden): ___________________________

PLANTS FOR WHICH RECOMMENDATIONS ARE WANTED (CHECK ONE)

- Established lawn
- Vegetables (specify kind) __________________________________________
- Fruits (specify kind) ______________________________________________
- Flowers (specify kind) ______________________________________________
- Roses (specify kind) ________________________________________________
- New lawn (not yet planted)
- Shrubs (specify kind) ______________________________________________
- Shade trees (specify kind) ___________________________________________
- Other (specify kind) _______________________________________________

FERTILIZERS: Check here for information on natural fertilizers.

EXPOSURE:  ○ Heavy shade  ○ Part shade  ○ Full sun

If you have any specific problems that you would like addressed by the horticulturists at the UConn Home and Garden Education Center, describe these here:

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________

(For Soil Lab use only.)

pH _____ Soil Texture ________ Color ________ Lab No. ________

University of Connecticut
College of Agriculture & Natural Resources
COOPERATIVE EXTENSION SYSTEM
Department of Plant Science
HOME GROUNDS SOIL SAMPLING INSTRUCTIONS

Lime and fertilizer recommendations based on improperly taken soil samples may injure your plants. Follow the instructions below to obtain a representative sample. Submit about ONE CUP of soil.

1. Areas differing in appearance, slope, drainage, treatment or intended plant usage should be sampled and tested separately. Examples:
   a. The lawn should be sampled separately from the vegetable garden.
   b. The blueberry patch should be sampled separately from the perennial garden.
   c. Areas under shade trees should be sampled separately from the lawn surrounding them.
   d. That portion of the vegetable garden recently limed should be sampled separately from the portion not limed.
   e. The upslope, dry part of the lawn should be sampled separately from the downslope, wet part of the lawn.
   f. Areas around shrubs should be sampled separately from the lawn.

2. Where poor growth exists, take samples from both good and bad areas, if possible, and submit them separately.

How to Sample

1. Using a spade, trowel or bulb planter (illustrated above), take cores or thin slices of soil from 10 or more random, evenly distributed spots in your sample area, to the appropriate depth indicated above.
2. Put the cores or slices of soil in a clean container, and thoroughly mix them. Transfer at least ONE CUP of the soil mixture to the plastic bag and seal. Place the plastic bag in a mailing envelope or a small box along with this questionnaire. (If samples are excessively wet, dry them at room temperature before putting them in the plastic bag. Do not dry samples on a stove or radiator.)

IMPORTANT: PLEASE FILL OUT SOIL SAMPLE QUESTIONNAIRE FOR HOME GROUNDS AND SEND IN WITH YOUR SAMPLE AND CHECK FOR $3.00 PER SAMPLE, PAYABLE TO UCONN, TO:

UCONN SOIL NUTRIENT ANALYSIS LABORATORY
6 SHERMAN PLACE, U-5102
STORRS CT 06269-5102
Grant Opportunities for Funding Your Schoolyard Habitat

The following Lists of Grants was retrieved from The Environmental Education Association of Illinois at: http://www.eeai.net/additional-grant-opportunities.html

Association of American Educators Classroom Grants
AAE's Classroom grants (average amount of $500) can be used for a variety of projects and materials, including but not limited to books, software, calculators, math manipulatives, art supplies, audiovisual equipment and lab materials. Classroom grants are available to all educators. Annual application deadlines are October 1 and March 1.

For more information, visit http://www.aaeteachers.org/index.php/member-benefits/scholarships-and-grants.

Captain Planet Foundation Grants
The mission of the Captain Planet Foundation is to promote and support high-quality educational programs that enable children and youth to understand and appreciate the world through active, hands-on projects designed to improve the environment in their schools and communities. The foundation intends its grants to serve as catalysts for getting environment-based education into schools and inspire youth and communities to participate in community service through environmental stewardship. Requests for funding less than $500 will be given preference and occasionally grants of up to $2,500 will be considered. Schools and organizations with operating budgets of less than $3 million are eligible to apply.

More information is available at the Captain Planet Foundation website: http://captainplanetfoundation.org/apply-for-grants/

Celebrate Urban Birds Mini-Grants
Calling all urban ornithologists or those wanting to host an urban event. The Cornell Lab of Ornithology has mini-grants from $100-500 available to host a Celebrate Urban Birds event.

For more information, visit http://celebrateurbanbirds.org/community/minigrants/.

EPA Environmental Education Grants
This grant program funds environmental education projects. Environmental information and outreach may be important elements of EE projects, but these activities by themselves are not environmental education. By itself, environmental information only addresses awareness and knowledge, usually about a particular environmental issue. Outreach involves information dissemination and requests or suggestions for action on a particular issue (often without the critical thinking, problem solving and decision-making steps in between). EE covers the range of steps and activities from awareness to action with an ultimate goal of environmental stewardship.

Grant application details can be found at EPA's environmental education grant website: http://www2.epa.gov/education/environmental-education-ee-grants
Frances R. Dewing Foundation Grants
The Frances R. Dewing Foundation gives grants only to programs that deal directly with early childhood education. Within that context, support is given for preschool, elementary, and other education; conservation and environmental protection; the fine and performing arts and other cultural programs; and social services. Programs must serve children younger than age 12. Giving is limited to the United States, with emphasis on the New England states in the Northeast. Annual application deadlines are October 1 and April 1. The average grant amount is $15,000.
For more information, visit http://www.frd-foundation.org/apply05.html.

Illinois Biodiversity Field Trip Grant
Prekindergarten through grade 12 teachers may apply for up to $500 to cover the costs of transportation and substitute teachers for a field trip to one of Illinois’ natural resources sites. The field trip must occur in the calendar year that the funds are received.
For detailed instructions and the application form, visit http://dnr.state.il.us/education/CLASSRM/grants.htm.

Illinois Grantwatch
This site is a listing of grant opportunities. You can search by categories including Children, Community Service, Environment, Science, and more: http://illinois.grantwatch.com/collection.php?region=all

Illinois Wildlife Preservation Fund
The Illinois Wildlife Preservation Fund Grant Program is designed to preserve, protect, perpetuate and enhance non-game wildlife and native plant resources of Illinois through preservation of a satisfactory environment and an ecological balance. Projects proposed for grant funding must focus on management, site inventories or education and cannot exceed $2,000.00. Management projects are those activities related to stewardship of land and/or water which are of direct benefit to non-game wildlife, native plants and natural communities.
More information: http://www.dnr.state.il.us/grants/Special_Funds/WildGrant.htm

ING Unsung Heroes Grants
Are you an educator with a class project that is short on funding but long on potential? Do you know a teacher looking for grant dollars? ING Unsung Heroes could help you turn great ideas into reality for students. Each year, 100 educators are selected to receive $2,000 to help fund their innovative class projects. Three of those are chosen to receive the top awards of an additional $5,000, $10,000 and $25,000.
For more information, visit http://ing.us/about-ing/citizenship/childrens-education/ing-unsung-heroes.
Kresge Foundation Grants
Grants relating to adaptation to climate change, energy efficiency/renewable energy, community health partnerships and healthy environments are available from The Kresge Foundation. We support efforts that create access and opportunity in underserved communities, working through the seven programs. Each program focuses on specific areas so we ask that you begin by learning more about the program that best fits your project; learn more at http://www.kresge.org/opportunities. Current grant opportunities are identified here. Please note some grant opportunities are open only to applicants invited by program staff members. Visit the web site for more details.

Lake Education Assistance Program (LEAP) Grants
This Illinois EPA grant program provides funding (up to $500 per application period) for lake and lake watershed related educational field trips, seminars or workshops, projects, or activities. Projects and activities must have stated goals and involve the enhanced lake or lake watershed education of teachers, students, organizations or the community. LEAP is a reimbursement grant. Application deadlines are September 30 and January 31. Only one application per school or organization for each application period will be accepted.

For more information, visit http://www.epa.state.il.us/water/conservation/leap.html.

Leave No Trace Grants
Leave No Trace is an educational, nonprofit organization dedicated to the responsible enjoyment and active stewardship of the outdoors. Leave No Trace offers a variety of grant and scholarship opportunities for individuals and organizations seeking Leave No Trace educational materials and/or training. There are multiple grants offered, including Connect Grants for Culturally-Diverse Communities, Packing with PEAK grant, Tools for Teaching Fund, and Master Educator Scholarships. These opportunities have varying deadlines throughout the year. Please email all grant and scholarship inquiries to grants@LNT.org.

Local Giving Program
The Walmart Foundation supports programs and initiatives addressing education, workforce development, economic sustainability and health and wellness. Multiple awards ranging from $250-5,000 are available for select applicants. Nonprofit organizations, K-12 schools, church or faith based organizations and government entities are eligible to apply.


Lowe’s Toolbox for Education Grants
Searching for funding for your outdoor classroom, schoolyard garden or school greening project? Lowe’s will donate $5 million to public schools and public school parent teacher groups at more than 1,000 different public schools per school year. This grant program is for projects that encourage parent involvement and build stronger community spirit. Preference is given to funding requests that have a permanent impact such as facility enhancement (both indoor and outdoor) and landscaping projects.

For more information, visit http://www.toolboxforeducation.com/.

National Environmental Education Foundation
For a list of more grants and awards, visit the grants page on the NEEF website: http://www.neefusa.org/grants
NEA Foundation Student Achievement Grants
The NEA Foundation provides grants to improve the academic achievement of students in U.S. public schools and public higher education institutions in any subject area. Any practicing U.S. teacher, counselor, or education support professional employed by a public school, including public higher education institutions, is eligible to apply for a grant from the Foundation. The proposed work should engage students in critical thinking and problem solving that deepen their knowledge of standards-based subject matter. The work should also improve students’ habits of inquiry, self-directed learning, and critical reflection. The grant amounts available are $2,000 and $5,000. Grant funds may be used for resource materials, supplies, equipment, transportation, technology, or scholars-in-residence. Grants will fund activities for 12 months from the date of the award. Application deadlines are February 1, June 1, and October 1.

For more information, visit http://www.neafoundation.org/pages/nea-student-achievement-grants/.

Patagonia Environmental Grants
Patagonia provides grants for small, grassroots activist organizations aimed at preserving and protecting the environment. The company funds work that is action-oriented, builds public involvement and support, and protects local habitat. Grants range from $3,000 to $8,000. Applications can be submitted at retail stores and online.

For more information, visit http://www.patagonia.com/us/patagonia.go?assetid=2942.

PLT GreenWorks! Grant Program
Do you have an idea for a school/community native plant garden, a forest improvement project, a streamside restoration plan, a recycling program, or energy conservation project for your students? Need funds to implement it? Apply for a $1,000 Project Learning Tree (PLT) GreenWorks! grant. GreenWorks! is the service-learning, community action program of PLT that partners, PLT educators, students, and communities in environmental neighborhood improvement projects. Applicants must have attended, or be registered for, a PLT educator workshop by the deadline.

Visit http://www.plt.org/applyforagrant for more information.

The Pollination Project
The Pollination Project is offering a grant of $1,000 per day every day this year to individuals with a plan to make a positive difference in their community. Environmental projects are encouraged.

For more information, visit http://thepollinationproject.org/.

Save On Energy Teacher Grants
Interested in winning $500 for your classroom? SaveOnEnergy.com® is looking for the best lesson plans for teaching students about energy or sustainability. SaveOnEnergy.com will award six $500 grants, in the form of Visa Reward Cards, to be used toward classroom materials and activities. Winners' lesson plans will be featured on SaveOnEnergy.com for other teachers to use as resources for their classrooms. The deadline for the application is October 21, 2016.

