Grow Your Park Initiative

BUILDING A COMMUNITY GARDEN IN YOUR PARK:

Opportunities for Health, Community, and Recreation

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National Recreation and Park Association
and
The National Recreation Foundation

TABLE OF CONTENTS

National Recreation and Park Association

ACKNOWLEDGEMENTS

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It is easy to want to see your garden take shape and to capture the momentum of volunteer energy. But take time to build a foundation for long-term success. This foundation is the "garden community" from which the mission, vision, and case for support should grow. Your project should communicate a good "story" that shares your mission and vision with the community. This project should meet the community's current needs or anticipate future needs. Your mission must include goals for long-term programming. Build your garden community before you build your community garden.

Build Support and Seek Partners

Identify partners early, and gather feedback from a broad spectrum of your community about the existing obstacles and opportunities. Use this information to inform your vision, mission, and case for support. When looking for potential partners, it can be helpful to identify shared benefits. When your partners recognize their "voice" in your documented approach, they are more apt to provide the support you will need to sustain your project in the long term. Potential partners include:

A. **Neighbors** – Recruit neighbors to take ownership and help protect your investment. These local advocates serve as the eyes and ears of the neighborhood. They have the potential to most directly benefit from this project.

B. **The City** – Gather information about all legal repercussions and responsibilities. Are there laws or ordinances that would prevent the garden from being placed on pubic property or on park property, specifically? Is insurance required? Is a contract or other paperwork required? Are there opportunities to share the responsibilities for maintenance and expenses? Could the garden be developed on city property with a lease agreement?

C. **Experts** – Tap into neighborhood gardeners, master gardeners, agricultural extension offices, and local botanical garden experts in your area to provide expertise, donate materials, or donate labor.

D. **Corporations and Community Leaders** – Seek out sponsors and others who can not only provide operating capital but can also provide political support for your project (e.g., businesses that contribute to community beautification and highway adoption projects).

E. **Agencies and Community Groups** – Look for an alignment with your mission and vision and those of the local agencies and groups supporting people in need. Alternatively, consider building your community garden mission around a community need.

F. **The School District** – Consider "seed to table" programs, where fresh food is grown by students for students, that are being integrated into school curricula and the school lunch menu. Can your community garden be a resource for your school district?

G. **Internal** – Make sure your community garden fits the goals for your park and park district. Our parkland often faces the pressure of many conflicting uses.

H. **Farmers and Growers** – Contact your local network of farmers and growers. Participate in a farmers' market or food co-op.

I. **Other Parks & Recreation agencies** – Communicate with other parks and recreations agencies. Smaller and larger community agencies might be interested in sharing both the work and benefits of developing a community garden.

The following table identifies methods and actions recommended to build a strong foundation for your project. Table 1.1 outlines a recommended continuum of steps for implementation.

Table 1.1 Action steps and typical timeline to consider when planning a community garden

Component/Method	Action Steps	Timeline
Develop mission vision and case for support	▪ Talk with staff, donors, and community partners. Answer these questions: Why is the program needed? Who will benefit? Why is your agency the best one to undertake this program? What are the long-term programming needs? ▪ Identify community leaders who share your vision. ▪ Review program user trends. ▪ Revise the mission and vision, as necessary. ▪ Develop an annual report format to summarize progress at the end of the year.	Months 1-3
Research and identify potential stakeholders and partners	▪ Solicit ideas from staff, end-users, and community leaders about who might share interest in the program. ▪ Research corporations, local businesses, foundations, and other givers who have an interest in supporting the program. ▪ Seek influential people who are stakeholders to act as program champions. ▪ Build your advisory committee with business leaders and other local influential community members. ▪ Solicit ideas from partners, staff, volunteers, and advisory committees about contacts to potential givers who share interests with your program.	Months 1-3/ ongoing
Communicate with stakeholders and partners	▪ Introduce the program to local media. ▪ Provide media tour, press kits, or news releases. ▪ Acquire testimonials from public end-users who will benefit (See *Chapter 9: Getting the Word Out.*)	Months 1-3/ ongoing
Initiate relationship with potential stakeholders and partners	Schedule community/partner meetings with current beneficiaries. ▪ Invite prospects to experience the program, review accomplishments, and suggest improvements. Ask them who else should be involved and ask for their involvement in new ways. ▪ Match language and outcomes to prospects' interests. ▪ Send thank you letters for meetings/visits, contacts, and interest (regardless of level or success). ▪ Talk with partners and funding entities about resources available to meet common goals and defray expenses.	Months 4/ ongoing
	▪ Select informal team of helpful community members, agency representatives, and business people to act as advisory committee. ▪ Formulate agenda.	Month 4
	▪ Prepare written materials for participants outlining program general purpose and vision. Language should match community, program, and funders' interests.	Month 4

Create buy-in	▪ Incorporate outcomes from meetings; expand vision to include community and funding partners and identify individuals and funding organizations. ▪ With fundraising committee, ask for donations and share solicitation responsibilities. ▪ Invite press to cover progress and highlight participants and outcomes. ▪ Plan ongoing meetings with fundraising committee. Celebrate successes. ▪ Send thank you notes and copies of press coverage to all committee members and prospects.	Month 4
	▪ Assign advisory committee member with relationship to identified funding organizations.	Month 4
Make "the ask"	▪ Determine best strategic partnerships and key community leaders to involve. ▪ Depending on the method used, write and submit grants, develop mailing list and pitch for direct mail, and meet with prospects to ask for support.	Month 5
	▪ Determine appropriate level of financial commitment for each identified funding organization.	Month 5
	▪ Determine appropriate level of financial commitment for each identified funding organization.	Month 5
	▪ Determine who should make the "ask." ▪ Jointly develop strong "case" for potential funders' involvement. Be specific about the level of commitment requested. ▪ Ask for feedback from any corporation or foundation that declined funding. ▪ Use contact to build future relationship. ▪ Frame your project to complement the interests and philosophies of your partners.	Months 5-8/ ongoing
Be a good steward	▪ Celebrate successes, advise funding organizations about new programs or benefits, invite new potential funding organizations to see the work in action, continue to encourage media coverage, and document successes. ▪ Continue to cultivate current partners and new stakeholders through offering opportunities for continued involvement in shaping the program and sharing the credit. Celebrate small successes. ▪ Ensure donors are updated and invited to be involved in different and new ways. ▪ Review fundraising efforts and identify lessons learned for future campaigns.	Month 8/ ongoing
	▪ Formalize relationships; ensure cultivation communications and progress reports are developed for each funding organization. ▪ Use evaluation tool (Community Garden Survey – see Appendix C) to gauge progress and solicit ideas and input from the community. ▪ Prepare annual report to summarize progress at the end of each year and attract new supporters.	Months 9-12/ ongoing

Evaluation Tools

To understand the impact your community garden could have on your community, you will need a series of evaluation tools. To start, determine the baseline condition of the community. Data such as demographics, health statistics, level of gardening interest, locations to obtain fresh food, and income and employment rate – among other factors – can be collected for your community garden area to establish the baseline. Tailor your community garden survey to gauge the community garden's impact against the baseline data. Evaluate your garden program yearly, and chart your data to look for measurable impacts.

Ideally, your community garden site would be selected by its ability to provide the best growing environment. However, more often than not, community garden sites are limited to readily available land (e.g., vacant plots, un-used rights-of-way, underutilized park property). The transformation of these underutilized spaces into community spaces enables us to gain so much more than just beautification. It provides a community with a central location for social gathering, communal project participation, and healthy outcomes.

One may think that incorporating a community garden into your park can bring new operational, maintenance, and staffing challenges. This is not necessarily the case. Your peer park districts have developed community gardens in their parks and have found that after implementation, the garden can be supervised and managed by a Community Garden Advisory Board or other group. As you contemplate a community garden in your park, consider the three steps outlined below.

Step 1: Before You Dig

Before you dig into community gardening in your park, it is helpful to understand some of the potential opportunities and obstacles you may encounter. Table 2.1 illustrates both short and long-term obstacles that are commonly encountered. The accompanying opportunities look to help you overcome typical obstacles in your community.

A. Look for a site within your parkland that does not compromise the existing activities and programs of the park. Ideally, it should be near a park building, picnic shelter, or other area where programming takes place or could take place. A nearby structure also provides shade for program participants or gardeners. Is your site close enough to existing restrooms, or will a portable toilet need to be provided?

B. Don't rule out sites that are not parkland or contiguous to a park. Look to partner with your city or a private individual to lease vacant land, if necessary. Be cautious, however, since these arrangements can sometimes be temporary. Plan and design your gardens appropriately for the timeframe and look for a permanent arrangement with your city or within your district.

C. Look for a site that can be easily accessed by park staff and the community throughout the day and evening. Maintenance, watering, and supervision will be needed. Direct maintenance access for a car or pickup truck is also helpful to gardeners but not critical. Remember to provide barrier-free routes to allow everyone access to your garden.

D. Look for a level site that has full, direct sun throughout the day (6 to 8 hours of sun). However, sloping sites can be terraced effectively for vegetable gardens and provide ways to conserve water.

E. Look for a site that is adjacent to a water source such as a spigot on a park building or nearby waterline. Other water sources – such as ponds, lakes, and rivers – can also be used to water your garden with proper permission. (You may need to check with the EPA or your local water authority for details.) Ideally, collect water from roofs in rain barrels for reuse in the garden.

F. Look for a site that is well-drained and not soggy. Observe your site after a rain storm and take note of where water settles and how long it takes for the water on the ground to be absorbed by the soil. Avoid low spots when selecting a garden site. Wet soil can lead to fungal problems on your plantings.

G. Before you overturn any soil, call your local utility location service to mark the location of any underground utilities that could be located within your garden site. Damaged gas, water, and electrical lines can be very dangerous and disruptive. Don't forget to look above your garden site for any overhead electrical lines that could limit your clearance for equipment to work or be a hazard to your users. Adjust your garden site to work around all utilities.

Table 2.1. Common Obstacles and Opportunities Related to Building a Community Garden

Short-term Obstacles	Opportunities
Availability of land	Look to partner with your city or private individuals to lease land for your garden, or consider container and vertical gardens on available park property. (See *Chapter 1: Building Your Garden Community* for partnering ideas and *Chapter 6: Edible Recreation* for container garden ideas.)
Availability of infrastructure (good soil, water, access, etc.)	Respond to the conditions of your site when planning your garden. All sites are not created equal. Be conservative about staff and volunteers' abilities to maintain the garden and compensate for the site's deficiencies. (See *Chapter 4: Organic and Sustainable* for information on harvesting water and *Chapter 6: Edible Recreation* for container garden ideas.)
Lack of interest/Lack of parental approval	Include the community in the discussion before you plan or break ground for your garden. Get the word out and seek broad appeal. Communicate benefits of community gardens to parents of potential participants. Invite families to participate in the launch of your garden and showcase their children's efforts. Seek ways for the entire family to benefit from the program. (See *Chapter 6: Edible Recreation* for programming ideas that include the community and build support.)
Lack of knowledge	Include the community in the decision-making process before you plan or break ground for your garden. Include educational sessions and community open houses to inform your community of the benefits of community gardens. (See *Chapter 6: Edible Recreation* for programming ideas that include the community and build support.)
Lack of funding	Identify community leaders and stakeholders who you can approach for support, both in terms of money and political backing. In addition, a community garden project can be successfully accomplished with volunteer labor, individual donations, and in-kind donations. *(See Chapter 1: Building Your Garden Community.)*
Doesn't fit community's existing culture or is perceived to be a nuisance	Start with educational programming that gets the word out about the benefits of community gardens. Listen and record the community's concerns. Tailor your garden approach to fit the community's unique characteristics and address the community concerns directly. (See *Chapter 1: Building Your Garden Community.*)
Doesn't fit existing park goals or master plan/ Belief that individuals should not profit from public land	Establish the goals for your community garden and evaluate these against those established for the park. Your site may not be appropriate if your goals are at cross purposes. Seek support from your park board and internal staff. Overcome the public land for profit obstacle by defining a clear mission that enables people in need to profit from their gardens, or consider restrictions on produce sales – encourage donations to food pantries or other organizations.

Long-Term Obstacles	Opportunities
Sustained commitment	Sustain initial commitment by fostering future growth. Energy and commitment is strong in the beginning of the project. Sustaining long-term volunteerism, participation, and resources can be a challenge. Continue to get the word out and sustain programming to introduce the next generation to community gardening and healthy living. Continue to communicate to the community at-large. (See *Chapter 1: Building Your Garden Community* for action steps and a timeline, *Chapter 6: Edible Recreation* for programming ideas, and *Chapter 9: Getting the Word Out.*)
Maintenance and responsibility	Implement an effective maintenance plan. A maintenance plan is critical to the long-term success of the garden. Volunteers and gardeners will come and go. Ultimately, it is the responsibility of the park district to provide a consistent and sustained effort throughout the life of the garden. Establish a community garden board or advisory committee to be responsible for yearly and seasonal activities, such as fee collection and maintenance work days. (See *Chapter 1: Building Your Garden Community.*)
Pests and vandalism	Implement controls and guidelines to anticipate damage of the garden and grounds. Each year will bring different challenges. Publish the rules for gardeners and the public. Use programming to sustain interest in the garden if damage occurs. (See *Chapter 7: Edible Recreation* for programming ideas and *Chapter 9: Growing Pains* for ideas to control pests, address unauthorized harvesting, and minimize vandalism.)

Step 3: Understanding Best Practices for Community Gardens

There is a wealth of information available on the subject of gardening in general and community gardens specifically. The Best Practices list below outlines the best of the basics. Each region of the United States and individual microclimates of your site can influence your community garden's needs. Conduct your own research, and rely on your local experts. Use this list to get started.

A. Temperature – What zone are you?

One of the most important considerations when planting a garden is the temperature ranges of your region. The United States Department of Agriculture developed a zone map (Figure 2.1) based on the coldest temperatures reached. There are 10 basic zones (1-10), with sub-zones identified by letter. The coldest zones are represented by the lowest numbers, and warmer zones are represented by higher numbers. Michigan, for example, has locations representing zones 3-5, and Florida has areas representing zones 8-9. To see a close-up of your region, go to http://www.usna.usda.gov/Hardzone/ushzmap.html and click on your region.

Figure 2.1. United States Department of Agriculture Hardiness Zone Map . *Courtesy of the National Arboretum*

B. Raised beds are best.

Plants grow best in loose, well-drained soil where the roots can receive oxygen. A raised bed allows for good drainage and for good planting soil to be incorporated into the existing soil. You will want your bed to be raised 8 to 10 inches. Many materials can be used to create raised beds (Table 2.2). Look for durable, seamless, and easily assembled materials. Retaining wall blocks and concrete blocks are recommended. They can be found new at any hardware store or can be recycled from a construction site. Concrete will not rot or be displaced easily so it provides a good solution for a public facility such as a park (Figure 2.2). Recycled plastic lumber offers another long-term choice. The raised bed material provides an opportunity to personalize your garden (Figure 2.3). Organic, loose materials such as tree trunks, tree rounds, or rocks can serve as short-term solutions that need to be replaced or adjusted frequently but make attractive garden beds (Figure 2.4). Determine your approach to your raised beds early in your design process, and push for a long-term option to avoid needless work in the future.

Table 2.2. Raised-Bed Material Options

LONG TERM	SHORT TERM
Concrete masonry unit (CMU)	Recycled clay tile roofing
Modular block retaining wall units (Figure 2.2)	Lumber (cedar or pressure treated)
Recycled plastic lumber (Figure 2.3)	Tree trunks, tree rounds
Cast in place concrete	Rocks: river rocks or boulders (Figure 2.4)
Stacked or mortared stone wall	Other loose materials

C. Plant quality is only as good as the soil quality.

Good quality, fertile soil will yield healthy plants and high quality fruits and vegetables. Soils differ greatly across the United States. In urban sites, there may not be much soil available. Even parkland soils may not be suitable for garden use. So, how do you know if you can use the soil you have? This topic can get very technical. Your best bet is to contact your local Cooperative Extension Agency to get information specific to your climate, geology, and growing conditions. (See http://www.csrees.usda.gov/Extension/ for state-specific locations.) Your local Cooperative Extension Agency can also give you information about where to send a soil sample for analysis. Tests are usually available in your local area for a minimal fee or for free. The soil test will typically provide recommendations for amendment of your soil, such as adding sand, compost, or other materials that can change the nutrients of the soil. Figure 2.5 shows a sample soil test, with the results of the soil testing noted in the blue box and what is recommended noted in the green box.

Figure 2.2. Modular block retaining wall units were used to raise the beds in Sacramento. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

Figure 2.3. Raised beds of recycled plastic lumber were customized at the Victory Garden in Miami Beach. *Photo courtesy of Miami Beach Parks and Recreation*

Figure 2.4. Stones were used to define attractive beds and meandering paths in a community garden in the Dogtown neighborhood of St. Louis, MO. *Photo courtesy of Gateway Greening*

If you are starting your garden with no soil, purchase a good quality soil mix at your local garden center or nursery. Evaluate all your soils (e.g., bagged mixes, supplemental soil, or existing on-site soil) using the following criteria:

1. **pH:** pH is an indication of acid or alkaline in the soil. Soils that are too acid or too alkaline are toxic to a plant. An acceptable range of pH for vegetables is 5.0 to 7.0, but it's also helpful to refer to the specific pH requirements for each type of plant you want to grow. Refer to your soil test recommendations to change the pH of the soil to meet these requirements.

2. **Organic content:** Organic matter contains the nitrogen and nutrients in the soil that plants need. Too much organic matter is not a good thing – you are looking for a balance. Adding compost, manure, or chemical fertilizer increases the organic content of the soil. Your park sites are public and subject to interaction by children, in particular. Therefore, it is recommended to use organic, non-chemical means to amend your soil. Locally composted plant matter is ideal and is often free. Generate your own compost at your garden site once you get started by creating a simple container to collect clippings, leaves, or other organic matter. Composted leaves (leaf mold), mushroom compost, sawdust, pine needles, and coffee grounds are all great soil amendments. A target for organic matter in the soil is 3 to 5 percent. Refer to your soil test recommendations to determine how much compost should be incorporated into the soil.

Building a Community Garden in Your Park

Soil Test Report

University Extension
University of Missouri
Columbia

————MU Laboratories————
23 Mumford Hall
Columbia, MO 65211   or
(573) 882-0623

P.O. Box 160
Portageville, MO 63873
(573) 379-5431

http://www.soiltest.psu.missouri.edu/

Serial No.	County	Region
H74767H-1	Osborne	4
Submitted	Processed	
1/4/2010	1/4/2010	

Sample ID: 1

Lab No: C1000001

This report is for:

John Doe
9495 Champion Drive
Lincoln, MO 63385

Last Limed: unknown

Submitted by:
Firm No. 80   Outlet: 999
SoilTestingServices@missouri.edu

SOIL TESTING LAB
23 MUMFORD
UMC

COLUMBIA, MO 65211

SOIL TEST RESULTS			RATING					
			Very low	Low	Medium	High	Very high	Excess
pHs	7.1							
Phosphorus (P)	9	lbs/a						
Potassium (K)	256	lbs/a						
Calcium (Ca)	4780	lbs/a						
Magnesium (Mg)	745	lbs/a						
Organic Matter:	2.0 %		Neutr. Acidity: 0.0 meq			CEC: 15.4 meq		

Fertilizer & Limestone Recommendations (lbs/1000 sq ft)

Crop	Nitrogen (N)	Phosphorus(P_2O_5)	Potash (K_2O)	Zinc(Zn)	Sulfur(S)	LIME
2 annual flower gardens	1.0	4.0	0.0			0
1 vegetables	1.0	4.0	0.0			0
						0

Comments: ---Some herbicide labels list restrictions based on soil pH in water. Use the estimated pH in water of 7.6 as a guide to the label. If you wish to have soil pH in water analyzed, contact your dealer or local Extension specialist listed below.
---The soil should be tested every 2 to 3 years to determine the effects of your fertilization practices and to develop a new set of fertilizer and limestone guidelines.
***The soil has adequate calcium and an adequate pH for annual flower gardens. Application of lime, wood ashes, or calcium rich fertilizer is not recommended.
***The soil needs additional organic matter for gardens and crops other than lawns. See MU Publication G6950, "Steps in Fertilizing Garden Soil" and G6956, "Making and Using Compost".
***The soil has adequate calcium and an adequate pH for vegetables. Application of lime, wood ashes, or calcium rich fertilizer is not recommended.

Regional Specialist   Jane Doe   Phone   333-555-8888

Signature

MP-552   7/96

University of Missouri, Lincoln University, U.S. Department of Agriculture & Local University Extension Councils Cooperating   Columbia
An equal opportunity institution

Figure 2.5. A Sample Soil Test. *Photo courtesy of University of Missouri Cooperative Extension*

3. **Drainage:** Well-drained soil allows water to percolate through the soil and not pool for extended periods of time. Areas in which water is absorbed into the soil within a half hour are considered to be well-drained. Soil drainage can be improved by adding sand. However, you should refer to your soil test recommendations to determine how much sand is needed.

D. Safety and sustainability go hand in hand.

Physical safety and the potential for exposure to chemicals are serious issues to keep in mind when designing and maintaining your garden in your public park. Choose building materials without sharp edges and that cannot be easily removed. If you are using salvaged materials, install these materials in a way that minimizes hazards. Call your local utility companies to locate any underground utilities in the area of your future garden. Relocate your garden away from buried electrical lines. Provide for lockable tool storage on site. Avoid using any chemical fertilizers, weed, or pest control products on the garden for the safety of adults, children, pets, and animals – as well as our planet. Chemicals are easily washed off the plants and can contaminate the soil and water. Go organic for safety and sustainability. (See Chapter 4: Organic and Sustainable.)

Figure 2.6. A very workable community garden layout. *Photo courtesy of Gateway Greening*

E. Make a plan.

Take the time to measure your site and draw a site plan (i.e. a small-scale version of the site with all the existing features such as roads, trees, and fences). Plan the sizes and shapes of your raised garden beds by following these simple guidelines:

1. **Bed width:** Rectangular beds are typical but not required. The size of the bed will also vary depending on the most efficient layout that can be achieved. (See Figure 2.6.) As a general rule, beds should measure no more than 4 feet across to allow gardeners to reach to the middle of the bed from each side of the bed. This width is good for children and for people with disabilities. However, most garden plots are approximately 10 feet wide. Consider wider common planting beds for larger plants, fruit-bearing shrubs, and other ornamental plants.

2. **Bed length:** There is no maximum recommended length, but it is helpful to provide breaks in a rectangular bed to allow circulation. These breaks could also define assignable beds for individual gardeners. Define a typical bed length or module and allow gardeners to lease or adopt one or more module. Typical modules include 10' x 10,' 10' x 12,' and 16' x 16.' Don't limit yourself to rectangular beds. Work with the space to create the best fit and most efficient layout.

3. **Access aisles:** Provide a minimum of 3 feet between each garden bed so a wheel barrow and commercial mover can be maneuvered between the aisles. These aisle widths also allow a gardener in a wheelchair to maneuver between the beds.

F. Fence it in.

There are many reasons for fencing a community garden – both human and animal-related. Fencing provides protection from animal damage, and a locked gate defines your hours of operation and minimizes human damage. Community gardeners can be issued a gate key at the beginning of the season for after-hour use. The fence is an important aesthetic consideration. Consider using a practical yet attractive fence as a garden feature instead of an eye sore. (See *Chapter 8: Growing Pains* for information on how to protect the garden from animals.) It is not necessary to locate the fence around the perimeter of the entire community garden area. Integrate the fence location carefully in your design to allow common areas of the garden such as orchards, demonstration gardens, and programming spaces to be enjoyed by park goers beyond the operational hours of the garden plots.

Figure 2.7. A sign defines garden behavior expectations. *Photo courtesy of Gateway Greening.*

G. Publish the rules and promote your garden.

It will be necessary to define the desirable behaviors that are allowed and the undesirable ones that are not allowed in your park setting (Figure 2.7). It will also be necessary to determine how beds are to be assigned to individuals, the procedures for setting fees and collecting money, hours of operation, and management of the waiting list when your garden is successful. Permanent, interpretive signage is a great way to promote the special features of your garden. This signage should also document the rules for park users to minimize unauthorized harvesting and vandalism. Refer to the American Community Garden Association's website for helpful information on community garden operations as well as best practices (http://communitygarden.org/). (See *Chapter 9: Getting the Word Out* for communication strategies.)

H. Create a "Community Garden Advisory Board."

The Advisory Board is a group, board, or committee of community gardeners, park staff, and stakeholders that can assume the responsibility for advancing the mission of your project. This group should be able to manage the daily operations, maintenance, and supervision of the garden plots. Seasonal duties will typically include collection of garden fees

Figure 2.8. The community queues up to reserve a garden plot. *Photo courtesy of City of Sacramento Department of Parks and Recreation.*

and deposits, issuance of keys, management of the waiting list, and payment of water bills and other obligations. (See Appendix B for peer agencies and their approaches.) Your group may also initiate programming or partner with agencies that serve people in need.

Now that you know the basics of building your community garden, it's time to get down and dirty!

Opportunity for All

As a public park, it is important to plan your community garden to ensure everyone can gain access and participate in similar activities. If you take it one step further and design your garden to enable all people to garden side by side, your garden is not only accessible, it is *inclusive*.

Typical community gardens are surrounded by lawn, mulch, or some other loose material that cannot be traversed by a person using a wheelchair, walker, or cane. Loose and bumpy surfaces pose problems for persons who have walking difficulties or for those who can scoot but not walk. Garden beds are recommended to be raised. However, they are often not raised enough to provide access from a wheelchair. The width of the bed can also pose problems for persons with limited reach. These conditions, among others, are barriers to participation by all.

When developing your plans, make sure to incorporate the requirements set forth by the *Americans with Disabilities Act (ADA)* for accessible public facilities (US Access Board, 2002) and the strategies identified in the *National Parks and Recreation Association: NRPA Position Statement on Inclusion* (NRPA, 1999) relative to accessible parks.

Simple additions and modifications to your garden can provide opportunities for everyone to participate. Your design for inclusion should focus on four key aspects:

1. accessible route
2. facilities
3. accessories
4. opportunities

Designing for Inclusion

A. How people move, play, and work

People get around in a variety of ways (e.g., walking, rolling, scooting, shuffling, and detecting). An inclusive community garden is designed with the proper surface to accommodate people using all modes of travel to and around the garden. Those who roll or shuffle when traveling need a hard, smooth surface. However, those who scoot need a soft, clean surface as they scoot on their bottoms or lower portions of their bodies to get around. People with low vision need high contrast and edges to detect. How does one provide all of this in one surface type? Review your options for surfacing and your community needs to determine your goals. A properly designed accessible route will ensure everyone can get to the garden. Further, if you provide properly designed areas, facilities, and equipment/tools, you will ensure everyone can use the garden.

B. Accessible routes – the basics

When planning and constructing routes to and around your garden area, there are several criteria to consider:

1. **Location** – Generally, the accessible route should originate from an accessible building, parking lot, drop-off, or bus stop. Accessible parking spaces should be made available near the garden.

2. **Size** – The route should measure 4 to 5 feet wide at a minimum. The distance from the accessible parking spaces, drop offs, or buildings integral to your garden site should be kept to a minimum. However, the unique characteristics of your site and existing vehicular access will be factors that determine the length of the accessible route.

3. **Slope** – Routes should not run steeper than a 5 percent (1:20) slope. This means that there should be 1 foot of vertical rise for every 20 feet of horizontal run. If your accessible route to your garden runs steeper than 5 percent, a ramp will be required to transition your slope to a level surface before reaching the garden. Ramps should not exceed 8.33 percent (1:12) or 1 foot of vertical rise for every 12 feet of horizontal run.

Figure 3.1. Compacted, decomposed granite surfacing provides accessibility to the garden beds. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

4. **Edges or Contrast** – Persons who are blind or have low vision will benefit from an accessible route that has a 70 percent contrast from the adjoining surface, such as grass or mulch. For example, a concrete path will stand out in contrast to the adjoining surface. Raised edges such as curbs can also provide a cue to cane-users as to the direction of the path.

5. **Surface Material** – An accessible material creates a firm and stable surface that is smooth, even, and slip-resistant. Select a material that is appropriate for your local conditions. It is also important to consider the maintenance activities that may be required to maintain accessibility of the material over time. The figure below has been adapted from The National Center on Accessibility (2010) reference for accessible surfaces. Commentary on access and maintenance considerations as they relate to public parks and community gardens has been added (Figure 3.1).