For more information, visit https://www.saveonenergy.com/teacher-grant/.
School Garden Grants Program/Whole Kids Foundation
Awards of $2,000 are available to select applicants. Nonprofit organizations and nonprofit K-12 schools are eligible to apply.
For more information, visit http://www.wholekidsfoundation.org/gardengrants.php.

Schoolyard Habitat Program
The Schoolyard Habitat Program helps teachers and students create a naturalized wildlife habitat for classroom field studies and observations. The Program provides technical and organizational assistance to schools to create outdoor classrooms that are effective as educational tools and sustainable habitats. Qualified schools or organizations serving K-12 students are eligible for funding and may receive up to $8,000 for projects. Schools must work cooperatively with the U.S. Fish and Wildlife Service and School Garden Network (SGN) to be considered for funding. The first step to creating a successful Schoolyard Habitat Project is to assemble a team that includes students, teachers, parents, administrators, and community members who will support and help sustain the project. The Schoolyard Habitat Program works with schools to provide project guidance, teacher training, and helps develop written materials.
For more information contact Laurel Anderson & Sabrina Howell, SGN Schoolyard Habitat Coordinators: Schoolhabitats@gmail.com. For more information, visit http://schoolgardens.org/schoolyard-habitat-program-2/.

Schoolyard Wildlife Habitat Action Grant
Have you ever wanted to install a butterfly garden, prairie plot, schoolyard arboretum, bluebird nesting trail or other wildlife habitat area? This grant can make your wish come true. The IDNR, Illinois Conservation Foundation, U.S. Environmental Protection Agency and U.S. Fish and Wildlife Service’s Partners for Fish and Wildlife Program are partners in offering funds to teachers and youth group leaders for wildlife habitat development or enhancement on school grounds or other public property. Up to $1,000 per applicant is available.
Visit http://dnr.state.il.us/education/CLASSRM/grants.htm to access the instructions and application form.

Target Field Trip Grant
Here’s a great opportunity for you to offer your students a valuable field trip at little or no cost to you or your school. Target Corporation will award thousands of Field Trip Grants for up to $700 each.

USDA Farm to School Grants
The U.S. Department of Agriculture Farm to School Grants help schools connect with local agricultural producers.
For more information, visit https://www.fns.usda.gov/farmtoschool/farm-school-grant-program.
Youth Garden Grants
The National Gardening Association will be awarding Youth Garden Grants to schools and community organizations with child-centered garden programs. For this grant cycle, 100 grants are available. Schools, youth groups, community centers, camps, clubs, treatment facilities and inter-generational groups throughout the U.S. are eligible. Applicants must plan to garden with at least 15 children between the ages of 3 and 18. Previous winners may reapply, but must wait one year and must have significantly expanded their garden programs.

For more information, visit http://grants.kidsgardening.org/2017-youth-garden-grant.

Additional Funding Opportunities

Donors Choose
This online charity enables teachers to post their classroom project requests so that donors can give any amount they choose towards it. Donors select the project that inspires them the most. When a project reaches its funding goal, materials are shipped to the schools. Completely free for teachers to use. http://www.donorschoose.org/

U.S. Fish & Wildlife Service
## Sample Budget

<table>
<thead>
<tr>
<th>Perennials</th>
<th>Qty</th>
<th>Size</th>
<th>Price</th>
<th>Extended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monarda ‘Purple Rooster’ Purple Beebalm</td>
<td>2</td>
<td>3.50-4.00</td>
<td>11.99</td>
<td>23.98</td>
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<tr>
<td>Monarda ‘Fireball’ Red Beebalm</td>
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<td>3.50-4.00</td>
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<td>23.98</td>
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<tr>
<td>Phlox paniculata 'Neon Purple' Purple summer phlox</td>
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<td>2.50-3.00</td>
<td>9.99</td>
<td>19.98</td>
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<tr>
<td>Phlox paniculata 'White Flame' White summer phlox</td>
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<td>2.50-3.00</td>
<td>9.99</td>
<td>19.98</td>
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<td>Rudbeckia fulgida ‘Vette’s Little Suzy’ Black eyed susan</td>
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<td>3.00-3.50</td>
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<tr>
<td>Martensia virginica Virginia Bluebells</td>
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<td>3.50-4.00</td>
<td>9.99</td>
<td>19.98</td>
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<td>Pycanthemum tenellum Slender Mountain Mint</td>
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<td>2.00-2.50</td>
<td>9.99</td>
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<tr>
<td>Lupinus ‘Gallery Red’ Red Lupine</td>
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<td>Lupinus ‘Gallery Yellow’ Yellow Lupine</td>
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<td>Aster Divaricatus White wood aster</td>
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<td>Tiarella ‘Running Tapestry’ Foam flower</td>
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<td>Viola ‘Etain’ Violet</td>
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<td>Astilbe chinensis ‘Visions in Pink’ Astilbe</td>
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<td>19.98</td>
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<td>Schizachyrium scoparium ‘Prairie Blues’ Little bluestem</td>
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<td>Omorpha crenata ‘Cinnamomeum’ Cinnamon Fern</td>
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<td>Panicum virgatum ‘Northwind’ Switch Grass</td>
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<td>19.99</td>
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<td>Engrauxis spectabilis Purple Love Grass</td>
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<td>2.00-2.50</td>
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<td>Asclepias incarnata ‘Cinderella’ Swamp Milkweed</td>
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**Total Perennials**: 557.52

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<tr>
<th>Trees and Shrubs</th>
<th>Qty</th>
<th>Size</th>
<th>Price</th>
<th>Extended</th>
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<tr>
<td>Amanlanchier canadensis Shadlow Serviceberry</td>
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<td>Myrica pensylvanica Northern Bayberry</td>
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<td>Lindera Benzoin Spice Bush</td>
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<td>2.00-2.50</td>
<td>44.99</td>
<td>89.98</td>
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<td>Kalmia Latifolia ‘Olympic Wedding’ White Mountain Laurel</td>
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<td>3.00-3.50</td>
<td>59.99</td>
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<tr>
<td>Kalmia Latifolia ‘Carousel’ Pink Mountain Laurel</td>
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<td>3.00-3.50</td>
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<td>119.98</td>
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<tr>
<td>Ilex verticillata Winterberry Holly</td>
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<td>3.00-3.50</td>
<td>44.99</td>
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**Total Trees and Shrubs**: 554.89

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<td>Van Wilgen’s Premium Planting Mix</td>
<td>10</td>
<td>Bags</td>
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**Total**: 1172.31
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<tr>
<th>Items</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Light Requirement</th>
<th>Quantity</th>
<th>Cost per Unit</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Plants</td>
<td>amelanchier canadensis</td>
<td>Shadblow</td>
<td>half shade</td>
<td>1</td>
<td>Each</td>
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<tr>
<td>Plants</td>
<td>Arctostaphylos uva-ursi</td>
<td>Bearberry</td>
<td>half shade</td>
<td>5</td>
<td>Each</td>
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<tr>
<td>Plants</td>
<td>Eleuthera alnifolia</td>
<td>Sweet Pepperbush</td>
<td>Sun</td>
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<td>Each</td>
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<td>Plants</td>
<td>Cornus alternifolia</td>
<td>Alternate-leaved Dogwood</td>
<td>Sun</td>
<td>1</td>
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<tr>
<td>Plants</td>
<td>Hamamelis virginiana</td>
<td>Witch Hazel</td>
<td>sun</td>
<td>1</td>
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<td>Plants</td>
<td>Ilex verticillata</td>
<td>Winterberry</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
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<td>Plants</td>
<td>Rhododendron viscosum</td>
<td>Swamp Azalea</td>
<td>Half Shade</td>
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<td>Each</td>
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<tr>
<td>Plants</td>
<td>Vaccinium corymbosum</td>
<td>Highbush Blueberry</td>
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<td>3</td>
<td>Each</td>
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<tr>
<td>Plants</td>
<td>Matteuccia struthiopteris</td>
<td>Ostrich Fern</td>
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<tr>
<td>Plants</td>
<td>Osmunda cinnamomea</td>
<td>Cinnamon Fern</td>
<td>Full - half shade</td>
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<tr>
<td>Plants</td>
<td>Asclepias tuberosa</td>
<td>Butterfly Milkweed</td>
<td>Sun</td>
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<td>Each</td>
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<td>Plants</td>
<td>Aster novae-anglieae</td>
<td>New England Aster</td>
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<td>Chelone glabra</td>
<td>Turtlehead</td>
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<tr>
<td>Plants</td>
<td>Eupatorium maculatum</td>
<td>Joe Pye Weed</td>
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<td>Each</td>
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<tr>
<td>Plants</td>
<td>Lobelia cardinalis</td>
<td>Cardinal Flower</td>
<td>Sun - half shade</td>
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<td>Each</td>
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<tr>
<td>Plants</td>
<td>Lupinus perennis</td>
<td>Wild Blue Lupine</td>
<td>Sun</td>
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<td>Each</td>
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<td>Plants</td>
<td>Rudbeckia hirta</td>
<td>Coneflower</td>
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<td>Each</td>
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<td>Plants</td>
<td>Solidago nemoralis</td>
<td>Goldenrod</td>
<td>Sun</td>
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<td>Plants</td>
<td>Lonicera sempervirens</td>
<td>Trumpet Honeysuckle</td>
<td>Sun</td>
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<td>Each</td>
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<tr>
<td>Plants</td>
<td>Monarda didyma</td>
<td>Bee Balm</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
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<tr>
<td>Plants</td>
<td>Rudbeckia hirta</td>
<td>Black-eyed Susan</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
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<td></td>
</tr>
</tbody>
</table>

Estimated plants total  $1,500

Soil

- 20 cu yds $30.00 Yard $600

Mulch

- 40 bags $2.50 Each $100

Trellis

- 2 $25.00 Each $50

Arbor

- 1 $300.00 each $300

Taracoloth Banner 24" x 3 yards

- 2 $34.99 Each 69.98

Mural Canvas 32" x 63.5"

- 8 $39.99 Each $319.92

Pint 6 color set - Acrylic Paint

- 1 $92.97 Set 92.97

Seats for amphitheatre

- 30 set $155

Hose for watering (1) & drip hose (2)

- 30 $20.00 Each $60

Hose holder

- $30.00 $30

$3,278
Samples from Schools

Interpretive Signage

Unveiling Ceremony and Plant Days

Mission Statements, Meeting Agendas, and Master Plans

Plant Lists
Interpretive Signage
Welcome to East Rock's Schoolyard Habitat!

The purpose of our habitat is to:

- Bring our community and our students closer to nature by providing an outdoor space in which to learn
- Provide nourishment and a safe haven for migratory birds and local wildlife
- Teach future generations the importance of caring for the environment for the benefit of people, plants, and animals

The mission of our schoolyard habitat is to:

- Instill a passion for caring about the environment through outdoor learning. Our schoolyard habitat will help students make connections to nature and nurture lifelong environmental stewardship.

Artwork by our Students:

- [List of student names]
Edgewood Schoolyard Habitat

A Community of People and Nature

Mighty Oaks from tiny acorns grow

A place for wildlife and people to rest and refuel

Our Mission
The mission of the Edgewood Schoolyard Habitat is to provide an outdoor learning environment for the school community with spaces for exploration, observation, contemplation and interaction that promotes discovery and appreciation of our natural world and fosters critical thinking and environmental stewardship.

This Schoolyard Habitat was made possible by—
Welcome to the Barnard Schoolyard Habitat!

Our Mission: To provide an interactive outdoor learning space that engages our school community in the exploration of the natural world and fosters environmental stewardship.

Balancing People and Nature

Discover, Respect and Enjoy
Our Schoolyard Habitat
Nuestro Hábitat del Patio Escolar
Christopher Columbus Family Academy
A Dual Language School • Escuela de Dos Idiomas

Columbus Family Academy
Schoolyard Habitat Program:
Mission: The schoolyard habitat promotes outdoor learning, hands-on experience and motivation through scientific inquiry, artistic investigation and literacy exploration that continues to develop bilingual brains through discovery.

Programa Hábitat del Patio Escolar de Columbus Family Academy:
Miisión: El hábitat del patio escolar promueve el aprendizaje al aire libre, la experiencia práctica y la motivación a través de la investigación científica, artística y la exploración literaria que continúa desarrollando cerebros bilingües a través de descubrimiento.

What can you find here?

Vida abajo de los Troncos
la vida silvestre de los troncos es un lugar donde se puede ver vida de insectos, hojas y musgo para encontrar e intereses visuales que se desarrollan ahí.

Plantas Tradicionales
Esta es una zona de jardín lleno de plantas que tienen una conexión con el folklore—plantas que nuestras antepasadas y muchas de las flores de la mayor parte de las que han son valoradas por nosotros.

¿Qué puede encontrar aquí?

Plants and Gardening
En nuestra área se encuentra una rica variedad de plantas y flores que son importantes para los niños y las niñas. Estas plantas ayudan a aprender sobre la vida y los ciclos de las plantas que nos pueden utilizar para la preparación de nuestras comidas.

¿Qué es un hábitat del patio escolar?
Un hábitat del patio escolar es un lugar al aire libre para aprender. Es un lugar donde los estudiantes pueden aprender sobre plantas y vida silvestre, además de aprender a cultivar estas plantas para mejorar la vida de los animales.

¿Qué es un hábitat de la escuela?
Un hábitat de la escuela es un lugar al aire libre para aprender. Es un lugar donde los estudiantes pueden aprender sobre plantas y vida silvestre, además de aprender a cultivar estas plantas para mejorar la vida de los animales.
Welcome to Our Schoolyard Habitat

Our Mission

Worthington Hooker School is committed to nurturing the growth and development of our students through the study of the environment, awakening in them their responsibility for environmental stewardship through the design and care of a schoolyard habitat, using our space as a vehicle to learn about, and care for, the natural world.

What is a Schoolyard Habitat?

- Natural spaces where students can observe their surroundings
- A rest stop for migratory and local wildlife
- A safe haven for animals and insects
- An outdoor classroom where students can learn and grow
Welcome to Our Schoolyard Habitat!

Our Mission

Quinnipiac STEM’s Schoolyard Habitat encourages our children and community to develop deeper relationships with both nature and self and promote student interaction with the local environment. Our space provides students with the opportunity to engage in leadership roles while learning, exploring and applying academic concepts to meaningful real world activities.
The Davis Street Arts & Academics School
Habitat and Outdoor Classroom

Our Mission

EXPLORING Nature
ENGAGING Our Community
INSPIRING Creativity & Learning
Fair Haven Schoolyard Habitat!

Our Mission

Nuestro hábitat proporciona un espacio pacífico, un ambiente de aprendizaje experimental, y una muestra del compromiso de nuestra comunidad a la conservación de especies nativas. Este hábitat es para pájaros, mariposas, y seres humanos; todos son bienvenidos aquí.

Our habitat provides a peaceful space, an experiential learning environment, and a showcase of our community's commitment to conserving native species. This habitat is for birds, butterflies, and humans; all are welcome here.
John C. Daniels School Habitat for a Better World
Jardín de Mariposas de la Escuela John C. Daniels para un Mundo Mejor

Our Mission Statement
"This welcoming outdoor space fuels exploration, learning, and stewardship.
Here our students and community are inspired
to open our eyes, hearts, and minds to the
World of Nature In Our Own Backyard.

La mision
¡Bienvenidos a nuestro jardín de mariposas!
Un espacio acogedor que fomenta e inspira
a nuestros estudiantes y comunidad escolar
en el mundo de la exploración y el aprendizaje
Abriendo nuestros ojos, corazones y mentes
da la Naturaleza en Nuestro Propio Patio
OUR MISSION is to establish an outdoor learning space that educates our school and community, and ensures the continuation of a schoolyard habitat.

ARTWORK CREATED BY FRANKLIN STUDENTS

The Datio Foundation generously supported the development of this habitat.

THIS SCHOOLYARD HABITAT WAS MADE POSSIBLE BY:

[Logos and names of organizations]
Unveiling Ceremony and Planting Days
You’re Invited to

Barnard Environmental Studies Magnet School's
Schoolyard Habitat Unveiling

1:45 Garden Tour
Time: 2-3 Ceremony

When: June 23, 2014
Where: 170 Derby Ave.

RSVP: marjoriedrucker@new-haven.k12.ct.us
By: Darion A.
HART MAGNET SCHOOL

In Partnership with Audubon Connecticut and The U.S. Fish and Wildlife Service

Presents:

Our Schoolyard Habitat Project Designation Ceremony

Wednesday, September 30, 2015, 10:00 a.m.

Meet in the front of Hart Magnet School for our presentation by teachers, students and community partners! Tour our schoolyard habitat! Hope to see you there!
“If you truly love nature, you will find beauty everywhere.”

-Vincent Van Gogh

Special Thanks

Mary Ann Mars
Linda Koch
The 1830 Foundation
Designs by Lee
Gardencare Supply Company
High Ridge Nursery
Joseph Golia Services
Lowe’s
Stamford BOE Grounds Crew
Hart PTO

Kate McKenna
Mark Martini
Christina Wolf
Bartlett Arboretum & Gardens
Founders from Donors Choose
Gilbert’s Herb Gardens
The Home Depot
Long Island Sound Study
Sacred Roots Nursery
Hart Magnet OSS

Hart Magnet School

presents

School Yard Habitat Unveiling

September 30, 2015
Time: 10:00am
Order of Events

Hart Magnet Schoolyard Habitat Unveiling
September 30, 2015
10:00am

10:00 am  Welcome Remarks
Mrs. Linda Darling-Principal
Mayor Martin
Dr. Winnie Hamilton Superintendent
Dr. Tanu Lucas Assistant Superintendent
Mrs. Sue Christian Science Teacher
US Fish & Wildlife Service - George Boss
Audubon California Rabbi Blum
Presentation of USFWS sign and Leadership Team certificates

10:15 am  Student presentations
Kindergarten Song- "Oh Mr. Sun" Mrs. Kuehn, Mrs. Stadel, Mrs. Speczann, Mrs. Fogelman and Mrs. Sandahl's Kindergarten Classes

Garden Song Mrs. Delford's 4th Grade Class, Mr. Jay

Poem Read by Students of Mrs. Lancy Schenkel
"What do we get when we plant a tree?"

Roched Hines Grade 5
Sofia Aristizabal Grade 3
Daylin Espinal Grade 4
Kimberly Lopez Grade 5

RECOGNITION OF OUR STUDENT ARTISTS

10:30 am  Ribbon cutting, unveiling of sign by Guests, Staff and Students

Student Artists

Banner
Maya Snead
Sania Shiek
Aidan McMahon
Arushi Devpura
Carolina Hitlin
Tyler Terry
Tyler Tanaka Vizcarrondo
Venkatesh Avind
Mahi Sanghani
Sarah Boside
Kaitlin Doyle
Ananya Devpura
Olivia Craig
Maddy Beck
Kayla Williamson
Tanya Kalale
Grayee Journick
Jafet Sevilla Ayala
William Silkowitz

Habitat Sign
Bryan Gil
Cristian Sanchez
Arushi Devpura
Charlie Hernandez
James Lorenzo
Jason Rosado

Thank you and please visit our
School Yard Habitat!
East Rock Community Magnet Schoolyard Habitat Unveiling
June 8, 2015
10:00am

10:00 am Welcome:
Mrs. Pelley welcomes school community
Introduces East Rock Leadership Team - all stand to be recognized

Remarks by US Wildlife and Fisheries, Audubon, Common Ground
Presentation of USFWS sign and Leadership Team certificates

10:15 am Student presentations:
Grade 2 - springtime song
Artists of the Schoolyard Habitat sign, unveil interpretive sign
Lizmarie Ortiz - Nature’s Poem

10:35 am Ribbon cutting and tour of the native habitat:
Ms. Pelley, habitat team & students cut ribbon

Student tours of habitat

11:00am Ceremony concludes - students return to classes
Welcome to Stark Elementary School  
Dr. Bonasera  
Principal, Julia A. Stark Elementary School  
(Dr. Bonasera to introduce Georgia Basso)  
1 mins

Schoolyard Habitat Program of the U.S. Fish and Wildlife Service  
Georgia Basso  
Wildlife Biologist, U.S. Fish and Wildlife Service  
(Georgia to introduce Taralynn)  
3 mins

Audubon at Home  
Taralynn Reynolds  
Bird Friendly Communities Coordinator, Audubon CT  
• Taralynn to thank staff (James Flynn, Ted Gillman, Francesca Williams)  
  (Dr. Bonasera to thank Taralynn and Georgia and team)  

Ribbon Cutting (at top of stairs)  
Dr. Bonasera to name ribbon cutter(s)...  
[Should we have students cut the ribbon???? Dr. Bonasera? Small group? Large group? Could consider Stark Students who have helped volunteer in the gardens: Daniel Brown, Charlie and Emily Gawlak, Jack Gibson, RaeAnne Iacovacci, Kristin and Kaitlyn Morrow, and children from the after school programs who attend the event?]  

Dr. Bonasera to invite attendees into the new woodland classroom area  

How the classroom will be used  
Dr. Bonasera  
(Dr. Bonasera to introduce Andrew McDonald)  
1 mins

Alumnus and Neighbor Perspective  
Connecticut Supreme Court Justice Andrew McDonald  
2 mins

Whole Foods  
Dr. Bonasera to introduce  
Daniel Fortin, Marketing Team Leader at Whole Foods in Darien  
1 min

Keep America Beautiful  
Dr. Bonasera to introduce  
Allie Donovan, Keep America Beautiful  
1 min

Thank you’s  
Dr. Bonasera  
• All of our Supporters (reference the logos on the flyer); also mention Bedford Street Diner, the Whetsell family,  
• All of the volunteers who are participating today to help improve our schoolyard habit and outdoor learning space  
• Mrs. Zorn for leading our after-school program  
• Mrs. Bell, Mrs. Petersen and Mrs. Breen for their support of today’s activities  
• Garden Team Members for their hard work (Mrs. Gawlak, Mrs. Gibson, Mrs. Iacovacci, Mrs. Morrow)  
• Science Curriculum Coordinator Beth Eiseman for helping to bring this program to Stamford  
• Fairfield County Community Foundation and their donors for making the program possible  
• Audubon Staff for the excellent after-school program and teacher training  
• U.S. Fish and Wildlife Program  
• Stamford Public Schools Facilities Management Department (Al Barbarotta, Marc Lyons, Wayne Ciello and his crew)  
• All of the contributors to today’s event, including Eden Farms, Bedford Street Diner, Keep America Beautiful, Whole Foods  
2 mins

Overview of children’s activities (describe what and where)  
Mrs. Bell?  
James Flynn?  
<1 min each

Overview of volunteer activities (describe what and where)  
Identify a captain for each project:  
• Planting in the woodland area  
• Seeding in the woodland area  
• Spreading cardboard and woodchips in the woodland area  
• Weeding the parking lot islands  
• Planting and weeding in the courtyard  
<1 min each
Mission Statements, Meeting Agendas, and Master Plans
Example Mission Statements for Schoolyard Habitat Projects

Julia A Stark SYH Mission: To reconnect students with nature and the environment, ignite their scientific and creative curiosity, inspire healthy lifestyles, and nurture lifelong environmental stewardship.