Figure 3.1. Accessible surface material options

Material/ Product	Description and Product Examples	Access and Maintenance Considerations
Engineered wood fiber	This product looks like wood mulch but is engineered wood fiber. The wood fibers mesh to create a firm, stable surface. Product names include: Fibar and Wood Carpet.	This is a loose material that can be easily displaced. It is best used where edging can contain the material and minimize displacement. It will be necessary to rake the material back to the desired locations and to maintain a consistent depth. Due to its appearance, it is common for ordinary mulch to be added by mistake, which will render the area inaccessible.

Building a Community Garden in Your Park

Material/ Product	Description and Product Examples	Access and Maintenance Considerations
Flexible plastic open grid access systems	These systems include a square plastic, grid-like module that can connect together. The grid is open to allow, soil, sand, grass, or other plants to fill in flush with the top of the grid surface. The grid modules can be connected to form unlimited sized areas or pathways. Product names include: Presto GeoRunner® and Eco-Trak.	These systems are good for wheelchairs and walkers with shoes when the grid can be spanned. However, the open grid can be penetrated by canes or other small objects. Grass can be grown within the open grid, but these surfaces are not comfortable for people who may be scooting to get around the garden.
Mats, tile, and poured-in-place rubber surfaces	Mats and tile products can be made of rubber or plastic. Some have solid textured surfaces, and some have openings. These materials can be placed temporarily or used permanently. Poured-in-place surfaces can be laid like an asphalt path. Many of these products can be seen on playgrounds. Product names include: Privacy (Long Life) Lattice, SofTile, Diamond Rubber Mat, and Vitriturf.	Mats and tile are great accessible surfaces when installed over a smooth sub-surface. A lumpy sub-surface will create sustainability challenges. Avoid mats and tiles that can be easily displaced. Install them permanently to ensure your accessible route is maintained at all times. These materials are mostly maintenance-free and easy to sweep clean. Another advantage of these surfaces is that they are softer on the body. Therefore, they are great for those who are scooting to get around or sitting or laying when gardening. However, the soft surface can create an unstable condition for a person with a cane. A disadvantage is that they can be expensive.
Roll-away walkways	These products were originally developed for beaches. They typically come in long rolls. The product is pinned or anchored to a soft surface, such as sand or soil below. They can be wood, plastic wood, or fabric. Product names include: Tuff Roll, Mobi-mat, Roll out Path System, and Porta-Floor.	Roll-away walkways are a good retrofit solution in addition to an option for a new garden. Many of these materials are meant to be portable or temporary. Avoid materials that can be easily displaced. Install them permanently to ensure your accessible route is maintained at all times. Watch out for heavily textured surfaces that hinder accessibility and can be dangerous to children, those who are scooting to get around, or individuals sitting or laying when gardening. These materials are mostly maintenance-free. However, make sure to research the longevity of the fabric products before selecting these materials for your route.

Material/ Product	Description and Product Examples	Access and Maintenance Considerations
Wood or recycled plastic decking	These products are recycled wood and/or plastic composite lumber that can be a substitute for wood lumber. It can be used to construct board walks like traditional lumber. Product names include: PlasTeak, Trex, and Evolve.	A boardwalk made of this material provides a stable, smooth, and accessible surface. It is also rot-resistant and low maintenance. These materials are marketed with the promise that they are slip-resistant. Review your climate and site conditions to determine if this material is right for you. This type of lumber can be made into almost anything and is volunteer-build friendly.
Stabilized soil, crushed stone or brick (Figure 3.1)	These are products that are added to your native soil, crushed stone, or crushed brick to stabilize the surface. When compacted, the surface is stable and smooth. The availability of stone or brick will depend on where you are located in the country. Product names include: Road Oyl, Stabilizer, Brik-Trak, Poly Pavement, and Top Shield.	Proper installation and compaction is required to achieve an accessible surface. Proper drainage is also important. These surfaces can be easily eroded and destroyed by misdirected storm water. From an aesthetic point of view, these products achieve a wonderful, natural appearance that blends with the surrounding of the garden. This is a step in the right direction when looking to achieve inclusion (i.e., all paths appear the same and provide access for all).
Hard-surface pavements	These include concrete, asphalt, brick paving, stone paving, and others.	Paved surfaces are the most reliable accessible materials. Of the materials listed, concrete is the best accessible hard-surface material due to its flexibility and durability. It can be formed into any shape, colored, and printed, and it has durable edges. Decorative concrete, brick, and stone paving options are endless and can make a statement of permanence and quality for your project. Asphalt is also a good accessible surface, but it is hot and the edges crumble over time when not installed with edging. Hard-surface pavements tend to be more expensive, but they are the most inclusive.

C. Facilities

Your garden should include facilities that can be used by all. Designing for inclusion requires attention to the details when planning your garden. This effort will ultimately lead to a garden and facilities that are flexible, well-used by everyone, and easier to program. Your facilities should include some or all of the following:

1. **Benches** – Places to stop and rest are great for gardeners and very important for those with mobility challenges. Locate them in the shade, if possible, along the accessible route, and

throughout the garden. Benches can be purchased or made of many natural materials, such as boulders or tree trunks. Make sure your benches are stable, adjacent to the accessible route, and have a smooth, level seat area. The seat height should be within 16 to 24 inches above the ground. Benches can also be used as transfer spots. (See item C.5 below.)

2. **Accessible Restrooms** – Evaluate your park building for accessibility and make modifications as necessary. If you do not have an adjacent park building and restroom facility, provide an accessible portable restroom and hand washing station. The accessible ones are larger and easier for everyone to use, including parents who are helping children. A portable restroom can be positioned in a picnic shelter-type enclosure to make it look attractive in the garden. Locate a portable restroom near an access road or drive for servicing and drop-off/pick-up. Also, consider locating it in a shaded area, if possible.

3. **Shade** – Most gardening occurs in the summer months. Heat can pose potential dangers for people who fail to keep their bodies cool and hydrated. Provide places for people, particularly those most at risk (e.g., children, elderly, people with medical conditions), to access the shade. Shade can be provided under trees, garden structures, and picnic shelters or within an adjacent building.

4. **Water** – Water for plants and people is important in the garden. Harvest rain water for plant watering if possible, and provide a potable drinking fountain for people. Be sure both are well labeled so gardeners don't accidentally drink non-potable water. The drinking fountain should be an accessible, commercial type used in your parks or can be an attachment to a potable water source. Provide an accessible set-up for plant watering by locating the spigot and hose at a height of 30 inches above the ground. Provide a hand-activated lever to start the flow of water. For more information about harvesting rainwater, see *Chapter 4: Organic and Sustainable.*

5. **Transfer Spots** – People who travel with wheelchairs or scooters or who have walking challenges can transfer onto a platform or series of stepping platforms to provide access up to something or down to the ground. Use transfer points to provide access to soft mats on the ground for direct access to the soil. Consider using a transfer spot to achieve access to a table-height garden.

6. **Garden Beds** – Design your garden bed width for the maximum reach for an adult and a child. If your beds have access on both sides, design your bed to be twice the width of the maximum reach. Not all beds need to be the same size, width, or length. Work with the opportunities of your site. (See *Chapter 2: Building Your Community Garden.*)

7. **Table-height Gardens** – Plantable tables can be purchased or constructed out of simple materials such as wood. Table-height gardens are great ways to include children and people with disabilities or limited mobility in gardening activities (Figure 3.2). The table height allows for a person in a wheelchair to have direct access to the soil. Likewise, these tables are easier for groups of young children to use while standing which can increase your programmatic options.

Figure 3.2. An accessible garden plot in Sacramento. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

8. **Vertical Gardens** – Look for creative ways to hang your garden on a wall (Figure 3.3), or train your plants to grow vertically. Harvesting your vertical crop can be much easier for gardeners in wheelchairs or others who have difficulty moving or bending over. Vertical gardens are also at child-height and therefore easy for children to use. (See *Chapter 6: Edible Recreation* for unique ways to grow your garden.)

Figure 3.3. A hanging basket at Missouri Botanical Garden can be lowered for easy access. *Photo courtesy of Laurel Harrington*

9. **Equipment and Tools** – Loose tools and the storage for them should be included in your planning. Here are some specific pieces of equipment to include when looking to plan for inclusion:

   a. **Garden Cart** – Provide a cart in place of a wheelbarrow, which can tip over easily.

   b. **Garden Tools** – Provide light-weight tools, some with long handles and some with short handles; individuals will find the ones that work for them. Tools with extensions are also helpful.

   c. **Gloves** – Provide a supply of cotton jersey gloves that can be washed and re-used. Also keep surgical gloves on hand for any individual who should not have direct contact with the dirt due to a medical condition.

   d. **Buckets** – Provide light-weight buckets or baskets for collecting weeds and harvesting crops. Buckets should have large, flat bottoms to enable them to rest on an individual's lap and to ensure they do not tip easily.

   e. **Soft Mats and Kneepads** – Provide large mats in addition to kneepads to allow individuals who garden in a prone position to be comfortable, too.

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Building a Community Garden in Your Park

Before moving to the next stages of your community garden project, it is important to think about two other considerations: organic and sustainable. As park and recreation professionals, and as natural resource managers, we have the opportunity to highlight our projects and programs in terms of their many benefits to people as well as the environment. A community garden provides a wonderful context for both. This section addresses some of those benefits relative to organics and sustainability.

What is "Organic"?

Before we discuss how to create an organic garden, we first need to identify what the word "organic" actually means. Organic can have different meanings for different individuals. Organic gardening generally refers to the practice of growing foods **without synthetic fertilizers or chemical pesticides**. Organic agriculture, according to the United States Department of Agriculture (2010), is *"...a production system that is managed to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity."*
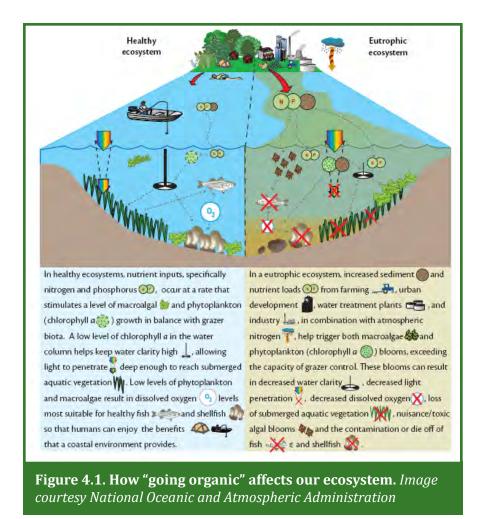
Generally, conventional agriculture involves growing crops in a monoculture (e.g., for a single growing season, a farmer would only grow a single variety of crop). This monoculture is grown using synthetic fertilizers and chemical pesticides to maximize growth and minimize any possible crop reduction. Organic agriculture can incorporate various growing methods and involves, oftentimes, growing multiple crops in the same field.

What are Synthetic Fertilizers?

Nitrogen, potassium, and phosphorous are the three macro nutrients essential to plant growth. In nature, nitrogen is a very limited nutrient. While essential to plant growth, plants cannot use the organic form of nitrogen, which is abundant in the atmosphere. Instead, microbes in the soil must "fix" nitrogen to make it available to plants to use. In this symbiotic relationship, microbes within the soil create ammonia from the organic form of nitrogen, which makes its way into the soil through decaying plant and animal matter. The ammonia can then be used by plants to build essential amino acids and DNA for reproduction.

Synthetic fertilizers also contain the three essential macro nutrients, but the significant difference between synthetic and organic fertilization is that the nitrogen in synthetic fertilizers (as opposed to organic compost) is in a ready-to-use form; therefore, plants do not need the microbes in the soil to process the nitrogen and make it usable. When synthetic fertilizers are applied to a crop field, they are often applied in excess. The plants use these macro nutrients for rapid growth, and any remaining nutrients are leached from the soil through rain water runoff. These nutrients make their way into local watersheds and can create serious problems, such as toxic algal blooms and dangerously low levels of dissolved oxygen (Figure 4.1).

Nitrogen, phosphorous, and potassium nutrients tend to be limited in the natural world. When these three nutrients leach into local watersheds, the microscopic phytoplankton readily use them for very rapid growth. This growth can quickly turn into large-scale algal blooms (those undesirable green, goopy layers of vegetation floating on the top of your park's water bodies). These algal blooms can then block sunlight to submerged vegetation, create low levels of dissolved oxygen, and – at their

Figure 4.1. How "going organic" affects our ecosystem. *Image courtesy National Oceanic and Atmospheric Administration*

worst – turn toxic and create wide-spread fish kills. Fertilizers applied to our urban and rural parks and community gardens also run off into the storm water system and contribute to this problem in the form of non-point source pollution.

Why Go Organic? The Science Behind the Choice

Although synthetic fertilizers create conditions for rapid growth in plants, there is evidence of a difference in the amount of nutrients plants grown organically have when compared to conventionally grown plants. When plants are exposed to an excess amount of nutrients, which is generally never the case in the natural world, they will allocate more nutrients to growth rather than secondary metabolites. Secondary metabolites are molecules that are not necessary for long-term growth but do contribute to a plant's survivability – particularly against pesticides and herbivores. Antioxidants, considered a type of secondary metabolite, have been shown to have health benefits for humans. For example, research suggests antioxidants play the primary role in diabetes, heart disease, and cancer prevention through diets that are rich in fruits and vegetables.

Sustainable Practices

Community gardening can be both organic and sustainable. Sustainability refers to meeting *"... the needs of the present without compromising the ability of future generations to meet their needs."* (WCED, 1987).

Antioxidants appear to play an important role in cancer prevention. Antioxidants prevent or slow the oxidation of certain molecules. Although oxidation is an important chemical reaction, it can create free oxygen ions known as free radicals. These free radicals can create a chain reaction that has been linked to cancer-causing reactions.

A study published in the Journal of Agricultural and Food Chemistry (Olsson et al., 2004) tested the antioxidant activity of organic and conventionally grown strawberries. Extracts from both types of strawberries were cultured with two different experimental cancer cell lines. The organically grown strawberries slowed the proliferation of the cancerous cells more than the conventionally grown strawberries. Other published studies show that organically grown foods contain higher levels of Vitamin C and lower levels of nitrates, which are considered undesirable.

Going organic is not only better for the environment and human health, but organic methods are also more productive. The inputs involved in conventional methods (mostly synthetic fertilizers) are more intensive than organic methods. When synthetic fertilizers are made, they require large amounts of fossil fuel to convert atmospheric nitrogen into ammonia. Organic soils, however, require the input of organic forms of nitrogen, such as decaying leaf litter and compost. Clearly, the amount of inputs required for organic agriculture generates more end products for the amount of inputs.

Not only are the fruits from organically grown plants healthy for us, organically grown plants are healthy for our planet!

Figure 4.2. Going organic for the health of it!

Organic practices contribute to sustainable practices. But what about other sustainable practices beyond going organic? We can promote sustainable gardening. In many cases, the initial cost outlay for a garden can be recouped within a season, which can enable a park to recognize significant savings in future seasons. Couple this with the benefits of exemplifying sustainable practices, and your park can become a focal point for your community.

Rainwater Harvesting

Did you know that 90 percent of our domestic, potable water is currently used for dirty jobs that do not require drinking water quality (Barber, 2009). Additionally, at least 25 states in our country experience extreme drought throughout the year (USGS, 2010). One of the easiest methods of incorporating sustainable practices is to use a naturally occurring resource such as rainwater. Issues around water use, reuse, and reduction of demand continue to make national headlines and show why it behooves us to consider sustainable irrigation practices.

Figure 4.3. A rain barrel or series of rain barrels can provide non-potable water for your garden or for cleaning. *Photo courtesy of Laurie Harmon*

Your community garden is best located near a building or other roof where rainwater can be collected in a rain barrel (Figure 4.3). Water can also be collected in an underground tank or cistern and pumped for use in watering your garden. This water is safe for plants but should not be consumed by people. Harvested water can also be used for cleaning and other dirty jobs.

How much rain water do I need?

The amount of water needed depends on the square footage of garden area and where you live. In hot, dry areas of the country, transpiration (the loss of water from the plant) occurs at a faster rate, which requires more water to be applied to the plants to maintain the required soil moisture. The following general rules can be used to estimate your water demand (Pushard, 2010):

Daily Consumption

Gardens/Lawns: 600 gallons per 1,000 square feet

Young Trees: 15 gallons each

Figure 4.4. Drip irrigation at a community garden in St. Louis, MO.
Photo courtesy of Gateway Greening

How much rain water can I collect?

The formula for figuring out your water supply (how much rain water you can collect off your roof) can be expressed as:

roof square footage x .623 gallons per square inch of rainfall x annual rainfall

(Pushard, 2005)

Obtain your annual rain fall information from NOAA's Climate Data Center (http://cdo.ncdc.noaa.gov/cgi-bin/climaps/climaps.pl) and use the driest month in the water supply calculation to factor in the worst-case scenario for your region. A cubic foot of water is equal to 7.48 gallons, which when divided by 12 (i.e., inches in a foot) equals .623 gallons per inch of rain. This gives you the basics for determining your water supply likely to be available during a season.

It is also important to have domestic, potable water available for consumption and interaction with children. In this case, you'll want to provide at least one potable water access point (e.g., a pump or spigot). Drip irrigation (a system of hoses perforated with small holes) is a good way to get as much water as possible into the soil with minimal water loss to evaporation (Figure 4.4). As with the other sustainable practices, remember that you can capture water from leaking spigots and hoses in a bucket for use in your garden. ***Use water two or more times if possible. Use every last drop!***

Figure 4.5. A small composting bin has slots for air circulation and can be easily accessed. *Photo courtesy of Laurie Harmon*

Composting

Another beneficial and sustainable practice is composting. Composting not only provides an organic source of nutrients for your garden soil, it also makes great use of leaf litter, grass clippings, and other easily decomposed organic matter that is generated in huge volumes in a park setting.

Additionally, composting programs can be designed to encourage children and families to compost at home, at school (as part of a lunch composting program), or by bringing their organic matter and fruit and vegetable peelings to a common facility in the park. This gives your

gardeners a sense of ownership and empowerment while providing an educational opportunity to understand how some kinds of waste can become part of the growing cycle. Table 4.1 provides an excellent set of composting rules to guide your composting program.

Table 4.1. Rules of Composting

Step	Guidelines
Containment	First, you need a containment area. This might be something as simple as an outdoor space defined by three tall sides. Salvaged pallets can be used for this purpose, for example. Be aware that compost can often "disappear" directly into the ground as it spreads out and naturally decomposes. Composting bins can also be created from cast-off plastic containers or purchased.
Air-flow	Composting requires good air flow.. Your container or containment area must have air in order for the materials to decompose. Make sure your container can be perforated with holes.
Turn-over	Turn your compost over often to add fresh oxygen and encourage decomposition to occur more quickly. Turn the material over with a garden fork every 14 days or so. A compost tumbler can also be used to make this easy. You can find detailed information about composting your organic matter from your local Agricultural Extension Agency.

Composting Projects

Young gardeners can become involved by building their own composters. Two projects are described below.

A. Mini-Composter

A "mini-composter" can be made of an empty plastic 2-liter soda bottle filled with fruit or vegetable peelings. This mini-composter works as well as the larger compost bins and has the added attraction of being easily observable. Kids can take this project home, watch the speed of composting their own materials, and bring it back to their community garden to use.

B. Counter-top Worm Bin

When you are short on outdoor space, consider a kitchen composting solution. Inspired by Appelhof's (1997) booklet, *Worms Eat My Garbage,* Emily Wray created a counter-top worm bin made out of four Rubbermaid-type containers (Figure 4.7). Look for stacking and interlocking containers that can be purchased at home improvement stores. Drill holes in the lid and the bottoms and sides of three of the four trays for air movement and worm migration.

The bottom (fourth) tray collects excess moisture and should not have holes. To start your worm composter, put a handful of non-sterile soil and shredded paper between each container layer so that it is just below the air holes of the upper container. Add dirt, paper, kitchen scraps, and worms to the

Figure 4.6. A composting area is defined by simple wood sides and fence-style gates. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

Figure 4.7. The finished counter-top worm bin.
Photo courtesy of Emily Wray

http://www.organicgardening.com

http://www.sustainable-gardening.com

http://www.organicgardeningguru.com

Quality Assurance Organic Certification:
http://www.qai-inc.com/0_0_0_0.php

Organic Trade Association:
http://www.ota.com/index.html

The Organic Center:
http://www.organic-center.org/

For organic certification go to: http://www.usda.gov and type in "Organic Certification"

For an overview of what antioxidants are:
http://www.healthcastle.com/antioxidant.shtml

Figure 4.9. Helpful links for connecting with community gardeners and organic gardening sites

top tier of the container. When it is full, rotate it downward one level and place the bottom tier, which will now have the most-decomposed matter (compost), on top. Use the compost in your garden, and fill the top container with more dirt, paper, and kitchen scraps. The bin occupies about 1 cubic foot of space on a counter top and can handle the kitchen scraps of a few home-cooked meals per week. The counter-top worm bin method averages a one-month cycle from raw scraps to fully composted worm castings.

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Once you have your garden in place, it is time to determine what best to plant. Experienced gardeners often have a plan in mind for their garden plots. However, novice gardeners may benefit from information that the park district can provide. Help build gardeners' confidence with plants that have a strong chance of success – think fast-growing and low maintenance.

Easy to Grow - Low Maintenance Plants

Plants that tend to grow quickly also have the advantage of providing fruit quickly and are less likely to encounter frequent pest problems. Table 5.1 provides a list of good candidates for quick-growing garden plants.

Table 5.1. Easy to Grow/Low Maintenance, Quick-Growing Fruits and Vegetables

Plant	Notes
Basil	Basil is extremely easy to grow. It grows in dense clumps that can be harvested frequently.
Eggplant	Eggplant needs full sun, hot weather, and rich, well-draining garden soil. Keep the soil moist to promote maximum growth. Harvest can usually take place in 55 to 70 days from sowing. *Note: Eggplant is a hot weather crop. It is susceptible to cold temperatures and frost. Delay planting in the spring until nighttime temperatures are in the upper 40s.
Lettuce	Lettuce can grow in full sun to partial shade. It prefers rich soil that holds water. It thrives in cool weather and will do best in spring and fall. Do not sow seeds until all danger of frost has passed. While lettuce is a cool-weather crop, most varieties will succumb to even a light frost. Loose-leaf lettuces go from seed to your table in 3 to 4 weeks. Loose-head and heading varieties take several weeks, depending on the variety. Bunnies like lettuce; a rabbit fence may be needed to keep the critters out. Slugs are also a common problem.
Parsley & Cilantro	Parsley and cilantro both grow fast and furiously and can be harvested within three weeks of planting. As a general rule, you can harvest up to 20 percent of a leafy plant like parsley and the plant will quickly rejuvenate itself.
Peas	With a short growing season of 50 to 60 days from planting to harvest, peas are a great way to start the garden. Peas need well-drained soil and do well in raised beds and large planters. Provide a medium-height trellis (3 to 4 feet) for the peas to climb.
Radishes (Figure 5.2)	Radishes are a very fast-growing plant and are relatively hardy. Most varieties have a relatively shallow root system, and sprouts emerge within days of the seeds being sown. Radishes are typically ready for harvest after just 30 days. Look for unusual varieties that have different shapes and colors.

Plant	Notes
Spinach	Spinach grows in full sun to partial shade and can grow in rich to average soils. Spinach plants are a hardy, cool-weather plant that will withstand light frosts. Plant as soon as the ground can be worked in the spring. Fertilize when planting seeds and then again about 2 weeks later. Provide ample amounts of water to keep the soil moist. Weed around plants early and often. Spinach will usually mature in 45 to 50 days from sowing. Rabbits also like spinach; a protective fence may be needed.
Strawberries	Strawberries are low maintenance, take up little space, and provide good ground cover; the border can grow in very small spaces, including hanging baskets. Cultivars to consider include *Cardinal, Surecrop, Ozark Beauty, Tribute, and Tristar.* Check for other options specific to your climate.
Tomatoes (Figure 5.1)	Tomatoes are low-water vegetables and grow with minimal effort. Grow them in full sun. They will need to be supported by a tomato cage or other vertical support. Err on the large size – one plant will get bigger than you think. Squirrels and other creatures have been known to steal tomatoes right off the plant. Provide protective fencing or a full cage around the plant. Watch out for tomato hornworms that will devour the entire plant. Save and dry tomato seeds to start plants next time.
Zucchini & yellow squash	Zucchini and yellow squash will grow immediately and can be harvested anywhere from 45 to 70 days. They need minimal fertilizer and water every 2 to 3 days. The vines and leaves of the plants can easily take over an entire garden plot (something to keep in mind!). They are also very susceptible to the cold and frost.

Unusual Plant Varieties

Interesting plants with unexpected colors, shapes, and tastes – as well as those that can provide more than one food source or have unusual names – can be fun to grow in the garden. Some examples include squash, heirloom tomato varieties, and radishes.

Squash

One of the interesting abilities of squash is its tendency to cross-pollinate and produce unique crops for each garden, but this only occurs if the seeds are harvested and replanted. This can result in some very exotic and tasty squash. These kinds of exotic-looking squash can be great for fall decorating, and you might see varieties such as:

1. Fairy tale pumpkin squash
2. Carnival squash
3. Delicata squash
4. Turban Squash
5. Patty Pan Squash

Squash can also be eaten at various stages of its growth. For example, squash flowers are a delicacy that can be harvested, breaded, and fried. The squash fruit can be cut up and steamed, baked, sautéed, eaten raw, and even shredded to be added to zucchini bread as a delicious dessert.

Spaghetti squash has a unique quality – once steamed (for about 20 minutes), the inside can be shredded with a fork, drained, and covered with fresh marinara sauce. Yes, it looks just like spaghetti, except its fresh quality, high fiber, high nutrient, and low caloric count make it an exceptionally healthy substitute.

Figure 5.1. Unusual shapes and colors can make even tomatoes a unique attraction in your garden. *Photo courtesy of C.R.O.P.S.*

Tomatoes

Tomatoes are another fruit (yes, a fruit, not a vegetable!) within which we can find a variety of shapes, sizes, and colors. Cherry and plum varieties can be eaten in one bite; heirloom varieties, such as those pictured in Figure 5.1, offer a multitude of unusual shapes and colors with exceptional taste.

Radishes

Radish varieties grow in many sizes, shapes, and colors – including the white, carrot-shaped ones shown in Figure 5.2. They are a delicious and colorful addition to any salad or are quite yummy eaten on their own.

Figure 5.2. Beautiful and unusual radishes *Photo courtesy of City of Sacramento Department of Parks and Recreation*

Flowers and Companion Plants

Beyond produce, it can also be very exciting and beneficial to integrate flowers in your garden plot or in the common areas. Flowers offer an attractive addition to the garden, and including a variety of flowers increases the numbers and types of pollinators your garden will attract, thus enhancing good pollination. (See Figure 5.3.) When you choose flowers, you'll want to choose those that best suit your climate, need minimal water, and flower at various times throughout the season. Other advantages (or disadvantages depending on the goal for your community garden) include the flower's ability to reseed and its hardiness. See the USDA Hardiness Zone Map in *Chapter 2: How to Build a Community Garden* for more details.

Figure 5.3. Flowers in the community garden. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

Companion plants are particular flowering plants and herbs that have the added benefits of improving your soil, increasing propagation, and keeping pests away. Try these plants for a natural way to keep your garden healthy (Adapted from Clever Companions, *This Old House*® magazine, June 2010).

Figure 5.4. Lavender not only provides useable blooms for humans but is a great butterfly attractant and requires little water to grow. *Photo courtesy Laurie Harmon*

A. Lavender

Lavender makes an excellent addition to any community garden. (See Figure 5.4.) It reseeds itself annually and can be harvested, dried, and used for bouquets, sachets, and soaps. In addition, the lavender plant is a great pollinator attractant. Plant with fruit trees to discourage flees and moths while attracting beneficial insects such as bees, ladybugs, and praying mantises.

B. Garlic

Garlic is an Allium and has an attractive flower. Having so many uses in recipes, garlic is a great plant to grow. But did you know that it can help your garden prosper? Plant garlic with raspberries, cucumbers, peas, lettuce, and celery to repel aphids, japanese beetles, and spider mites from your garden.