Goals:
- Restore and preserve our school yard environment.
- Enrich the curriculum and provide experiences that promote hands-on learning, inquiry, observation and experimentation.
- Create an outdoor classroom that provides opportunities to:
  - observe wildlife in its natural setting
  - teach kids to nurture and care for other living things
  - promote physical activity and quality outdoor experiences
  - learn about gardening and healthy eating
  - build teamwork and social skills

Springdale SYH Mission: To restore and preserve our school yard's native environment, while actively engaging children with nature through hands-on learning experiences. The school yard habitat will become an outdoor classroom, a place to observe wildlife in its natural setting. The goals are to reconnect students with nature, ignite their scientific and creative curiosity and turn them into lifelong environmental stewards.

Parkway SYH Mission:

Education
- Kids and parents; Curriculum alignment
- Native plants: what to use at home
- Wildlife: life cycle

Place for kids to interact with nature (informal)

To build a schoolyard habitat which:
1) supports the educational goals of the curriculum
2) provides a space for the children to connect with nature
3) develops the potential to support the local ecosystem
4) serves as an example to the school community

as to how to construct a schoolyard habitat
The schoolyard habitat will promote outdoor learning in order to increase hands-on experience and motivation through scientific inquiry, artistic investigation, and literacy exploration so that students can internalize what they learn to become environmental advocates.
Sample Master Plan for Phase 1

Draft Master Plan Ideas

Focus area: back woodlot

Conditions
- Partial sun
- Many dead & downed trees
- Dry area
- Needs soil sample to be sure we can bring kids back there

Ideas
- Nature trails
- Outdoor classroom (1 or 2)
  - Seating made from downed trees
  - Need enough seating for an entire class
  - Chalk board
  - Learning box full of teaching supplies
- Quiet areas for reading/reflection/observation
- Signage to ID certain plants
- Camouflage fuel box and/or build habitat facing away from it
- Enhance area for more wildlife
  - Bird & bat boxes
- Decay discovery areas (using existing dead trees)
- Natural fence to discourage trash?
- Repair fence

Be thinking about where and how you want to design plantings
- Formal or more natural
- Along a trail or in a clump
- Theme? (birds, pollinators, colors, sensory [see, touch, smell])
- Creating habitat that ties into existing lessons

Be thinking about an entrance way design if you want one
- (Archway, gate, sign- something to denote you are entering a special spot)

Schoolyward Habitat brainstorming session with Leadership Team- Nov 2013

Ideas for Wildlife
- Create a schoolyward habitat that supports more diverse birdlife (see schoolyward habitat guide page 21 – wildlife features)
- Attract robins
- Creator water feature (see schoolyward habitat guide pg 19)

Ideas for people (see schoolyward habitat guide page 22 and appendix D.)
- Create outdoor learning circle (outdoor classroom)
- Create and offer alternatives to traditional playground activities | sketch pad for recess, discovery areas where students can explore, dig, investigate insect life; natural playground features where students can both be physically engaged but also watch/listen be exposed to wildlife; create activities like building competitions with natural items
- Build an outdoor theater
- Tie study of birds more deeply into the curriculum
- Create a habitat that would be especially good for bugs the kindergarteners can explore (mats on the ground, logs on the ground- discovery center)
- Stone walls- geology study, outdoor rock collection
<table>
<thead>
<tr>
<th>PROJECT</th>
<th>GOALS</th>
<th>PHASE 1 (Spring 2014)</th>
<th>PHASE 2 (Summer/Fall 2014)</th>
<th>PHASE 3 (Spring 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland Path</td>
<td>• Establish woodchip trail with signs on plants &amp; trees as a learning tool</td>
<td>• Design</td>
<td>• Work with Parks and Rec Dept</td>
<td>• Design and install seating circle</td>
</tr>
<tr>
<td></td>
<td>• Create clearing &amp; seating circle on the trail for play and class outings</td>
<td>• Find Eagle Scout</td>
<td>• Build and clean up paths</td>
<td>• Build shelter (?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Recruit volunteers</td>
<td>• Create signage</td>
<td>• Create education plans</td>
</tr>
<tr>
<td>Butterfly Garden (1st grade)</td>
<td>• Create a native plant pollinator garden in back parking circle to attract species</td>
<td>• Design</td>
<td>• Create education plans</td>
<td>• Hold teacher seminars</td>
</tr>
<tr>
<td></td>
<td>• Use garden as a hands-on tool for lifecycle unit</td>
<td>• Plant</td>
<td>• Hold teacher seminars</td>
<td>• Communicate to school community</td>
</tr>
<tr>
<td></td>
<td>• Create labels for plants to educate community</td>
<td>• Signage</td>
<td>• Promote within school community</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Ribboncutting (end of year party)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Parks and Rec</td>
<td></td>
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<tr>
<td>Courtyard</td>
<td>• Add native shade plants to the garden to create an attractive sanctuary for school community</td>
<td>• Design for low/maintenance</td>
<td>• Install plantings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Create labels for plants to educate community</td>
<td>• Recruit parent/student volunteers</td>
<td>• Create education plans</td>
<td></td>
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<td></td>
<td></td>
<td>• Generate a “buzz” with posters and other informational material</td>
<td>• Hold teacher seminars</td>
<td></td>
</tr>
<tr>
<td>Meadow</td>
<td>• Create a meadow environment to attract birds and small animals</td>
<td>• Design layout</td>
<td>• Put in stumps for learning circles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Maintain trails to allow community to interact with garden and provide play space</td>
<td>• Determine any planting needs</td>
<td>• Create education plans</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Have students conduct species counts of birds &amp; insects</td>
<td>• Build path</td>
<td>• Hold teacher seminars</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Stop mowing/plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bird Feeders and/or Houses</td>
<td>• Install and maintain bird feeders and/or houses to attract target species of birds</td>
<td>• Identify target species and required equipment</td>
<td>• Install</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Determine maintenance needs/plans</td>
<td>• Create education plans</td>
<td></td>
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<td></td>
<td></td>
<td>• Recruit volunteers</td>
<td>• Hold teacher seminars</td>
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<td></td>
<td></td>
<td>• Create pamphlets</td>
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</tr>
</tbody>
</table>
Sample Master Plan for Phase 2

Worthington Hooker Project Schoolyard Phase 2 Habitat description

The students, teachers and parents at Worthington Hooker School began the transformation of their schoolyard environments in 2012 with vegetable and pollinator gardens. With the help and guidance of the Schoolyard habitat program, in 2014 we expanded our bird and butterfly habitat areas, including a meandering nature path and rock garden, designed by the 3rd and 4th graders. The older grades constructed an outdoor classroom with log seating. The hard work in the spring was rewarded by a festive unveiling party in June and by exuberant blooms and visiting Monarchs in the fall.

This year WHS Master plan projects include:

- Shoring up and inter planting the existing habitats for more winter bird food and milk weed plants.
- Organizing a compost system and area for studying bugs and microbes
- Outfitting on site discovery boxes with field guides, binoculars, magnifying glasses, etc.
- Building and installing wren, bat and bee houses
- Expanding the habitat area along edge of playing field and including elements for active play as well as wildlife cover such as logs, boulders and low trees.
- Engaging the students in a feasibility study for future wetland or rain garden project
- More creative uses like habitat inspired creative writing and music with visiting HOTS artists.

This year the third and fourth graders will lead the habitat design effort again, while 5-8th graders will help with research, budget supplies, and build bird houses while the fifth graders farm the vegetables. We continue to engage the K-2 grades through their seed and butterfly curriculums and salad days.
Plant Lists
<table>
<thead>
<tr>
<th>Crop</th>
<th>Variety (Flower)</th>
<th>Days</th>
<th>Seed Date</th>
<th>Plant Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTONINHUM</td>
<td>Snap Dragon</td>
<td>120</td>
<td>14-May</td>
<td>16-May</td>
</tr>
<tr>
<td>ANTONINHUM</td>
<td>Snap Dragon</td>
<td>120</td>
<td>11-Apr</td>
<td>23-May</td>
</tr>
<tr>
<td>ANTONINHUM</td>
<td>Snap Dragon</td>
<td>120</td>
<td>25-Apr</td>
<td>6-Jun</td>
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<tr>
<td>BACH. BUTTON</td>
<td>Florist's blue boy</td>
<td>90</td>
<td>11-Apr</td>
<td>16-May</td>
</tr>
<tr>
<td>BACH. BUTTON</td>
<td>Florist's blue boy</td>
<td>90</td>
<td>3-May</td>
<td>30-May</td>
</tr>
<tr>
<td>BACH. BUTTON</td>
<td>Florist's blue boy</td>
<td>90</td>
<td>8-May</td>
<td>13-Jun</td>
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<tr>
<td>BULBUREUM</td>
<td>Green/Gold</td>
<td>90</td>
<td>16-May</td>
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<tr>
<td>CALENDULA</td>
<td>Strawberry Blonde</td>
<td>80</td>
<td>20-Mar</td>
<td>9-May</td>
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<td>CALENDULA</td>
<td>Strawberry Blonde</td>
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<td>28-Apr</td>
<td>9-May</td>
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<tr>
<td>CELOSIA</td>
<td>Burgundy Superbells</td>
<td>65</td>
<td>28-Mar</td>
<td>16-May</td>
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<tr>
<td>CELOSIA</td>
<td>Burgundy Superbells</td>
<td>65</td>
<td>28-Jun</td>
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<tr>
<td>COLEUS</td>
<td>Rainbow Florist mix</td>
<td>45</td>
<td>28-Mar</td>
<td>23-May</td>
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<td>COSMOS</td>
<td>Mixed Early</td>
<td>75</td>
<td>4-Apr</td>
<td>16-May</td>
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<td>COSMOS</td>
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<td>Picotee</td>
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<td>COSMOS</td>
<td>Sensation Mix</td>
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<td>13-Jun</td>
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<td>DAISY</td>
<td>Shasta Perennial</td>
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<td>30-May</td>
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<tr>
<td>DAISY</td>
<td>South African Coral</td>
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<td>GOMPHRENA</td>
<td>Carnine</td>
<td>100</td>
<td>4-Apr</td>
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<tr>
<td>MOLUCELLA</td>
<td>Bells of Ireland</td>
<td>90</td>
<td>7-Mar</td>
<td>2-May</td>
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<tr>
<td>MOLUCELLA</td>
<td>Bells of Ireland</td>
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<td>28-Mar</td>
<td>9-May</td>
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<tr>
<td>MOLUCELLA</td>
<td>Bells of Ireland</td>
<td>90</td>
<td>11-Apr</td>
<td>6-Jun</td>
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<td>NASTURTIUM</td>
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<td>2-May</td>
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<td>RUDBECKIA</td>
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<td>23-May</td>
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<tr>
<td>Spring</td>
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<td>Carrots</td>
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<td>Letteuce</td>
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<td>Cucumber</td>
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<td>Summer</td>
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<tr>
<td>Tomatoes</td>
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<tr>
<td>Zucchini</td>
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</tr>
<tr>
<td>Beans</td>
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<td>Fall</td>
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<td>Tomatoes</td>
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</tr>
</tbody>
</table>
**Garden Plot:**

**Owner:**

<table>
<thead>
<tr>
<th>Square</th>
<th>Crop, notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>B1</td>
</tr>
<tr>
<td>A2</td>
<td>B2</td>
</tr>
<tr>
<td>A3</td>
<td>B3</td>
</tr>
<tr>
<td>A4</td>
<td>B4</td>
</tr>
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<td>A7</td>
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</tr>
<tr>
<td>A8</td>
<td>B8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Square</th>
<th>Crop, notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td></td>
</tr>
<tr>
<td>C5</td>
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<tr>
<td>C6</td>
<td></td>
</tr>
<tr>
<td>C7</td>
<td></td>
</tr>
<tr>
<td>C8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Square</th>
<th>Crop, notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td></td>
</tr>
<tr>
<td>D2</td>
<td></td>
</tr>
<tr>
<td>D3</td>
<td></td>
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<tr>
<td>D4</td>
<td></td>
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<tr>
<td>D5</td>
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<tr>
<td>D6</td>
<td></td>
</tr>
<tr>
<td>D7</td>
<td></td>
</tr>
<tr>
<td>D8</td>
<td></td>
</tr>
</tbody>
</table>

**Crop Variations:**

- Carrot
- Onion
- Radish
- Beets
- Peas
- Chard
- Lettuce
- Parsley
- Cilantro
- Kale
- Basil
- Dill
- Broccoli
- Potato
- Cabbage
- Cauliflower
- Collard's
- Eggplant
- Okra
- Pepper
- Tomato

1 plant: 2 ft²: Cukes, Zukes
1 plant: 4 ft²: Winter Squash

*Spacing may vary by variety*
## Plant List for Westside Middle School Habitat

<table>
<thead>
<tr>
<th>Name of Plant</th>
<th>Quantity</th>
<th>Size</th>
<th>Cost Each</th>
<th>Total cost</th>
<th>Where to Buy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blueberry Bush</td>
<td>3-5</td>
<td>Medium</td>
<td>$8.35</td>
<td>$41.75</td>
<td><a href="https://www.noursefarms.com/category/blueberry-plants/">https://www.noursefarms.com/category/blueberry-plants/</a></td>
</tr>
<tr>
<td>Bluestems Grass</td>
<td>3-5</td>
<td>1-2 gallons</td>
<td>$15.00</td>
<td>$75.00</td>
<td>Lowes (might need to order)</td>
</tr>
<tr>
<td>Beebalm</td>
<td>4-6</td>
<td>1 Gallon</td>
<td>$10.00</td>
<td>$60.00</td>
<td>Lowes</td>
</tr>
<tr>
<td>Trumpet Honey Suckle</td>
<td>3</td>
<td>3.6 gallons (will get bigger)</td>
<td>$60.00</td>
<td>$180.00</td>
<td>Lowes</td>
</tr>
<tr>
<td>Red Columbine</td>
<td>5-6 (might be less)</td>
<td>2.5 Q</td>
<td>$7.00</td>
<td>$42.00</td>
<td>Lowes</td>
</tr>
<tr>
<td>Foxglove</td>
<td>5-6</td>
<td>1.5 Gallons</td>
<td>$15.00</td>
<td>$90.00</td>
<td>Lowes</td>
</tr>
<tr>
<td>Beardtongue</td>
<td>4-6</td>
<td>2.1/2 Q</td>
<td>$7.00</td>
<td>$42.00</td>
<td>Lowes</td>
</tr>
<tr>
<td>Cardinal Flower</td>
<td>4-6</td>
<td>1 gallon</td>
<td>$7</td>
<td>$42</td>
<td>Lowes</td>
</tr>
<tr>
<td>Flowering Dogwood Tree (White Dogwood)</td>
<td>1</td>
<td>4-5 feet</td>
<td>$70.00</td>
<td>$75.00</td>
<td>1. Agway 2. CT Tree Center</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$647.75</strong></td>
<td></td>
</tr>
</tbody>
</table>
### Plant List for Bishop Woods Schoolyard Habitat

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Price</th>
<th>Amount</th>
<th>Subtotal</th>
<th>Plant height</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perennials</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>● Purple =</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geranium maculatum L.</td>
<td>Wild Geranium</td>
<td></td>
<td></td>
<td></td>
<td>1-2 ft</td>
<td>good for planting on slopes</td>
</tr>
<tr>
<td>Symphyotrichum novae-angliae</td>
<td>New England Aster</td>
<td></td>
<td></td>
<td></td>
<td>2-6 ft</td>
<td>host plant for butterfly larvae; good for planting on slopes</td>
</tr>
<tr>
<td>Nesom</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phlox paniculata</td>
<td>Purple phlox</td>
<td></td>
<td></td>
<td></td>
<td>2-6 ft</td>
<td>ground cover, masses of flowers</td>
</tr>
<tr>
<td>Vernonia</td>
<td>Iron Weed</td>
<td></td>
<td></td>
<td></td>
<td>4-6 ft</td>
<td>host plant for butterfly larvae</td>
</tr>
<tr>
<td>Eragrostis spectabilis</td>
<td>Purple Lovegrass</td>
<td></td>
<td></td>
<td></td>
<td>1 ft</td>
<td>host plant for butterfly larvae</td>
</tr>
<tr>
<td>● Green =</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athyrium filix-femina</td>
<td>Lady Fern</td>
<td></td>
<td></td>
<td></td>
<td>1-3 feet in height</td>
<td>lacy, attractive foliage</td>
</tr>
<tr>
<td>Juniperus virginiana</td>
<td>Eastern Red Cedar</td>
<td></td>
<td></td>
<td></td>
<td>40-50??</td>
<td>evergreen, berries, provides cover - do we want this??</td>
</tr>
<tr>
<td>Osmundastrum cinnamomeum</td>
<td>Cinnamon Fern</td>
<td></td>
<td></td>
<td></td>
<td>2-4 ft</td>
<td>grows in clumps</td>
</tr>
<tr>
<td>Pycnanthemum virginianum</td>
<td>Mountain Mint</td>
<td></td>
<td></td>
<td></td>
<td>2-3 ft</td>
<td>excellent pollinator</td>
</tr>
<tr>
<td>● White =</td>
<td>viburnum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>vine, striking fall foliage, blue berries</td>
</tr>
<tr>
<td><strong>Rhododendron viscosum</strong></td>
<td>Swamp Azalea</td>
<td>8-10 ft</td>
<td>fragrant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------</td>
<td>---------</td>
<td>----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Parthenocissus quinquefolia</strong></td>
<td>Virginia Creeper</td>
<td>20 ft</td>
<td>Leaves turn red in the fall. This plant would climb well along fence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tiarella cordifolia</strong></td>
<td>Foam Flower</td>
<td>1-2 ft</td>
<td>attractive long-blooming</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Pink/Red =**

<table>
<thead>
<tr>
<th><strong>Phlox paniculata</strong></th>
<th>Red/pink Phlox</th>
<th>2-6 ft</th>
<th>ground cover, masses of flowers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asclepias incarnata</strong></td>
<td>Swamp Milkweed</td>
<td>2-4 ft</td>
<td>attracts butterflies</td>
</tr>
<tr>
<td><strong>Asclepias syriaca</strong></td>
<td>Common Milkweed</td>
<td>2-3 feet</td>
<td>host plant</td>
</tr>
<tr>
<td><strong>Lobelia cardinalis</strong></td>
<td>Cardinal Flower</td>
<td>2-5 ft</td>
<td>likes wet areas, attracts hummingbirds, good for planting on slopes</td>
</tr>
<tr>
<td><strong>Monarda didyma</strong></td>
<td>Bee Balm Fireball</td>
<td>2-5 ft</td>
<td>attracts hummingbirds</td>
</tr>
</tbody>
</table>

- **Yellow/orange =**

<table>
<thead>
<tr>
<th><strong>Solidago caesia</strong></th>
<th>Blue Stem Goldenrod</th>
<th>1-3 ft</th>
<th>good for planting on slopes, shade loving</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Polygonatum</strong></td>
<td>Solomon's Seal</td>
<td>1-3 ft</td>
<td>good for planting on slopes</td>
</tr>
<tr>
<td><strong>Helenium autumnale</strong></td>
<td>Sneeze Weed</td>
<td>2-6 ft</td>
<td>showy, attracts butterflies</td>
</tr>
<tr>
<td><strong>Lilium superbum</strong></td>
<td>Turk's Cap Lily</td>
<td>3-8 ft</td>
<td>showy, up to 40 flowers on one plant</td>
</tr>
<tr>
<td><strong>Rudbeckia hirta</strong></td>
<td>Black-eyed Susan</td>
<td>1-3 ft</td>
<td>good for planting on slopes</td>
</tr>
<tr>
<td><strong>Coreopsis</strong></td>
<td>Tickseed</td>
<td>1-4 ft</td>
<td>showy flower heads</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Common Name</td>
<td>Height (ft)</td>
<td>Notes</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Lobelia siphilitica</td>
<td>Great Blue Lobelia</td>
<td>1-3</td>
<td>late bloomer</td>
</tr>
<tr>
<td>Polemonium vanbruntiae</td>
<td>Jacob’s ladder</td>
<td>1</td>
<td>good for planting on slopes</td>
</tr>
<tr>
<td>Schizachyrium scoparium</td>
<td>Little Bluestem (grass)</td>
<td>2-5</td>
<td>starts low grows tall late summer</td>
</tr>
<tr>
<td>Ilex verticillata</td>
<td>Winterberry</td>
<td>10-12</td>
<td>shrub against building - wet soil, shade, red berries all winter</td>
</tr>
<tr>
<td>Aronia</td>
<td>Chokeberry</td>
<td>3-6</td>
<td>fall color</td>
</tr>
<tr>
<td>Viburnum acerifolium</td>
<td>Maple-leaf Viburnum</td>
<td>6</td>
<td>Witherod Viburnum or Arrowwood Virburnum better choices for planting on slope (Arrowwood has dual purpose of being a lore plant)</td>
</tr>
<tr>
<td>Cornus sericea</td>
<td>Red Osier Dogwood</td>
<td>7-9</td>
<td>good for planting on slopes</td>
</tr>
<tr>
<td>Viburnum dentalum</td>
<td>Arrowwood Wirburnum</td>
<td>15</td>
<td>blue berries in fall</td>
</tr>
<tr>
<td>Juniper trees?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Plant List and Budget for Hart School Habitat

## Plant List

<table>
<thead>
<tr>
<th>Items</th>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Light Requirement</th>
<th>Quantity</th>
<th>Cost per Unit</th>
<th>Unit</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants</td>
<td><em>Amelanchier canadensis</em></td>
<td>Shadblow</td>
<td>half shade</td>
<td>1</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Arctostaphylos uva-ursi</em></td>
<td>Bearberry</td>
<td>half shade</td>
<td>5</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Clethra alnifolia</em></td>
<td>Sweet Pepperbush</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Cornus alternifolia</em></td>
<td>Alternate-leaved Dogwood</td>
<td>Sun</td>
<td>1</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Hamamelis virginiana</em></td>
<td>Witch Hazel</td>
<td>Sun</td>
<td>1</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Ibex verticillata</em></td>
<td>Winterberry</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Rhododendron viscosum</em></td>
<td>Swamp Azalea</td>
<td>half shade</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Vaccinium corymbosum</em></td>
<td>Highbush Blueberry</td>
<td>Full - half shade</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Matteuccia struthiopteris</em></td>
<td>Ostrich Fern</td>
<td>Shade</td>
<td>5</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Osmunda cinnamomea</em></td>
<td>Cinnamon Fern</td>
<td>Full - half shade</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Asclepias tuberosa</em></td>
<td>Butterfly Milkweed</td>
<td>Sun</td>
<td>5</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Symphyotrichum novae-angiae</em></td>
<td>New England Aster</td>
<td>Sun</td>
<td>12</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Chelone glabra</em></td>
<td>Turtlehead</td>
<td>Sun - half shade</td>
<td>9</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Eupatorium maculatum</em></td>
<td>Joe Pye Weed</td>
<td>Sun - half shade</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Lobelia cardenalis</em></td>
<td>Cardinal Flower</td>
<td>Sun - half shade</td>
<td>6</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Lupinus perennis</em></td>
<td>Wild Blue Lupine</td>
<td>Sun</td>
<td>6</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Rudbeckia laciniata</em></td>
<td>Coneflower</td>
<td>Sun - half shade</td>
<td>9</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Solidago nemoralis</em></td>
<td>Goldenrod</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Lonicera sempervirens</em></td>
<td>Trumpet Honeysuckle</td>
<td>Sun</td>
<td>2</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Monarde didyma</em></td>
<td>Bee Balm</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Rudbeckia hirta</em></td>
<td>Black-eyed Susan</td>
<td>Sun</td>
<td>3</td>
<td>Each</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Estimated Plants total