C. Sweet Alyssum

This plant is a sweet-smelling ground cover that attracts predatory wasps and hoverflies that feed on aphids. Plant it with potatoes, broccoli, beans, corn, and eggplant.

D. Borage

Borage or Star Flower is an annual herb that is eaten or used as a medicinal plant by many around the world. When planted in the garden next to strawberries, cucumbers, squash, and tomatoes, it can repel tomato hornworms. This plant is also known to add minerals to the soil to help with disease resistance and improve the taste of fruits and vegetables.

E. Mint

This quick-growing, useful herb deters ants, fleas, aphids, cabbage moths, and rodents. Plant it with tomatoes and cabbage. Mint also attracts earthworms to your garden for better soil aeration and nutrients. Be warned, mint can spread rapidly and be difficult to remove. Plant it in a bottomless container in your garden to keep it in check.

F. Alfalfa

This plant adds important minerals to your soil while growing. It is a perennial that provides benefits to lettuce and beans and other legumes.

G. Scented Marigold

Plant these happy flowers in dense clusters around your garden. They are a benefit to all plants and can add a finished look to your garden. Scented Marigolds emit a substance that drives away root-feeding nematodes and white flies.

H. Nasturtium

Nasturtium is an edible flower that is attractive when growing and attractive as a garnish on desserts and in salads. This flower also provides benefits to cabbage, cucumbers, radishes, and fruit trees by repelling squash bugs, whiteflies, and cucumber beetles.

Starting Seeds

Using plant seeds is an economical way to grow vegetables, flowers, and other plants in your garden. Seeds offer several advantages over young plants – one is not dependent on the weather, frost conditions, or timing of the growing season. You can gain 4 to 6 weeks of plant maturity time, which is an advantage for gardeners in any region but particularly ones in regions with short growing seasons. Seeds can be purchased wholesale by the park district and are often available through grants.

There are a few ways to start your seeds – in containers, in a cold frame, or directly in your beds. If you are in a location where the spring temperatures are not very predictable, you may want to consider starting your seeds indoors in containers or in a cold frame.

A. Cold frame

A cold frame is essentially a miniature greenhouse that is positioned in a southerly direction to take advantage of the warming effect of the early spring sun. (See Figure 5.5.) They can be purchased or constructed out of wood and plastic sheeting or old windows. A cold frame allows seedlings to be started outside before growing season.

Figure 5.5. A cold frame at the Missouri Botanical Garden Center used to start seedlings in cold Missouri spring months. *Photo courtesy of Laurel Harrington*

Figure 5.6. A gardener's table provides a central location to plant potted seeds, clean pots, or other garden-related projects. *Photo courtesy of Laurie Harmon*

B. Pots and containers

You can easily use paper cups, peat pots, or plastic or wooden trays. Be creative, but remember the type of container you start with can determine how you plant. For example, using a peat pot or biodegradable paper cup enables your gardeners to plant the pot and plant as one (i.e. they can dig a small hole and drop in the plant while still in its pot). Plastic or wooden trays, however, will require gardeners to remove the plant from the tray before installing it in the garden.

C. Sowing

If you are in a location where you can rely on warm temperatures in the spring, or if you do not have a location to start seed germination, you can also plant your seeds directly in the garden soil.

This reduces the number of steps to get your garden growing. Water or irrigation will need to be available once the seeds are sown.

D. Planting bench

Whichever method you choose, it is very helpful to have some kind of gardening table or bench available for your gardeners. (See Figure 5.6.) These can be easily constructed with leftover 2 x 4 materials. A key component of the table is to ensure it is designed at a height and with a clearance that accommodates a wheelchair. You may also choose to build an extension ledge to allow for individuals in wheelchairs to roll up to the table. The table should be located in an area where soil spillage and overwatering will not create a maintenance problem.

E. Foundations for plants

Vining plants, such as peas or runner beans, and floppy plants, such as tomatoes, need a structure when they are growing. There are multiple strategies, but whatever strategy you choose, simple is best. If your park has a heavily wooded area, you may have an easily accessible source for creating a pyramid-style pole structure. (See Figures 5.7 and 5.8.) A basic trellis-style structure can also provide support for plants, and some plants (e.g., squash and tomatoes) can be trained or tied to the trellis. Not only does

Figure 5.8. Colorful, twisted metal supports for tomatoes at the Missouri Botanical Garden add an aesthetic element in the garden. *Photo courtesy of Laurel Harrington*

this allow the fruit to stay off the ground and make it easy to pick, it also reduces the rotting of the vegetables.

Weed Control

Controlling the weeds in a garden is important because they compete for nutrients with the plants you are trying to grow. Additionally, excessive weeds can make it difficult to access the fruit and encourage infestation of other unwanted garden pests. How can you keep the weeds down without using excessive chemical control? It's likely you and your gardeners will need to do some hand-pulling. You can also cultivate with a myriad of cultivating tools. However, the majority of weeds can be kept to a minimum by simply mulching your garden. See *Chapter 4: Organic and Sustainable* for composting and mulching information.

Figure 5.7. A simple, pyramid-style pole structure provides support for climbing plants such as runner beans and peas in the Thomas Jefferson garden in Virginia. *Photo courtesy of Laurie Harmon*

Weed control is an area where sponsors' employees, parents, and others not directly involved in the community garden can make a difference and become stakeholders. A weeding volunteer day provides an excellent way to keep the garden going. For children and adults, learning the difference between a weed and a favorable plant can be helpful with developing life-long learning skills and understanding about plants.

Additionally, planting a combination of fast-growing plants along with the slower growing plants can reduce the likelihood of weeds taking control. Table 5.2 provides a short list of plants and their corresponding ability to suppress weeds.

Table 5.2. Weed-suppressing ability of garden plants. *Courtesy of North Carolina State University Agricultural Extension*

Good Weed Suppressants	Poor Weed Suppressants
Squash	Lettuce
Beans	Carrots
Pumpkins	Peppers
Cucumbers	Greens
Sweet corn	Onions
Melons	Broccoli/Cabbage
Potatoes	Radishes

References

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Recreation Programming

Your garden does not have to be just for growing vegetables; it can be beautiful and playful, too. As a park district, you are in a unique position to integrate recreation into the planning and implementation of the community garden. Use the planning phase of the garden as the first step in building community and introducing recreation. Dedicate common spaces in the garden for park programming or passive recreation for park-goers in addition to the garden plots set aside for individuals. Dedicate spaces for children to get their hands dirty – even if the results are not ideal. Refer to Table 6.1 below for sample programming ideas that integrate recreation at all levels.

Phase	Event/Program	Possible Outcomes
Planning Phase	▪ Community meeting/open house ▪ Educational sessions on garden-related topics ▪ Guest speakers – master gardener and landscape architect ▪ School/child activities – researching plants, etc. ▪ Science club events/activities – soil tests, water conservation, insect identification ▪ User surveys	▪ Gauge interest ▪ Wish list/concerns list ▪ Volunteer commitments ▪ Partnerships ▪ Community aspirations
Design Phase	▪ Design "charrette" for kids and community ▪ School/child activities – starting seeds, etc. ▪ Guest speakers – landscape architect, peer park district professional	▪ Kid/community design ▪ Sense of ownership ▪ Partnerships ▪ Big-picture design
Fundraising Phase	▪ Donate or "adopt" a plant event ▪ Naming opportunities/recognition event – entry gate, features, benches, etc. ▪ School/child activities – PTO support, plant sale, etc. ▪ Guest speakers – Mayor, alderpersons, community leaders in support	▪ Sense of ownership ▪ Off-set of cost ▪ Partnerships
Implementation Phase	▪ Community-build event ▪ Events with schools/kids – planting school garden, etc.	▪ Sense of ownership ▪ Pride in accomplishment ▪ Community-building
Full-time Maintenance and Programming Phase	▪ Schools/ child activities – weeding, watering, harvesting, planting (field trips) ▪ Guest speakers – master gardener, storyteller, chef, etc. ▪ Interpretive signage ▪ Gardening classes ▪ How to plant a garden ▪ Low-water vegetables	▪ Maintain garden's relevance ▪ Renew volunteer commitments ▪ Attract new users ▪ Maintain sense of pride and ownership ▪ Attract new partnerships ▪ Continue to gauge interest

Phase	Event/Program	Possible Outcomes
Full-time Maintenance and Programming Phase	- Ornamental and heirloom varieties - Water conservation - Natural pest control - Medicinal plants - Companion plants, etc. - Educational topics/sessions - Insects of the garden - Native plants - Soil chemistry - Cooking classes - Canning - Child-focused cooking - Seasonal events – planting and harvesting - Community meeting/open house - User surveys - Plant/produce sales - Farmers market - Craft projects - Club and association use - Horticultural therapy	

Edible Recreation – **Visual Interest, Education, and Fun**

Your garden can be beautiful as well as functional. Think of your community garden as another place to showcase the care your park facilities receive. In addition to the plots that will be leased to individual gardeners, look for areas in the garden design to incorporate visual interest and specialty gardens that support recreation programming throughout the seasons. The garden should welcome passive park visitors and reward them with attractive displays, interpretive signage, and features that bring out a child's imagination. Below are some ideas for introducing visual interest, programming, education, and fun into your community garden:

Garden Structures

There are multiple garden structures that can enhance your garden. Most can be used as play areas but also have the advantage of increasing access to the fruiting bodies during harvest time.

1. **Sunflower House** – Mark out an 8' x 8' square or an 8-feet diameter circle in a lawn or soil area in full sun. Create a narrow trench along the sides of the square, leaving the area for the "door" untilled. Evenly space the seeds of a tall variety of sunflower (6 feet + height) in the trench, except where the door will be located. Plant the seeds close together, about 8 inches apart. Water and care for the plants as suggested on the package. Mulch the inside of the house, or maintain the existing lawn. Stake the sunflowers as needed to keep them from falling into the center of the house as they grow.

   Recreation and Programming: Plant the house with a group of children who will be able to return frequently to measure the growth of the sunflowers over time. Plant multiple houses for passive recreation use. Watch as children enjoy the intimate space that is created and use their imagination. Harvest sunflowers for sale and craft projects, or share the harvest with our bird friends.

Figure 6.1. The organic and sustainable garden area at North Bay Adventure Camp is designed to provide educational programs throughout the season. *Photo courtesy of Laurie Harmon*

2. **Gourd Tunnel** – Construct a sturdy arbor or pergola structure and include wire mesh or wire supports along the sides of the structure to completely cover the structure with vines. Provide 12- to 18-inch wide, continuous soil areas, or place large pots filled with soil every 2 to 3 feet along the side of the structure. Plant the gourd plants 2 to 3 feet apart, and train them to climb up and over the structure. (See Figure 6.2.)

Recreation and Programming: A magical space is created for young and old alike. Harvest and dry the gourds for sale or off-season craft projects.

Figure 6.2. A gourd tunnel is a wonderful place for enjoying a garden. *Photo courtesy of Silvis Garden Club*

3. **Bean Teepee** – Green beans are fun to watch grow – and yummy, too. Not only are they easy to pick, but kids can really enjoy them if you build a Green Bean Teepee as part of your community garden. (See Figure 6.3.) To build the pyramid, start with space that will allow for a minimum 6-feet diameter circle. Begin with eight to ten 12-feet-long bamboo poles, and place them in a circle; remember to leave a space for the opening that will become the doorway. Each bamboo pole should be placed in the ground to a depth of about 3 inches. Then, tie them all together at the top with some gardener's twine. Plant your beans – be sure to use a "pole" variety – around the outside of the circle and begin watering. The plants should sprout in a week; in approximately 6 weeks, the beans will be climbing the poles and spreading their vines, leaves, and beans around to create a wonderful play shelter that also provides enjoyable and nutritious food. And, best of all, vertically grown plants tend to be less susceptible to disease because they are above the ground.

Recreation and Programming: A magical space is created for young and old alike. Eat the beans right off the vine or steamed.

Figure 6.3. Kids enjoy the space that is created, and the beans are easy to pick.
Photo courtesy of Laurie Harmon

Theme Gardens

Theme gardens provide another opportunity to introduce variety to your community garden plot. While the examples provided below offer a starting point for ideas, we encourage you to brainstorm with your community gardeners and empower them to identify a personally themed garden.

1. **Pizza Garden** – Plant roma tomatoes, basil, greek oregano, bell peppers and onions for a classic Pizza Garden. Other vegetables, such as squash, zucchini, and eggplant could be added to roma tomatoes to create a rich, healthy sauce. The Pizza Garden can be planted in a pizza shape or grown together in a portion of your garden. Be creative with interpretive signage. See Container Gardens and Vertical Gardens for more ideas.

Recreation and Programming: Learning about the origins of fresh food can be reinforced by the tangible example of "Plant to Plate" demonstrated by the Pizza Garden. Prepare the sauce and assemble and bake the pizza near your garden for the best learning opportunity. (See Chapter 7 for recipes.) Dry herbs for off-season use and programming.

2. **Edible Flower Garden** – The blossoms from many plants are not only beautiful but edible. Provide interpretive signage for this garden to showcase many edible blooms. Edible blooms include those from pansies, lavender, gladiolas, chives, chamomile, squash, and many others.

   Recreation and Programming: Use edible blooms to garnish a dish prepared on-site or use them in a salad. Use this experience as a tie-in to learning the anatomy of a flower or parts of a plant that are safe to eat.

Figure 6.4. Squash is an attractive edible, flower. *Photo courtesy Laurie Harmon*

3. **Medicinal Plant Garden** – Plants have been used throughout the ages by native peoples to heal and cure ailments. Today, plants such as echinacea (purple cone flower) and St. John's wort provide the ingredients for herbal supplements that are available on the commercial market. A medicinal plant garden could highlight the plants that are native to your region and which were used by the indigenous people.

Figure 6.5. Purple cone flowers are one of many attractive medicinal plants. *Photo courtesy Laurie Harmon*

   Recreation and Programming: Interpretive signage, as well as programs, can provide education about the use of these plants and the indigenous people that lived in the area.

4. **Ornamental Vegetable Garden** – Highlight the ornamental features of your garden by placing ornamental vegetables in strategic locations where they can be enjoyed by park visitors. Look for varieties that have unusual foliage or fruit color or unusual shapes, such as bright red or yellow ornamental peppers or purple-colored sage or lettuces. Heirloom varieties are also interesting specimens. Planting pleasing arrangements of plants with contrasting colors, such as a bright green lettuce and a dark purple lettuce together, makes for a striking visual effect. Climbing plants such as beans, squash, and peas can be grown on attractive or whimsical supports to bring an element of height to the garden. Refer to Vertical Gardens below for more information.