$1,500

## Soil

- 20 cu yds at $30.00 per yard = $600

## Mulch

- 40 bags at $2.50 per yard = $100

## Trellis

- 2 at $25.00 each = $50

## Arbor

- 1 at $300.00 each = $300

## Taracloth Banner 24" x 3 yards

- 2 at $34.99 each = $69.98

## Mural Canvas 32" x 63.5"

- 8 at $39.99 each = $319.92
<table>
<thead>
<tr>
<th>Item Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Price per Unit</th>
<th>Total Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pint 6 color set -Acrylic Paint</td>
<td>1</td>
<td>Set</td>
<td>$92.97</td>
<td>$92.97</td>
</tr>
<tr>
<td>Seats for ampitheatre</td>
<td>30</td>
<td>set</td>
<td></td>
<td>$155</td>
</tr>
<tr>
<td>Hose for watering (1) &amp; drip hose (2)</td>
<td></td>
<td></td>
<td>$20.00</td>
<td>$60</td>
</tr>
<tr>
<td>Hose holder</td>
<td></td>
<td></td>
<td>$30.00</td>
<td>$30</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3,278</td>
</tr>
<tr>
<td>Items</td>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Light Requirement</td>
<td>Quantity</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Plants</td>
<td>amelanchier canadensis</td>
<td>Shadblow</td>
<td>half shade</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Arctostaphylos uva-ursi</td>
<td>Bearberry</td>
<td>half shade</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Clethra alnifolia</td>
<td>Sweet Pepperbush</td>
<td>Sun</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Cornus alternifolia</td>
<td>Alternate-leaved Dogwood</td>
<td>sun</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Hamamelis virginiana</td>
<td>Witch Hazel</td>
<td>Sun</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ixex verticillata</td>
<td>Winterberry</td>
<td>Sun</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Rhododendron viscousum</td>
<td>Swamp Azalea</td>
<td>half shade</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Vaccinium corymbosum</td>
<td>Highbush Blueberry</td>
<td>Full - half shade</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Matteuccia struthiopleri</td>
<td>Ostrich Fern</td>
<td>Shade</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Osmunda cinnamomea</td>
<td>Cinnamon Fern</td>
<td>Full - half shade</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Asclepias tuberosa</td>
<td>Butterfly Milkweed</td>
<td>Sun</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Aster novae-angiae</td>
<td>New England Aster</td>
<td>Sun</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Chelone glabra</td>
<td>Tottlehead</td>
<td>Sun - half shade</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Eupatorium maculatum</td>
<td>Joe Pye Weed</td>
<td>Sun - half shade</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Lobelia cardinalis</td>
<td>Cardinal Flower</td>
<td>Sun - half shade</td>
<td>6</td>
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<tr>
<td></td>
<td>Lupinus perennis</td>
<td>Wild Blue Lupine</td>
<td>Sun</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Rudbeckia laciniata</td>
<td>Coneflower</td>
<td>Sun - half shade</td>
<td>9</td>
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<tr>
<td></td>
<td>Solidago nemoralis</td>
<td>Goldenrod</td>
<td>Sun</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Lonicera sempervirens</td>
<td>Trumpet Honeysuckle</td>
<td>Sun</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Monarde didyma</td>
<td>Bee Balm</td>
<td>Sun</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Rudbeckia hirta</td>
<td>Black-eyed Susan</td>
<td>Sun</td>
<td>3</td>
</tr>
<tr>
<td>Estimated plants total</td>
<td></td>
<td></td>
<td></td>
<td>20 cu yds</td>
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<tr>
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<td></td>
<td>40 bags</td>
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<tr>
<td>Mulch</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Trellis</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Arbor</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Taracloth Banner 24&quot; x 3 yards</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Mural Canvas 32&quot; x 63.5&quot;</td>
<td></td>
<td></td>
<td></td>
<td>8</td>
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<tr>
<td>Pint 6 color set-Acrylic Paint</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Seats for amphitheatre</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Hose for watering (1) &amp; drip hose (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hose holder</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Favorite Foods to Grow for Recipes

1. Herbs
   At all of City Blossoms' spaces we grow perennial and annual herbs for recipes because they are inexpensive, hardy, grow fairly quickly, resist pests and diseases, and of course, DELICIOUS! Some of our favorites are: rosemary, thyme (French), oregano, basil, parsley, chives (onion and garlic), mint (all varieties, esp. Chocolate Mint), sorrel, lemon verbena, lavender, fennel, dill and cilantro.

2. Small pick-ables
   When working with kids of all ages, it is best to have a few plants that are prolific producers and make food that is ready to pick and eat right there in the garden. Examples include: cherry tomatoes, ground cherries (aka Cape gooseberries), sugar snap peas, French green beans, lettuces, arugula, berries (strawberries, raspberries, blackberries, etc.), concord grapes, and lemon cucumbers.

3. Greens
   Dark, leafy greens are some of the most nutrient-rich foods to grow in a garden, and can be introduced into recipes easily. Certain greens like Swiss chard are able to reproduce throughout the growing season, while crops such as kale, collard greens, lettuces, mustards, Asian greens, and spinach enjoy the cooler seasons of spring and fall.

4. All-stars
   There are certain crops that most gardeners like to include for cooking no matter what; here's a list of some of our favorite varieties:
   Tomatoes -- green zebra, sungolds, super sweets, yellow pears
   Peppers -- banana, red hot, jalapenos, cayennes (be careful when planting hot peppers in young children's gardens)
   Eggplants -- millionaire (Japanese eggplant), Italian pink bi-color
   Squash -- patypan, black beauty, cocozelle
   Pumpkins & Gourds -- luffas, birdhouse, sugar pie pumpkins, jack be little pumpkins
   Lettuces -- buttercrunch, mesclun mixes, oakleaf, lolla rosa
   Cucumbers -- lemon, muncher, spacemaster
   Beans -- soybeans (edamame), dragon's tongue
   Melons -- sugar babies, Minnesota midget
   Carrots -- scarlet pipes, danvers, dragon
   Radishes -- caster egg, sparklers

5. Edible flowers
   It's a lot of fun to include edible flowers in a garden to shock and awe, as well as add color and beauty to new recipes. Some fun edibles are: nasturtiums, borage, pansies, squash blossoms, violets, sunflowers, and chive blossoms.
Provide nectar for hummingbirds. Make a sugar solution of one part white sugar to four parts water. Feed hummers to receive and dissolve sugar crystals. Mixture should be mixed and watered with water. Feed daily for four days, as well as every hour of the day. Feeders should be washed every few days with warm water and kept scrupulously clean to prevent the growth of molds.

Store seed in secure metal containers. Store seed in metal garbage cans with secure lids in protected rooms away from squirrels and mice. Keep the seeds in sealed, dry, branded hooded baskets in the bins. Dusty seeds may grow mold that can be fatal to birds. Overheating can destroy the nutrition and taste of sunflower seeds. For these reasons, it is best not to keep seed from one source in the nest.

Discontinue squirrels from consuming feeder foods. Squirrels are best avoided by placing feeders on a pole in an open area. Metal containers should be at least 3 feet off the ground and protected by a wire mesh shaped ball (at least 3 feet in diameter) or similar obstacles below the feeder. Locate metal-enclosed feeders at least 10 feet from the nearest shrub, tree, or other tall structure. Squirrel feeders placed on platforms that are regularly washed with soap and water can reduce contamination for high-quality foods shared at bird feeders. Leisure squirrels remove all birds and feeders to further reduce competition.

Locate feeders to reduce window collisions. In the United States, approximately 6 million dead birds are killed by collisions with windows each year. Protect birds from collisions by placing feeders within three feet of windows. Foliage, plants, and camouflage areas help to prevent birds and garden. Or attach birdfiguring material to windows so that birds do not hit the glass.

Keep cats indoors. Cats kill hundreds of millions of birds annually in the United States, where they are often seen on ground feeding birds and those housed by window collisions. Responsible pet owners keep their cats indoors, where they are safe from traffic, disease, and fires with other animals. Outdoor cats are significant dangers to birds in the spring and help increase the risk of the birds they were meant to protect.

Clean feeders and rake up spilled grain and hulls. Clean feeders can become soggy and grow deadly mold. Bunny and when feeders become a year old, and before they move often if feeders are used during the winter season. Using a long handled broom, sweep the dry feeders and replace with a powerful hose, then wash it in a bucket of 10% non-detergent bleach solution, rinse well, and dry in the sun. In early spring, rake up spilled grain and sunflower hulls.

FOR MORE INFORMATION
- Visit the Audubon At Home website: www.audubon.org/bird/at_home
- Consider in conservation efforts by participating in custom science projects like the annual Great Backyard Bird Count each February (www.birdscount.org/birds), or Project Feeder Watch (http://birds.cornell.org/RFW).
- Visit the Audubon Marketplace to view Audubon licensed products and publications: www.audubon.org/bookstore/net

RECOMMENDED BOOKS
- NORTH AMERICAN BIRDFEEDER HANDBOOK
  - Peter Young, Feeding Wild Birds, New York, 1987
- BIRD AT YOUR FEEDER
  - Audubon, Cells, and Edith E. Heilman
- THE BIRD GARDEN
  - Stephen W. Shop, Feeding Successfully, New York, 1973

THE AUDUBON MISSION
To conserve and restore natural ecosystems, focusing on birds, watersheds, and their habitats for the benefit of humanity and other forms of life, maintaining biodiversity.

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Bird Feeding Basics

While most wild birds rely on wild foods for most of their meals, more than 100 North American species supplement natural foods with birdseed, suet, fruit, and nectar obtained from feeders. Bird feeding can benefit birds while also providing pleasure for people throughout the year. Feeders benefit birds most during the winter when natural food supplies are scarce. However, additional species visit feeders during the spring and fall migrations, and some nesting birds utilize feeders during the summer.

To keep birds coming back to your feeders, provide them with these essential elements: the right variety of quality seed, a source of fresh water for drinking and bathing, and ample cover, preferably provided by native plants. Native plants also provide potential nesting sites and a source of natural food.

Bird feeders also present risks, potentially increasing the chances of window collisions, predation, and exposure to disease. Following are some tips for safely attracting birds to your feeders.

Locate feeders at different levels. Sparrows, jays, and turkeys usually feed on the ground, while finches and cardinals feed in trees, and doves, sparrows, and woodpeckers are in between. To attract the greatest variety of species, provide multi-level feeders for ground feeding birds, hopper or tube feeders for shrub and tree feeders, and suet feeders well off the ground for woodpeckers, starlings, and crows.

Offer a variety of seeds in separate feeders. A variety of seeds will attract the greatest variety of birds. To avoid waste, offer different foods in different feeders. Black oil sunflower seeds and peanut pieces are favorites. Mix many seeds, choose sunflower and safflower, niger, and crushed peanuts, and the most popular types of seeds. Birds that are on the move will relish the extra food and eat as much as they can before moving on to the next site. Similarly, if backyard feeders go empty while others have food, birds will look elsewhere for food. If your neighbors are also providing food, birds will likely spend more time feeding there. Some feeders only supplement natural foods, while others of the wild."
Attracting Hummingbirds & Orioles

- Choose flowers with red, pink, or orange with a tubular shape. Hummingbirds consume nectar at the bottom, which encourages them to visit boiled birds to probe for their sweet nectar. In general, flowers that rely on fragrance to attract insect pollinators are not good nectar sources as they lack nectar-tube hydromes, which have a poor sense of smell.