   Recreation and Programming: Surprise your visitors with great design and interesting varieties. Children love discovering the unusual shapes and colors of familiar vegetables.

Figure 6.6. A purple variety of ornamental peppers is growing in an herb garden at the Missouri Botanical Garden. *Photo courtesy Laurel Harrington*

Figure 6.7. Peaches on the tree ready for eating. *Photo courtesy Laurie Harmon*

Figure 6.8. Apple tree lane at Missouri Botanical Garden. *Photo courtesy of Laurel Harrington*

Figure 6.9. Raspberry hedges at Hollins Farms offer family opportunities to pick berries together. *Photo courtesy of Laurie Harmon*

Fruits, Nuts, and Berries

The typical community garden is dominated by herbaceous annual plants (plants that die back in the winter and need to be replanted each year). However, you can also grow plants that continue growing year after year (e.g., woody plants such as fruit trees, nut trees, and berry shrubs) and add vertical features and year-round branching structure in the garden. One fruit tree can yield bushels of fruit to share or can. And it is that instant gratification of enjoying a juicy peach right off the tree that makes the effort all worth it.

1. Fruit and Nut Trees

Fruit trees typically require a consistent routine of chemical sprays. What should you do when you are looking to keep chemicals out of your garden and avoid additional maintenance? Contact your local cooperative extension agency to inquire about disease-resistant varieties available in your area. Other things you can do to avoid pests ruining your fruit include maintaining good soil chemistry, removing fallen leaves around the base of the tree quickly, and mulching the tree with compost throughout the seasons.

2. Berries

Berries such as strawberries, raspberries, blackberries, and blueberries are easy to grow and can find a place in your garden. Timing is everything when cultivating berries. Birds and many other animals will consume every last one unless you provide protection. Use chicken-wire fences and cages to protect your berries from hungry creatures. Nut trees and shrubs are also a great way to add variety and education in the garden. Be sure to post a warning on all nut-related plants and activities for those who have peanut and tree nut allergies.

Edible Landscaping

Design everything about your garden and use your garden to demonstrate ways to incorporate fruits and vegetables in everyday, residential landscapes – "Edible Landscaping." Space can be limited in residential yards – particularly small, urban yards. Edible landscaping could be a way that a homeowner can grow healthy food and maintain a residential appearance. Following are a few more ways your fruit and nut plants create an added benefit to your garden design.

1. Line your garden entrance with fruit trees or create a small orchard.

2. Create a hedge with blueberry or raspberries shrubs to define an outdoor room.

3. Plant hops or grapes on an arbor to create a shaded seating area.

4. Plant a specimen like contorted filbert to add a whimsical feature in the garden and winter interest.

Container Gardens

A bounty of fruits and vegetables can be grown in pots or hanging containers. Many vegetables and herbs are well suited to this environment. Look for dwarf or bush varieties or vegetables that require shallow soil. Plants that have similar moisture and sun requirements can be planted in the same container. Your containers can have a mix of plants that have a theme such as Herb Garden, Summer Salad Garden, or Pizza Garden.

As with any garden area, the planting soil and drainage is very important. In a container, there is a limited volume of soil available to the plant as well as moisture. Container gardens require more water and oversight to ensure that the plants are not damaged by over-drying. Make sure there are drainage holes in your container. Plants can also be damaged by soil that remains too wet. Container gardens are great for small areas, sites that are paved, and roof decks. Container gardens can also be moved into the sun if your area does not have full sun.

Container gardens have many advantages over raised-bed gardens. Most notably, they are: 1) compact; 2) easy to maintain; and, 3) mobile. These three advantages create recreation and programming options, such as mobile garden outreach– where the garden comes to the community instead of the community coming to the garden. Lowering maintenance is also an advantage for a park district or community group. A mobile garden is an asset that can also be moved to another location if you do not have a permanent community garden site. Following are several ideas for containers that make great gardens:

1. **Table-height Gardens** – Plantable tables can be purchased or constructed out of simple materials such as wood. These offer great ways to include children and people with disabilities or limited mobility in gardening activities. The table height allows for a person in a wheelchair to have direct access to the soil. Likewise, these tables are easier for groups of young children to use while standing.

2. **Pot Gardens** – Purchase containers, make your own, or use salvaged containers for your pot garden. Look for containers that will hold up in the elements and are water-tight. Puncture drainage holes in the bottom of the container, and raise it above the ground approximately 1 inch. The container should allow a soil depth of at least 8 to 12 inches. It is ideal to place soil over 2 to 4 inches of drainage material, such as clean stones.

Figure 6.10. The foliage of hops completely covers an arbor. *Photo courtesy of Laurie Harmon*

Figure 6.11. Contorted filbert or hazelnut is an attractive nut-producing shrub. *Photo courtesy of Laurel Harrington*

3. **Hanging Containers** – Select vegetables and herbs in vine-form, clump-form, and dwarf varieties. Tomatoes, squash, and herbs are good candidates. Do not be afraid to add flowers to the mix to make your containers beautiful and practical. The location of the hanging containers is an important consideration because they will need full sun. Avoid hanging them under a porch or eave of a house where there can be too much shade. Rotate containers frequently to allow all plants adequate light levels. Hanging containers can be purchased or made from recycled soda bottles.

4. **Unusual Containers** – Almost any container that can hold soil can be used for a container garden. Plastic gutters can be attached to a wall and turned into a terraced garden. Hanging shoe storage pockets can be used to grow lettuce, herbs, and small vegetables. Any large bucket, tub, or pot can have a new life as a garden.

Figure 6.12. Herbs in beautiful blue pots. *Photo courtesy of Laurel Harrington*

Figure 6.13. A hanging tomato planter at Missouri Botanical Garden. *Photo courtesy of Laurel Harrington*

Vertical gardens

If your area is tight on space or dominated by pavement, think vertical! Look for creative ways to hang your garden on a wall or train your plants to grow vertical. Another advantage to vertical gardening is that the harvest of your crop can be made accessible to children or to those in a wheelchair. Small spaces can encompass multiple vegetable plantings, such as rhubarb, climbing peas, and herbs. We have provided a few examples of vertical-style gardens here.

1. **Espalier** – For hundreds of years, fruit and nut trees have been "espaliered" (trained to grow flat and wide on a wire or support). You can use this strategy, among others, to conserve space in the garden, add an interesting feature, or add a plant that would not fit otherwise. Trees, shrubs, and vines can also be trained to grow in ornamental patterns.

2. **Garden Walls** – Garden wall systems are made up of a grid pattern of small cells that hold soil and plants. They can be purchased or constructed for this use. They are a space-saver and can dress up a blank wall. Walls with southern exposure are best for this type of garden. Be aware that the small amounts of soil can dry out quickly.

3. **Fence Gardens** – Do you have existing chain-link fences? Grow vine-form *vegetables such as squash, cucumbers, peas, and beans on the fence. Your fence is transformed into an attractive green wall for the summer and covered in easy-to-harvest vegetables.*

Figure 6.14. Metal gutter sections are container gardens. *Photo courtesy of Emily Wray*

Figure 6.15. An espaliered apple tree at Missouri Botanical Garden. *Photo courtesy of Laurel Harrington*

Figure 6.16. Simple wood boxes contain a vertical garden. *Photo courtesy of Laurie Harmon*

Figure 6.17. Vine-form plants grow on a custom community garden fence. *Photo courtesy of Laurel Harrington*

Figure 6.18. A columnar apple tree variety in a pot at Missouri Botanical Garden *Photo courtesy of Laurel Harrington*

4. **Columnar Varieties** – Special varieties of fruits and vegetables have been developed to grow in a vertical form. They make great focal points in the garden and are compact and easy to harvest. Look for these varieties in specialty nurseries or find them on-line.

Art in the Garden

Finally, why not consider every element of your community garden design an opportunity to integrate art? Local artists and artisans, as well as the community and children as a whole, can participate in an "art in the garden" program. This offers an excellent opportunity to introduce creative interest to your garden and to develop art-based recreation programs. Figures 6.19 and 6.20 show examples of art integrated into community gardens.

Regardless of which category of project you choose, integrating creative opportunities into your recreational community garden will greatly enhance your project. And, with any luck, you may even discover a new artist or two in your community!

Figure 6.19. An artful carrot bike rack. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

Figure 6.20. A whimsical cistern design *Photo courtesy of City of Sacramento Department of Parks and Recreation*

CHAPTER 7: FROM PLANT TO PLATE

When we think of gardens, we automatically think "healthy." And, we would be right! There are several reasons building a community garden can increase the health of your community. We often think immediately of the physical benefits of gardening as one positive outcome. Gardening can increase our flexibility, dexterity, and endurance.

And, of course, spending time outdoors gives us a spiritual as well as emotional lift. There is a plethora of evidence suggesting time spent in plant-filled outdoor spaces can increase our ability to problem solve, build our self-confidence, and improve our mood.

One of the most obvious health connections, though, is the nutritional and taste benefits of garden fruits on our plates at almost every meal. So what can we do with these fabulous fruiting bodies?

Food Groups
Although each of us has individual dietary needs (USDA, 2010), there are basic food groups from which we should be selecting healthy food. The five food groups are grains, vegetables, fruit, milk, and meat and beans. (See Figure 7.1.) Amazingly, community gardens can provide foods from three of these groups (i.e., vegetables, fruits, and beans).

Of course, it isn't always easy to figure out the best ways to serve these foods. In other words, we need ideas for how to incorporate them successfully into our meals. And, for that, we need a "good recipe." To find a good recipe that will likely be used, make it simple and, of course, yummy. It can also be important for recipes to represent a variety of ethnic backgrounds as well as to meet specific dietary considerations, such as vegetarian and vegan diets. Luckily for us, anything that comes out of our community garden can meet all of these needs.
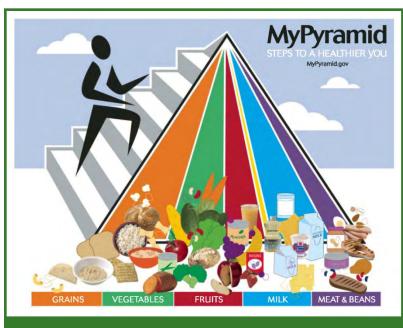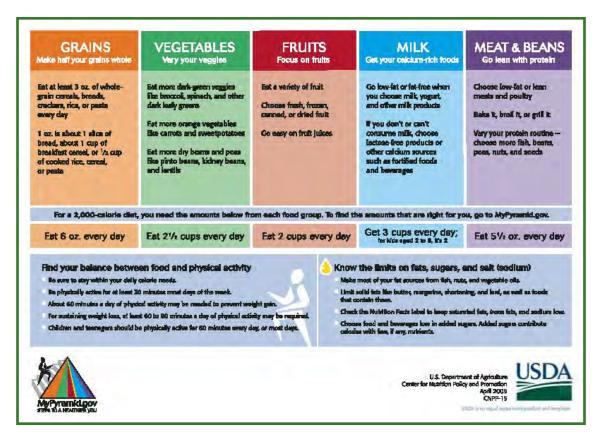

Figure 7.1. The USDA pyramid and listing of food groups recommended for consumption

National Recreation and Park Association

GRAINS Make half your grains whole	VEGETABLES Vary your veggies	FRUITS Focus on fruits	MILK Get your calcium-rich foods	MEAT & BEANS Go lean with protein
Eat at least 3 oz. of whole-grain cereals, breads, crackers, rice, or pasta every day 1 oz. is about 1 slice of bread, about 1 cup of breakfast cereal, or ½ cup of cooked rice, cereal, or pasta	Eat more dark-green veggies like broccoli, spinach, and other dark leafy greens Eat more orange vegetables like carrots and sweetpotatoes Eat more dry beans and peas like pinto beans, kidney beans, and lentils	Eat a variety of fruit Choose fresh, frozen, canned, or dried fruit Go easy on fruit juices	Go low-fat or fat-free when you choose milk, yogurt, and other milk products If you don't or can't consume milk, choose lactose-free products or other calcium sources such as fortified foods and beverages	Choose low-fat or lean meats and poultry Bake it, broil it, or grill it Vary your protein routine — choose more fish, beans, peas, nuts, and seeds

For a 2,000-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

| Eat 6 oz. every day | Eat 2½ cups every day | Eat 2 cups every day | Get 3 cups every day;
for kids aged 2 to 8, it's 2 | Eat 5½ oz. every day |

Find your balance between food and physical activity
- Be sure to stay within your daily calorie needs.
- Be physically active for at least 30 minutes most days of the week.
- About 60 minutes a day of physical activity may be needed to prevent weight gain.
- For sustaining weight loss, at least 60 to 90 minutes a day of physical activity may be required.
- Children and teenagers should be physically active for 60 minutes every day, or most days.

Know the limits on fats, sugars, and salt (sodium)
- Make most of your fat sources from fish, nuts, and vegetable oils.
- Limit solid fats like butter, margarine, shortening, and lard, as well as foods that contain these.
- Check the Nutrition Facts label to keep saturated fats, trans fats, and sodium low.
- Choose food and beverages low in added sugars. Added sugars contribute calories with few, if any, nutrients.

MyPyramid.gov
STEPS TO A HEALTHIER YOU

U.S. Department of Agriculture
Center for Nutrition Policy and Promotion
April 2005
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A. Recipes – Cooking your garden

In the previous chapter, we provided information about how to plant and what to plant in your garden. Below are a couple of "kid-friendly" recipes. With a little adult supervision, kids can be part of the cooking process.

Pizza Garden Crust and Toppings

Ingredients

1 package of quick-rise dry yeast
1 cup lukewarm water (warm but comfortable to touch)
2 tablespoons of olive oil
1 tablespoon of honey (or 1 teaspoon sugar; this is food for the yeast)
2 1/2 cups of flour
Fresh tomatoes (sliced)
Fresh basil and oregano (chopped)
Fresh garlic (one clove or less, finely chopped)
Eggplant (pealed and chopped)
Peppers (sliced or chopped)
Zucchini (chopped)
Onion (thin slices)
Mozzarella cheese (optional)

Directions

Dissolve the yeast with the warm water in a medium-sized bowl. Add olive oil, honey, and flower. Mix well by hand. Let dough rest for 5 to 10 minutes (covered by a towel). Spread pizza dough on a 13 x 9 greased pan. Lay out sliced tomatoes over the top of the pizza crust. Sprinkle finely chopped basil and oregano. You could add some cheese here, if you'd like, but it's not necessary. Sprinkle finely chopped garlic (Be careful; it can easily be overdone ☺.) Peel your eggplant, coarsely chop, and spread over the top. Slice or chop your peppers and zucchini (however you like them) and add those. Last, but not least, slice your onion thinly and spread over the top of your pizza.

Bake at 450°F for about 12 to 14 minutes.

Sliced tomatoes make a great pizza topping and base for sauce. But, maybe you have someone who wants to really get his or her hands "dirty" in the kitchen. If so, suggest making a pizza sauce from scratch and share this recipe:

Farmgirl Susan's Less Fuss, More Flavor Fresh Pizza Sauce

(http://inmykitchengarden.blogspot.com/2006/09/another-less-fuss-more-flavor.html)

Ingredients

2 to 4 tablespoons olive oil

3 cloves fresh garlic (finely chopped)

10 to 15 fresh tomatoes (chopped)

1 large handful of fresh basil (chopped)

1 large handful of fresh oregano (coarsely chopped)

Directions

Heat the olive oil in a heavy saucepan; then, add the garlic and cook for 1 to 2 minutes, stirring constantly. Do not allow the garlic to brown. Add the tomatoes, basil, and oregano and bring to a boil. Reduce the heat and simmer, stirring occasionally, until most of the liquid cooks out. Cooking time will depend on the juiciness of the tomatoes.

When there is still some liquid left in the pan, carefully puree the sauce using a blender (Be cautious because the hot liquid can easily scald you.) Bring it back to a boil, and continue simmering until desired consistency. Let cool, then spread on pizza dough.

Soup for you

Beyond pizza, another good option – and one that can be eaten on its own or with a sandwich or main dish – is a good and healthy soup. Here, we offer a recipe for two easily grown garden plants: Leeks (similar to onions but milder and larger – and quite delicious) and potatoes.

Leek and Potato Soup

(http://www.angelvalleyfarms.com/recipes/leek_soup.htm)

Directions

1 bunch leeks, cut into 1/4" rounds (Use the white and the light-green parts of the leek.)
1 1/2 pounds red or Yukon gold potatoes (chopped)
7 cups water or vegetable stock
milk or half & half (or 2 tablespoons horseradish; see recipe)
salt and pepper to taste

In a soup pot, sauté leeks in butter or olive oil and cook over low heat, covered, until beginning to soften. Add potatoes, water (or stock), and salt and bring to a boil. Lower heat, and simmer until the potatoes are soft to the point of falling apart. Press a few against the side of the pan to break them up and give the soup body. If needed, thin the soup with milk and heat thoroughly, adding salt and pepper to taste. As an alternative, don't use any milk, and add 2 tablespoons of horseradish toward the end of cooking (You can add more water, instead of milk, if needed.)

The recipe serves 4 to 6 people.

For more recipes, check out the links provided in the Resources section of this handbook.

B. A family affair

When we're coming together to make something wonderful from our harvest, we provide an excellent opportunity to bring the family back together. We know that in this fast-paced world, we tend to create fewer opportunities for sharing meals. Mealtime has, historically, been an excellent time to talk about daily challenges and successes. When we come together to cook as well as to eat, we make the opportunity to reconnect with our family as well as our community. (See Figure 7.2.)

Figure 7.2. A family enjoys the "fruits" of their labor after picking raspberries at their community garden. *Photo courtesy of Laurie Harmon*

References

United States Department of Agriculture. (2010). *Dietary Guidelines for Americans.* Retrieved from http://www.mypyramid.gov/.

In previous chapters we discussed opportunities and challenges associated with various parts of the community gardening process (e.g., planning, design, implementation, and planting). However, there are other unexpected challenges that may crop up along the way and, oftentimes, recur sporadically. We call these "growing pains." It is important to be aware of these outside forces you might encounter, such as unauthorized harvesting by people, pests, and disease. Our goal is to help you be proactive and aware so you can anticipate the actions that may help you defend your garden against these outside forces.

Unauthorized Harvesting by People

One of the most intriguing problems you may encounter is unauthorized harvesting. Gardeners, quite understandably, are interested in harvesting the fruits of their labor, whether for consumption or sale. However, there are also people who may be interested in harvesting who have not contributed to the growing process. Generally, there are three categories of unauthorized harvesting: 1) need-based; 2) vandal-based; and, 3) profit-based. It's important to consider that some people may be removing vegetables and fruits from your garden because they are motivated by hunger. Your garden may also be the only place to obtain fresh produce in the immediate area. Ask around the neighborhood and investigate your theft to uncover the motivation. Most community gardens organizations have found that fencing and a locked gate is the best deterrent to theft and vandalism. More importantly, is there a way community gardeners can help address a potential community issue (e.g., feeding people with limited access to fresh fruits and vegetables)?

Unauthorized Harvesting by Critters

Animals and insects are also known to participate in unauthorized harvesting. However, unlike humans, they do not recognize societal boundaries in their quest for survival. And, they are, generally, only prevented from harvesting through methods that restrict their access to the garden. It is virtually impossible to eliminate every non-human, unauthorized harvester from your garden; however, there are strategies we can employ to reduce their interest in, and access to our gardens. (See Table 8.1.)

Figure 8.1. Attractive fencing around this small community garden blends with the neighborhood character. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

Table 8.1. Unauthorized harvesting and how to minimize its impact

Source	What Might Be Harvested	How to Minimize Unauthorized Harvesting
Humans in need	All produce	Allocate a "free zone" – no authorization needed for harvesting in this common area. Look to partner with organizations that are helping people in need.
Human vandals	All produce and possibly other damage	Notify your garden advisory board and your stakeholders. Talk to neighbors and parents (eyes on the street). Create a culture of respect.
Insects	Vegetable, fruits, foliage, and roots (above- and below-ground damage)	Contact your local cooperative extension agency to obtain help to identify your problem, and receive organic pest control solutions to try. See also *Chapter 5: Get Your Garden Growing* for companion plants.
Deer	Green, leafy plants – think anything in a salad (above-ground damage)	Construct deer fencing/trellis (8'-high minimum). Plant deer-resistant plants. Hang fabric softener sheets.
Slugs	Root vegetables, such as carrots and beets (below-ground damage)	Create a copper tape barrier around plants.
Rabbits and Squirrels	Green, leafy plants and their fruits – think anything in a salad (above-ground damage)	Cover the garden in netting or use a full chicken-wire cover. Use a protein-based fertilizer such as bone meal. Hang soap around the garden.
Groundhogs	Green, leafy plants – think anything in a salad (above- and below-ground damage)	Fence the garden. Extend the fence 24" below the ground.
Moles and Voles	Root vegetables, such as carrots and beets (below-ground damage)	Fence the garden. Extend the fence 24" below the ground. Overlap the lower portions of the fence with a fine mesh before burying.

Building a Community Garden in Your Park

Figure 8.2. Simple, raised strawberry beds – covered with netting to keep deer and rabbits away. *Photo courtesy of Natalie Perez*

Helpful Harvesters

Not only do community gardens give people a chance to learn about planting, growing, harvesting, and consuming healthy foods, they also provide opportunities for learning more about the symbiotic relationships happening every day in outdoor environments. A great example is the way we think about bugs. Although it sometimes might seem like it, not all bugs are harmful to gardens. One of the most interesting and helpful garden residents is the praying mantis. (See Figure 8.3.)

Other "good" bugs – or bugs that are not interested in your garden but, rather, are interested in other potentially destructive insects – include wasps, aphid lions, ladybugs, and spiders. (See Figure 8.4.) We can encourage these bugs to stay around our gardens by avoiding pesticide use and planting flowers that attract them, such as Butterfly Weed, Marigolds, and Yarrow. See *Chapter 5: Get Your Garden Growing* for how to attract beneficial insects with companion plants.

Figure 8.3. A praying mantis in your garden ensures the reduction of smaller insect pests who might find your future harvest a banquet. *Photo courtesy of Laurie Harmon*

Figure 8.4. Members of the arachnid family, like this garden spider, are excellent defenders of your garden crops. *Photo courtesy of Laurie Harmon*

In general, it is always a good idea to examine whatever evidence of harvesting you find in your garden in detail. This will allow you to identify the source and, more importantly, determine your best possible solutions.

W hew! You have planned, designed, built, and grown your garden community! And, you did it all as a collaborative effort with your community. If you have not already shared the message, it's time to think about ways to do that.

Communication

Consistent and timely communication lends credibility and permanence to your project before it is built and long after the ribbon cutting. Develop your format for communication before you build the garden. You will need:

A. **Photo release –** You'll be amazed at how many times people may want to hear about the progress, stories, or successes of your community garden. Be prepared to shower them with images, before and after, as well as stories of your "lessons learned."

B. **Contact List –** Determine with whom you will want to share your story and at what stage. The contact list should include potential partners as well as stakeholders. Continue to add to this list as new partners and supporters are identified. Newspapers; community organizations (people who may even want to partner with you); politicians; families in the neighboring community; and local educational institutions (colleges and K-12) are often interested in knowing what is happening in their community. They can often be an additional source of resource support, too!

Strategies

As park and recreation professionals, we have a myriad of communication resources available at our fingertips. But, we must remember that not everyone accesses information in the same way. Therefore, it will be important to consider the audience you hope to reach before you make the decision regarding the most effective way to share your message. As a quick note, any of these strategies noted in Table 9.1 can be used effectively at any stage of your community project (e.g., pre-planning, planning, designing, building, planting, growing, harvesting, or post-harvesting).

Table 9.1. Strategies for sharing information about your community gardening project

Message-Sharing Strategy	Opportunities	Challenges
Newspapers (local, regional, national)	▪ Wide distribution depending on choice of paper. ▪ Local papers can be low-cost or free. ▪ Reporters are always looking for a new "story.. ▪ National papers can provide extensive readership.	▪ Not everyone reads the paper in your community.
Social Media (Facebook, Twitter, YouTube, MySpace, FlickR)	▪ No cost to use. ▪ Reaches audience immediately. ▪ Can be easily shared between audience members. ▪ Useful for posting large images and video, as well as written content. ▪ Young people are easily engaged with social media. ▪ New technology (e.g., Flip phones and other phones with video capture) increases the ease of posting videos without requiring editing software.	▪ Social media may require audience to sign up for accounts. ▪ For individuals with limited comfort levels or access to social media, this is a less effective method of information-sharing. ▪ Posting may require knowledge of developing "podcast."
Garden-related communities and organizations	▪ Organizations have a direct interest in all things "gardening" and may be immediately enthusiastic about sharing information.	▪ These groups may be limited to individuals already interested in gardening.
Local politicians	▪ Your project can be a "jewel." ▪ Engage your local politicians early and your success can be shared via their enthusiasm.	▪ Engaging politicians once the project is complete can be more difficult – generally, they would like to be known for contributing to a project's success.
Internal resources - National Recreation and Park Association (NRPA)	▪ These offer a good way to reach a national audience and share ideas.	▪ These may be limited to membership access.
Webinar	▪ This provides an excellent opportunity for outreach at the local, national, and international levels.	▪ Not everyone has access to the Internet.

Summary

In the appendices, you will find resources for developing and sustaining your community garden project. In addition, *Appendix B: Our Community* provides success stories from other communities that have implemented community gardens. If you would like to hear more about other community projects, check out the National Recreation and Park Association's website at http://www.nrpa.org (specifically, see the article *Bloom to Grow* at http://www.mrsc.org/artdocmisc/M58Bjornson.pdf).

As with any handbook, this is intended to get you started on your community garden and to facilitate your ability to sustain the project. Once you decide a community garden is the right project for your park, remember to also keep an eye out for updates, stories of challenges and successes from your colleagues, and opportunities for partnerships. We hope this handbook provides you with key basics, and we wish you much success in your community garden project!

This is a representation of the resources available with respect to community gardening, sustainable gardening, and more. New programs, organizations, and resource websites are introduced on a regular basis and we encourage you to return for updates.

Farmers' Markets

Visit the **USDA's Agricultural Marketing Service** at http://apps.ams.usda.gov/FarmersMarkets/ to find out more about your local farmers' markets. Not only can this be a place to take your produce, but many markets now provide opportunities for patrons to use WIC vouchers and offer supplemental assistance to provide everyone with healthy foods.

The number of farmers' markets licensed to accept **Supplemental Nutritional Assistance Program (SNAP)** benefits (formerly food stamps) is increasing nationwide. As people discover the benefit of buying fresh, nutritious, local products, farmers and farmers' markets are seizing the opportunity to broaden their customer base by adding a SNAP payment option. For more information on SNAP, visit http://www.fns.usda.gov/snap/ebt/fm.htm

The National Association of Farmers' Market Nutrition Programs (NAFMNP) is a non-profit corporation focused on cultivating opportunities for consumers to buy fresh produce from local growers. It is the only organization in the nation that links the states, the District of Columbia, Indian Tribal Organizations, Territories, and others with a stake in the USDA's Farmers' Market Nutrition Programs (including local fruit and vegetable growers, low-income families, and seniors) with a shared mission. For more information, visit http://www.mrsc.org/artdocmisc/M58Bjornson.pdf.

Composting

At http://www.epa.gov/osw/conserve/rrr/composting/live.htm, you can choose your region or state from the map to find information about **regional and state composting programs**. This site includes information regarding how to compost, regional groups participating in community composting projects, state-by-state contacts, and more.

Programs

The Garden Raised Bounty (GRuB) program in Washington state is a program for youth from low-income families. Participants receive garden plots, nutritional information, and lessons on how to cook with fresh produce. For more information, visit http://www.goodgrub.org/index.php/page/show/home.

Grow Local is a project in Colorado developed by community leaders, gardeners, locavores, farmers, and businesses to help more people grow more food locally. This website is a resource hub for information, expertise, and partnerships that can be used for establishing your own food garden in your home, business, or public space. For more information, visit http://www.growlocalcolorado.org/.