- Soft linings are important. Hummingbirds usually feed on hitter plums, filbert, or fruit, but on some flowers like daisies and daylilies, which have fuzzy petals, and pussy willow (Salix discolor), which has fuzzy flowers. If your yard contains these flowers, hummingbirds will love it. Allow water to remain—water droplets provide nectar sources.

- Select plants that bloom at different times. This provides nectar throughout the growing season. This is especially important in early spring when nectar is scarce, as well as in late summer, when other nectar sources are scarce.

- Plant patches of three or more individual plants of the same species. This will provide larger quantities of nectar. Also, prune the tips of flowering plants to encourage more nectar production.

- Avoid pesticides. Birds can ingest pesticides when they eat contaminated nectar. Most pesticides can make their way into nearby nectar, which is toxic to birds. Keep your yard natural. Use native plants.

- Be persistent. Nectar-feeding birds may appear a few moments after you set out flowers or feeders. It may take weeks before they change their diets. Once hummingbirds start visiting your garden, you will likely see them often. Enjoy the experience.

For More Information
- Visit the Attracting At Home website: www.attractingathome.org
- Join the conservation efforts by participating in citizen science projects like the annual Backyard Bird Count, which counts bird species across the country, and Project FeederWatch (www.birdsource.org/pfw).
- Visit the Audubon Birds of America website: www.birds.of.amERICA.com

RECOMMENDED BOOKS


THE AUDUBON MISSION
To conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of mankind and the earth's biological diversity.

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Attracting Hummingbirds and Orioles

At least 33 species of North American birds drink nectar—the naturally occurring sweet liquid produced by plants. Hummingbirds and orioles are the main nectar drinkers, but mockingbirds, grosbeaks, tanagers, and several warblers also enjoy sweet drinks from flowers and tree sap. Nectar teases birds to polka their beaks into flowers where they inadvertently pick up pollen and carry it to neighboring flowers. This cross-pollination benefits plants by promoting inbreeding. Nectar drinkers also benefit from eating protein-rich insects and drinking the high caloric nectar.

Hummingbirds are the fastest of vertebrates, but they aren’t afraid to work for their food. Nectar is a three-part sugar solution. Hummingbirds have the largest brain and greatest appetite for all birds their size. They also have the fastest wing beat, quickest heart rate, and highest body temperature. Some hummingbirds and other nectar eaters migrate thousands of miles each year. To accomplish these remarkable feats, they rely on the abundant supply of nectar usually found within specially designed flowers that have evolved with hummingbirds for thousands of years.

Like other migrants, nectar-drinking birds are vulnerable to extreme weather, drought, and predators. They might also suffer habitat loss, pesticides, and collisions with windows and other objects. Backyard gardens, large and small, can provide sanctuary for resident and migrating nectar-eating birds. Hummingbird feeders provide nourishment, but they are most helpful as a supplement to the natural nectar obtained from flowers. It’s best to create gardens that provide real flower nectar as part of a complete habitat that offers shelter, nesting places, and water.

Since hummingbirds and orioles normally frequent open spaces in the forest and forest edges, they are readily driven to suburban and rural gardens that offer a mix of tall trees, shrubs, meadows, and lawns. During migration, they visit parks and urban yards planted with bright flowers.

Tips for attracting hummingbirds, orioles, and other nectar-eating birds:

**Draw a sketch of your yard.** Indicate the location of your home and outbuildings, including trees, shrubs, flowers, and other features that may offer benefit to hummingbirds and orioles. Use your landscape sketch to determine the best location for your nectar gardens. A site close to a window or patio door will provide you with the best view. Hummingbird gardens need not be large even a window box or hanging planter will do.

**Think vertically when planning gardens for nectar feeders.** Grow a cascade of nectar-rich plants by securing a multi-step to your house, then plant trumpet honeysuckle (Lonicera sempervirens) beneath it. Trees and garden shrubs can also support study nectar feeders for trumpet vines (Campsis radicans). Iype butterfly or hummingbird growing plants near plant selections below in front of view. Then, add window boxes, tubs, or ceramic jars to create a scent of effect and provide growing places for a variety of nectar plants like hibiscus, hibiscus, and lupins.

**Provide a water feature.** Like most birds, hummingbirds frequently bathe in shallow water and many enjoy aviary through the sprays generated by garden misters, drip systems, and small pumps and waterfalls. Orioles also prefer shallow water—no more than two inches deep.

**Provide trees and shrubs.** Hummingbirds and orioles are trees for perching and nesting. Large tree trunks may also provide a source of flicker, which many hummingbirds attach to the undersides of their nests with spider silk for camouflage. Hummingbirds usually nest in the forks of small, stiff tree branches. Orioles favor the drooping branches of maples, poplars, willows, and cottonwoods. If your garden does not include trees or shrubs, a dead branch with small perchings can make a good substitute. Locate these perches near your garden or sugar water feeder.

**Find out the migration dates for your local hummingbirds.** This will help you plant flowers that bloom when hummingbirds are most likely to visit and determine when to put out hummingbird feeders. Don’t worry if blooming flowers up too long will prevent hummingbirds from migrating on time. Migration is triggered mainly by day length rather than food availability. In regions where winter flowers are rare, some hummingbirds and orioles may stay through winter.

**Favor native plants.** Learn which native plants hummingbirds feed on in your area, and cultivate these in your garden. Native plants and nectar-eating birds have a long association; these plants will serve as reliable sources of nectar.

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**NECTAR PLANTS FOR NORTH AMERICAN GARDENS**

- **Bearded Tongue (Penstemon spp.):** perennial
- **Bee Balm (Monarda didyma):** perennial with purple, pink, or red flowers
- **Cardinal Flower (Lobelia cardinalis):** perennial; requires moist soil, partial shade
- **Columbine (Aquilegia canadensis):** perennial with orange-yellow flowers
- **Coral Bells (Heuchera sanguinea):** compact perennial with small red flowers
- **Jewelweed (Impatiens spp.):** annual
- **Madrona (Arbutus menziesii):** northwestern, toxic
- **Mangenta (Antirrhinum majus):** low shrubs and groundcovers
- **Paintbrushes (Castilleja spp.):** annuals and perennials
- **Salvia (Salvia spp.):** perennial and annuals
- **Solomon’s Seal (Polygonatum biflorum):** perennial
- **Trumpet Vine (Campsis radicans):** orange or yellow flowers on large vine requiring substantial support
- **Twiningberry (Lonicera involucrata):** low growing, shrubby vines

**NECTAR PLANTS FOR SOUTHERN GARDENS**

- **Coral Bean (Clyfideopsis horizontalis):** southern shrub or small tree
- **Fairy Dusting (Lantana):** shrub, blooms year-round
- **Fire Pink (Silene virginica):** bright red flowered perennial
- **Indian Pink (Spigelia marilandica):** bright red flowered perennial
- **Red Buckeye (Plebeia racemosa):** small southeastern native tree with bright red flowers
- **Standing Cypress (Psychotria nodosa):** southern biennial or perennial
- **Yellow Balsam (Impatiens capensis):** biennial or perennial
Helpful Hints

- Start out small. Add natives to your existing gardens a little at a time. Consider converting areas of your lawn to native plants.
- Look at your garden. Is it sunny or shady? Is it wet or dry? Choose plants that match these conditions.
- Which plants grow best together? Call your nearest nature center or The Native Plant Center at Westchester Community College to learn more about plant communities.
- Talk to your neighbors about what you are doing. You may inspire others.
- Buy your native plants from a reliable, local nursery or support your community native plant sales. Determine that the plants have been nursery-propagated.
- Protect native plants. Leave them in the wild.

For More Information on Native Plants

The Native Plant Center at Westchester Community College, (914) 606-7870 www.nativeplantcenter.org.

Westchester County Parks’ Nature Centers:
- Cranberry Lake Preserve, (914) 428-1005
- Croton Point Park, (914) 862-5297
- Lenior Preserve, (914) 968-5851
- Marshlands Conservancy, (914) 835-4466
- Read Sanctuary, (914) 967-8720
- Trailside Museum, (914) 864-7322

Westchester County Soil and Water Conservation District, (914) 995-4422 www.westchestergov.com

Cornell Cooperative Extension: (914) 285-4640 www.hort.cornell.edu/gardening

Lady Bird Johnson Wildflower Center, www.wildflower.org

New York Department of Environmental Conservation, www.dec.state.ny.us


Books

- Johnson, Lorraine N. 100 Easy to Grow Native Plants for American Gardens in Temperate Zones
- Stein, Sara. Noah's Garden: Restoring the Ecology of Our Own Back Yards
- Taylor, Patricia A. Easy Care Native Plants: A Guide to Selecting and Using Beautiful American Flowers, Shrubs, and Trees in Gardens and Landscapes

Recommended

Westchester County Native Plants For Homeowners and Landscapers

Illustration and Design: Edward Henrey
WHAT IS A NATIVE PLANT?

A native plant is one that naturally occurs in a region without being introduced from elsewhere by people. Westchester County has many plants that have originated here and are considered "Westchester natives." Plants native to Westchester include ferns and clubmosses, grasses, sedges, rushes, flowering perennials, trees, shrubs, and vines.

"Wherever I go in America, I like it when the land speaks its own language in its own regional accent."

- Lady Bird Johnson

WHY GO NATIVE?

It's easy!
Native plants, properly sited and planted, are hardy and adapted to our normal weather extremes. Once established, they're usually low maintenance.

It's good for the environment!
Native plants usually do not need pesticides or fertilizers. Pesticides can run off lawns and contaminate rivers and lakes. Fertilizers accelerate algae growth and deplete oxygen in our waterways, affecting our water supply.

It's good for wildlife!
Native plants provide food and shelter for 10 to 15 times more species of birds, butterflies, and other local wildlife than non-native plants.

It saves water!
Native plants normally get the moisture they need from rain, while a 1,000-square-foot turf grass lawn requires 10,000 gallons of water per summer to keep it green.

It saves money!
The cumulative costs of maintaining a native garden, meadow, or wetland are far less per acre than the average lawn.

It's good for our air!
Native plantings don't require noisy lawn mowers, trimmers, and blowers that emit 10 to 34 times more hydrocarbons than a typical car!

A backyard filled with native flowers, shrubs, and trees provides habitat, color, and beauty.

- Lady Bird Johnson
## Trees

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Bloom April</th>
<th>High Wildlife</th>
<th>Light Preference</th>
<th>Soil Moisture</th>
<th>Height in Ft</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basswood</td>
<td>Fraxinus americana</td>
<td>May</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Imported from Europe, balsam sap.</td>
</tr>
<tr>
<td>Sugar Maple</td>
<td>Acer saccharum</td>
<td>April-May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>70-100</td>
<td>Yellow flowers in spring, fall.</td>
</tr>
<tr>
<td>Sugar Maple</td>
<td>Acer saccharum</td>
<td>April-May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>70-100</td>
<td>Sugar sap used in syrup, maple syrup.</td>
</tr>
<tr>
<td>Black Cherry</td>
<td>Prunus serotina</td>
<td>May-early</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Attracts butterflies, bees.</td>
</tr>
<tr>
<td>American Elm</td>
<td>Ulmus americana</td>
<td>June</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>70-100</td>
<td>Shows off its fall colors.</td>
</tr>
<tr>
<td>Eastern Red Cedar</td>
<td>Thujas occidentalis</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, wood used for firewood.</td>
</tr>
<tr>
<td>Tulip Tree</td>
<td>Liriodendron tulipifera</td>
<td>April-May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>70-100</td>
<td>Strongly fragrant, showy flowers.</td>
</tr>
<tr>
<td>Black Walnut</td>
<td>Juglans nigra</td>
<td>July</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Tall, produces yellow wood.</td>
</tr>
<tr>
<td>White Oak</td>
<td>Quercus alba</td>
<td>May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Extremely hard, long lived.</td>
</tr>
<tr>
<td>Northern Red Oak</td>
<td>Quercus rubra</td>
<td>May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Very hard, long lived.</td>
</tr>
<tr>
<td>American Beech</td>
<td>Fagus grandifolia</td>
<td>April</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, wood used for firewood.</td>
</tr>
<tr>
<td>Eastern Cottonwood</td>
<td>Liriodendron tulipifera</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Showy flowers, hardy, grows in wet soil.</td>
</tr>
</tbody>
</table>

## Shrubs & Small Trees

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Bloom April</th>
<th>High Wildlife</th>
<th>Light Preference</th>
<th>Soil Moisture</th>
<th>Height in Ft</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blueberry</td>
<td>Vaccinium corymbosum</td>
<td>April-May</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Attracts butterflies.</td>
</tr>
<tr>
<td>Spitfire Firethorn</td>
<td>Pyracantha</td>
<td>July-Sept</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Showy flowers, hardy.</td>
</tr>
<tr>
<td>Black Locust</td>
<td>Robinia pseudoacacia</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, wood used for firewood.</td>
</tr>
<tr>
<td>American Beautyberry</td>
<td>Aronia prunifolia</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Attracts butterflies.</td>
</tr>
<tr>
<td>Black Cherry</td>
<td>Prunus serotina</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, wood used for firewood.</td>
</tr>
<tr>
<td>White Oak</td>
<td>Quercus alba</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Extremely hard, long lived.</td>
</tr>
<tr>
<td>Northern Red Oak</td>
<td>Quercus rubra</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Very hard, long lived.</td>
</tr>
<tr>
<td>American Beech</td>
<td>Fagus grandifolia</td>
<td>April-May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, wood used for firewood.</td>
</tr>
<tr>
<td>Eastern Cottonwood</td>
<td>Liriodendron tulipifera</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Showy flowers, hardy, grows in wet soil.</td>
</tr>
</tbody>
</table>

## Ferns

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Bloom April</th>
<th>High Wildlife</th>
<th>Light Preference</th>
<th>Soil Moisture</th>
<th>Height in Ft</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts Fern</td>
<td>Polystichum acerbe</td>
<td>Intermediate</td>
<td>1-2</td>
<td>1.2</td>
<td>1.3</td>
<td>Showy flowers, dried arrangements, used in landscaping.</td>
<td></td>
</tr>
<tr>
<td>Lacy Fern</td>
<td>Adiantum pedatum</td>
<td>Intermediate</td>
<td>1-2</td>
<td>1.2</td>
<td>1.3</td>
<td>Graceful, long-lived.</td>
<td></td>
</tr>
<tr>
<td>California Fern</td>
<td>Onoclea sensibilis</td>
<td>Intermediate</td>
<td>1-2</td>
<td>1.2</td>
<td>1.3</td>
<td>Evergreen, graceful fronds.</td>
<td></td>
</tr>
<tr>
<td>Interrupted Fern</td>
<td>Onoclea sensibilis</td>
<td>Intermediate</td>
<td>1-2</td>
<td>1.2</td>
<td>1.3</td>
<td>Evergreen, graceful fronds.</td>
<td></td>
</tr>
<tr>
<td>Christmas Fern</td>
<td>Polystichum acerbe</td>
<td>Intermediate</td>
<td>1-2</td>
<td>1.2</td>
<td>1.3</td>
<td>Evergreen, graceful fronds.</td>
<td></td>
</tr>
</tbody>
</table>

## Flowering Plants

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Bloom April</th>
<th>High Wildlife</th>
<th>Light Preference</th>
<th>Soil Moisture</th>
<th>Height in Ft</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbine</td>
<td>Aquilegia vulgaris</td>
<td>April-May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Very fragrant.</td>
</tr>
<tr>
<td>Jack-in-the-Pulpit</td>
<td>Prunus serotina</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Attracts butterflies.</td>
</tr>
<tr>
<td>Northern Red Oak</td>
<td>Quercus rubra</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Very hard, long lived.</td>
</tr>
<tr>
<td>American Beautyberry</td>
<td>Aronia prunifolia</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Attracts butterflies.</td>
</tr>
<tr>
<td>Black Cherry</td>
<td>Prunus serotina</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, wood used for firewood.</td>
</tr>
<tr>
<td>White Oak</td>
<td>Quercus alba</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Extremely hard, long lived.</td>
</tr>
<tr>
<td>Northern Red Oak</td>
<td>Quercus rubra</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Very hard, long lived.</td>
</tr>
<tr>
<td>American Beech</td>
<td>Fagus grandifolia</td>
<td>April-May</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, wood used for firewood.</td>
</tr>
<tr>
<td>Eastern Cottonwood</td>
<td>Liriodendron tulipifera</td>
<td>May-Oct</td>
<td>high yellow</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Showy flowers, hardy, grows in wet soil.</td>
</tr>
</tbody>
</table>

## Grasses

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Bloom April</th>
<th>High Wildlife</th>
<th>Light Preference</th>
<th>Soil Moisture</th>
<th>Height in Ft</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Bluestem</td>
<td>Andropogon gerardii</td>
<td>June</td>
<td>high white</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Showy flowers, dried arrangements.</td>
</tr>
<tr>
<td>Purple Lovegrass</td>
<td>Danthonia purpurea</td>
<td>August</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, red flowers.</td>
</tr>
<tr>
<td>Blue Grass</td>
<td>Festuca arundinacea</td>
<td>August</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, red flowers.</td>
</tr>
<tr>
<td>Red Grass</td>
<td>Festuca arundinacea</td>
<td>August</td>
<td>very high</td>
<td>sun</td>
<td>dry</td>
<td>60-80</td>
<td>Evergreen, red flowers.</td>
</tr>
</tbody>
</table>

These tables provide information on the native plants and flowers that can be found in Westchester County, New York, along with their blooming times, light preferences, and other characteristics. The tables include trees, shrubs, small trees, ferns, flowering plants, and grasses. Each entry includes the common name, scientific name, bloom time, high wildlife, light preference, soil moisture, and height. Notes are also provided for some entries, giving additional information on the plants.
What is a Rain Garden?

A rain garden is an opportunity to celebrate water resources in your yard using attractively native plants and a design that promotes water absorption.

Why should I consider planting a rain garden in my yard?

- Rain gardens reduce the amount and rate of stormwater flowing into sewers and storm drains.
- They can help prevent flooding in your basement and on your street.
- They prevent contamination of our waterways.
- They provide habitat for birds and butterflies.
- They help water the natural water cycle and help increase the groundwater supply.

In addition to being an important stormwater management tool, rain gardens that have native plants:

- Beautify your yard and neighborhood.
- Provide food and shelter for birds and beneficial insects.
- Require no fertilizer and less maintenance than conventional lawns or gardens.
- Make your neighborhood cooler by releasing moisture into the air from the plants.

Rain gardens store rainwater that would otherwise end up in the city sewers. The water combined with stormwater can then be released into our waterways.

Resources

Chicago Rain Garden Information


Chicago Wildscape
http://www.chicagowildscape.org/landscape/index.cfm

Rain Garden Network
http://www.raingardennetwork.com

Other Rain Garden Information

Maplewood Rain Gardens (Minnesota)
http://www.maplewoodraingardens.com/

Rain Gardens of West Michigan
http://www.raingardens.com/

Wisconsin Department of Natural Resources
http://www.dnr.state.wi.us/landscaping/

Photo and Drawing Credits:
- Nolen Conservancy: McHenry County Conservation District
- Galen Alexander - Joe Nicole
- Jacob's Ladder - Jim Marshall
- Sea Onion, Purple Crestrives, Black-Eyed Susan - Department of Environment
- Cardinal Flower - Janice_maps
- Diagram - JoeNicoleArt@icloud.com

Project Funding From:

[Logos of Chicago Department of Environment and USDA]

Help Protect Our Water Resources, & Beautify Your Yard & Neighborhood...
How to Build Your Own Rain Garden...

Location

Your rain garden can be in your front, back, side yard, or on your driveway. Make sure it is:

- receiving water from a disconnected downspout, or located in a relatively low spot
- at least 3 ft away from the house to prevent possible flooding, and
- in a spot with some sun (at least 6 hours a day)

Design

- Make a garden of the size and shape that fits your site.
- Dig a slight depression and make sure that plants in the lowest area can withstand the most water at their roots.
- Add compost to help soak moisture and help young plants thrive.
- See the “Resources” list on the back cover for more details.

Maintenance

Though maintenance of native plants is minimal once established, it is very important to give special care to your rain garden during the first several weeks after planting.

- Watering—newly planted need about 1 inch of rainfall or water per week (and more right after planting).
- Weeding—take care not to weed the native plants (some mayseed on their own and surprise you!). A 3-5” layer of mulch will help prevent weeds.
- No fertilizer is needed.

Keep in mind...

- You may want to put up low fencing to keep people, pets and animals from trampling on the plants and hindering growth.
- Get creative with making your rain garden your own.
- See the “Resources” list on the back cover for more details.

Rain Garden Plants - Go Native!

Native Midwestern plants are well adapted to our natural conditions, are easy to establish, little or no maintenance.

Native plants are ideal for rain gardens because they are well adapted to our environment, have a range of wet to dry conditions, and using native plants saves more water. They are beautiful and attract birds and beneficial insects.

Choose your plants according to your soil type, amount of sun, depth in garden and personal preference. Include plants with a variety of colors and bloom times, so that your garden will look vibrant throughout the seasons.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Height</th>
<th>Bloom Time</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butterfly Weed</td>
<td>1-2”</td>
<td>Jun-Aug</td>
<td>Orange</td>
</tr>
<tr>
<td>Little Bluestem</td>
<td>3’</td>
<td>Jun-Sep</td>
<td>Red/Brown</td>
</tr>
<tr>
<td>Joe Bell</td>
<td>3’</td>
<td>Mar-May</td>
<td>Pink</td>
</tr>
<tr>
<td>Purple Coneflower</td>
<td>3’</td>
<td>Jul-Oct</td>
<td>Pink</td>
</tr>
<tr>
<td>Purple Wildflower</td>
<td>1-2’</td>
<td>Jun-Sep</td>
<td>Purple</td>
</tr>
<tr>
<td>Black-eyed Susan</td>
<td>2’</td>
<td>Jul-Oct</td>
<td>Purple</td>
</tr>
<tr>
<td>Spiderwort</td>
<td>2’</td>
<td>Mar-Aug</td>
<td>Yellow/Orange</td>
</tr>
<tr>
<td>Prairie Flower</td>
<td>3’</td>
<td>Apr-Aug</td>
<td>White</td>
</tr>
<tr>
<td>New England Aster</td>
<td>3’</td>
<td>Aug-Nov</td>
<td>Purple</td>
</tr>
<tr>
<td>Wedding Onion</td>
<td>2’</td>
<td>Jul-Sep</td>
<td>Pink/White</td>
</tr>
<tr>
<td>Yellow Coneflower</td>
<td>4’</td>
<td>Jun-Aug</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

See the “Resources” list on the back cover for more details.