The **Sustainable Food Center** is a Central Texas initiative that encourages families to garden organically together. As part of the program, children and adults are educated on the health, community, and environmental benefits of gardening. For more information, visit http://www.sustainablefoodcenter.org

The City of Seattle Department of Neighborhoods partners with the P-Patch Community Gardening Program. For additional information, visit http://www.seattle.gov/Neighborhoods/ppatch/.

Lincoln University in Jefferson City Missouri is working to serve urban youth and small farmers though its cooperative extension programs and projects. Lincoln operates a summer youth camp where students are exposed to nature and farming at the University's 280-acre Busby Farm. A master plan has been prepared for this farm to become a sustainable farm model. You can find out more at http://www.lincolnu.edu/pages/635.asp.

Growing Power, Inc. is a national nonprofit organization and land trust that supports people from diverse backgrounds, and the environments in which they live, by helping to provide equal access to healthy, high-quality, safe, and affordable food for people in all communities. Growing Power implements this mission by providing hands-on training, on-the-ground demonstration, outreach, and technical assistance through the development of community food systems that help people grow, process, market, and distribute food in a sustainable manner. For more information, visit http://www.growingpower.org/.

Funding Opportunities

The National Gardening Association/Subaru: Healthy Sprouts Award. The Subaru Healthy Sprouts Award recognizes and supports youth gardening programs focused on teaching about the environment, nutrition, and hunger issues in the United States. Maximum award: 1) a $500 gift certificate to the Gardening with Kids catalog and online store for basic youth gardening supplies and supporting educational materials; 2) NGA's Eat a Rainbow Kit; and, 3) a literature package from NGA. Eligibility: schools or organizations planning to garden with at least 15 children between the ages of 3 and 18. The selection of winners is based on a demonstrated relationship between the garden program and education about environmental, nutrition, and hunger issues in the United States. Deadlines: approximately October 1 each year. For more information, visit http://www.kidsgardening.com/grants/healthysprouts.asp.

Local **Kiwanis Clubs** support community gardens. Check out the Washington Community Garden Association for details at http://washingtongarden.wordpress.com/

Programming

Ideas for **fun, garden-related projects** can be found at http://homeschooling.gomilpitas.com/explore/garden.htm.

Gardening Associations

The **American Community Gardening Association** has multiple resources that can be found at http://communitygarden.org/

The **National Gardening Association** is another excellent website for resources; visit http://www.garden.org/home.

For multiple resources and even connections to Master Gardeners in your state, visit the American Horticultural Society's website at http://www.ahs.org/master_gardeners/.

More Great Resources

http://recipefinder.nal.usda.gov/ – When you visit this **USDA** website, you can search for a variety of healthy recipes to use with most of your garden produce.

http://www.epicurious.com/articlesguides/seasonalcooking/farmtotable/seasonalingredientmap – This website provides information and recipes for **what you can cook** in any season.

www.pollinator.org – This is a great website to research **which pollinators plants and crops will attract**. The information shows how attracting pollinators promotes a more biologically diverse garden and contributes to overall soil quality. This website also allows you to enter in a zip code and download a file indicating the pollinators typically found in your region, what to plant, what will be attracted, and bloom periods.

http://www.motherearthnews.com/Organic-Gardening/What-To-Plant-Now.aspx – This user-friendly website deals primarily with vegetables and provides an in-depth climate map. The site offers suggestions on **what to plant each month** and identifies what needs to be sown indoors and outdoors, respectively.

http://www.thegardenhelper.com/soilPH.htm – This website provides an excellent listing of **optimal pH ranges** for individual plants.

http://www.newenglandvfc.org/pdf_proceedings/SoilOrganicAmend.pdf – This document discusses the effects of various amounts of **soil organic amendments**. Specifically, the author notes the effects of over-amending soil and not providing enough plant nutrients.

For a comprehensive listing of research and evidence of the benefits of spending time outdoors – as well as an opportunity to share your story about your community garden – visit the **Children and Nature Network** site at http://www.childrenandnature.org/. This site is a clearinghouse for regional, national, and international collaborative efforts designed to re-engage young people with the natural environment.
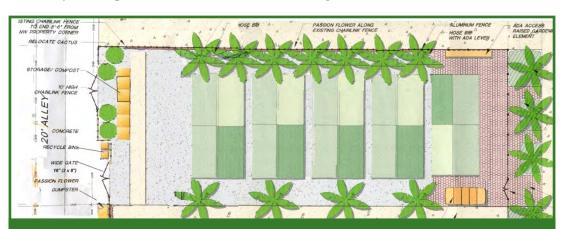
PROJECT #1: VICTORY GARDEN, Miami Beach Parks and Recreation, Florida

Contributors: Kevin Smith, Director, Miami Beach Parks and Recreation, Rhonda Gracie, Landscape Projects Coordinator, Miami Beach Parks and Recreation, and Millie McFadden, Parks Superintendent, Miami Beach Parks and Recreation

The City of Miami Beach Parks and Recreation (CMBPR) has two community gardens – one in South Beach (the Victory Garden) and one in North Beach (the North Beach Community Garden) – and is in the process of building a third garden in Mid-Beach. These gardens are the first of their kind in the area and have been so successful that the initial garden in South Beach, Victory Garden (Figure B.1.1) had a 3-year wait list for plots. The impetus for building the gardens came from a handful of local gardeners who had been growing vegetables in a nearby vacant lot that was soon to be developed into a parking lot. These individuals composed the first steering committee for the Victory Garden, met with CMBPR personnel over a 3-month period, managed the initial plot reservation process, and developed a set of gardening procedures that continue to be in use today.

CMBPR team members learned multiple lessons from their first garden. A key to their success was the inclusion of area residents in the design and determination of plot size, policies, procedures, and rules. Residents continue to elect their own garden committee and manage plots and waiting lists; in addition, they are empowered to choose how to handle general maintenance issues.

Figure B.1.1. Victory Garden Plot. *Photo courtesy of Miami Beach Parks and Recreation Department*

Initial plot sizes used in the Victory Garden (20 spaces, 5' x 20' each) were determined by the residents to be too large. Subsequently, the residents and garden committee members identified more varied sizes for the North Beach garden, which included 4' x 8' plots for families and 4' x 5' plots for individuals (Figure B.1.2). These sizes enabled gardeners to reach across plots while avoiding soil compaction and provided adequate room for plant growth.

Figure B.1.2. Layout of North Beach Community Garden *Photo courtesy of Miami Beach Parks and Recreation Department*

The North Beach Community Garden is immediately across from the city's North Shore Park and Youth Center. Thirty additional 3' x 3' plots were added for use by the Center's Nature Club. Youth involvement was further encouraged when CMBPR purchased Junior Master Gardening Books to supplement the outdoor learning experience opportunity. Promotion within the community has proved critical to the success of both gardens. (See Figure B.1.3.)

Figure B.1.3. North Beach Community Garden advertisement. *Photo courtesy of Miami Beach Parks and Recreation Department*

Food generated from these spaces and other demonstration plots is donated to a local food bank. rops grown include beans and corn, herbs, and a flower garden from which individuals can take cuttings home for display. Herbs, in particular, were found to produce more than one family typically uses and were a primary plant choice in demonstration plots because they could be shared easily.

The CMBPR is now in the process of finalizing a third community garden in Pine Tree Park. The design for this third garden will incorporate lessons learned from the first two garden designs, such as inclusion of two large cut-flower and herb gardens to be shared by all gardeners, a small citrus grove, and a space to hold meetings and lectures. For more information about the current status of this project, please visit www.southbeachvictorygarden.com or http://web.miamibeachfl.gov/parksandrecreation/.

Figure B.1.4. Elevated planting boxes provide easy access to the beds and serve as an empowering creative outlet for participants to decorate their space. *Photo courtesy of Miami Beach Parks and Recreation Department*

PROJECT #2: CITY OF SIOUX CITY, IA

Contributor: Jill M. Wanderscheid, AICP, Transportation Planner, City of Sioux City, IA

In 2010, the City of Sioux City, Iowa, began the process of starting a community garden immediately across the street from a park that had been newly constructed the previous year. The project first started as a partnership between the residents in the area and the City of Sioux City. Once the city acquired the vacant lot, they first had to address much needed site preparation. After completing the necessary grading and retaining wall work required, city staff members hosted two meetings to generate interest among local residents and to begin organizing a group.

The neighborhood group, which developed out of the city-hosted meetings, was empowered with the responsibility for developing the layout of the community garden concept. Because the garden is located in a high-density neighborhood with many rental units, it provides an excellent opportunity for the many residents who do not have the yard space necessary for a proper garden. In addition, many of the landlords do not allow gardens on their properties.

In preparation for the garden plots, elevated planting beds were constructed out of standard lumber (see Figure B.2.1). Community volunteers were essential to this phase of the installation.

B.2.1. Laying out the gardening plots. *Photo courtesy of City of Sioux City, IA*

The garden's clear success is demonstrated by resident interest and participation. All 16 plots were reserved and well-used by area residents (see Figure B.2.2). Young people playing in the parks across the street were also interested in and pleased to see the garden plots, which could potentially spark their interest in future gardening activities.

Because the project is currently in the first year of implementation, the city remains involved. However, city participants anticipate that the neighborhood residents will be running the garden operations in future years. Area residents have continually expressed their view that this project is not only a positive enhancement for the greater community but is a necessary one.

Building a Community Garden in Your Park

For the City of Sioux City, the primary "lesson learned" was the importance of looking to the surrounding community for possible partnerships early in the process and often throughout the development. This strategy enabled the city to build a strong member group, which increases the likelihood of long-term project sustainability. It also opened the doors for important support, such as the donation of plans from local nurseries and garden centers, which were also willing to advertise the development of the community gardens.

Figure B.2.2. Gardening organizers prepare plots for planting .
Photo courtesy of City of Sioux City, IA

PROJECT #3: COUNTY C.R.O.P.S. (Community Reaps our Produce and Shares), Multnomah County, OR

Contributor: Jeff Cogan, Multnomah County Chair, Portland, OR

County C.R.O.P.S. (Community Reaps Our Produce and Shares) is a project led by Chair Jeff Cogen to grow produce for low-income county residents on previously vacant county-owned land in Troutdale, Oregon. Since the project's inception in the summer of 2009, the two-acre "farm" has yielded thousands of pounds of organic produce for hundreds of low-income county residents.

Volunteers are from Hands On Greater Portland and from the county's Community Service Program, which offers people who have committed non-violent, low-level crimes the opportunity to pay their debt to society through community service. These individuals provide labor for the farm (Figure B.3.1), while the Oregon Food Bank distributes its harvest. County C.R.O.P.S., Cogen has noted, "creatively [leverages] existing resources [to] put fallow land back into production while providing a source of healthy, fresh food to hungry people."

Figure B.3.1. Volunteers from Hands On Greater Portland install tomato plants in the first planting beds. *Photo courtesy of C.R.O.P.S.*

The project also acts as a model of local food production, which helps reduce carbon emissions by decreasing the distance motor vehicles travel to transport food from farms to grocery stores. Further, it contributes to lower obesity rates by increasing access to nutritious food and strengthens the local economy by keeping money spent on food in circulation locally. In addition to the vital volunteer labor support provided by Hands On Greater Portland and Multnomah County's Community Service Program, this project is supported by essential donations from community members (see Figure B3.2).

Figure B.3.2. Final installation of donated tomato plants. *Photo courtesy of C.R.O.P.S.*

Gales Meadow Farm, an Oregon Tilth Certified Organic farm based in western Washington, is one such organization that has donated starts and seeds to County C.R.O.P.S. Interestingly, one plant that came from this farm has roots that extend much further than western Washington. The italian heart tomato seeds planted at the C.R.O.P.S. site last year were a gift from a friend of Rene Berblinger (one of Gales Meadow's owners). This benefactor, a former librarian at the National Radio Astronomy Laboratory in Charlottesville, Virginia, originally received the seeds from a neighbor whose great-grandfather brought them to the United States from Italy.

The first year Gales Meadow grew the italian heart tomato, the owners named it after the two women who helped bring the seeds to the farm. Eventually, because of the tomato's unusual shape and origin, Gales Meadow's Anne Berblinger changed the name to italian heart. When these starts are sold at the Berblinger's farm, people are at first resistant to its droopy appearance, but they usually end up coming back for this curious plant with a unique story again and again – making its planting in this project, particularly special.

PROJECT #4: COMMUNITY GARDENS IN DEMAND, City of Sacramento Department of *Parks and Recreation, California*

Parks include Bill Bean Jr. Park (coming in 2010), Camellia Park (coming in 2011), Danny Nunn Park, Freemont, J. Neely Johnson Park, Martin L. King Jr. Blvd (coming in 2011), Southside, Sparrow,(coming in 2010), Strauch Park, Valley Hi Park (coming in 2011) and Zapata Park (coming in 2010) Community Gardens

Contributor: Bill Maynard, City of Sacramento Department of Parks and Recreation, Community Garden Program Coordinator, American Community Gardening Association (ACGA) Vice-President

The City of Sacramento Department of Parks and Recreation currently has five community gardens in cultivation, with more in demand. With long wait lists and consistent community requests for more gardens, it is building three more in 2010 and has plans to build two to three more in 2011. The additional gardens will double the current community garden program. Figure B.4.1 illustrates one of the gardens planned to be completed in 2010, which will have accessible garden beds and a small shared orchard.

The park department is able to track the demand for community gardens through the use of a survey tool called the Parks and Recreation Programming Guide (PRPG) form. Every two years, this form is available for submission by the citizens of Sacramento to the City Department of Parks and Recreation. It is an excellent way for the public to let the city know what is needed in parks and also a way to collect ideas and get feedback on emerging trends and new services that the public would like to see in parks.

Figure B.4.1. The design for Bill Bean Jr. Park makes the most of an odd-shaped site. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

The form is a short five-question survey that asks the public about its ideas for park improvements, land acquisition, and needed repairs. Each question carries a point value that is ranked by total points and sorted by the city's council districts. Council members weigh in on their top three picks for the council district. All projects are then published in a public report and become the project guide for the next 2 years. While this is not a guarantee that all project ideas will become reality, it is a strategy for getting projects on the radar for funding and for the city to have a better idea of what types of services, programs, improvements, repairs, or land acquisitions the public wants to see happen.

In 2008, the PRPG documented an emerging trend and need. Ten percent of all forms submitted were for more community gardens. The increase in interest in community gardens was attributed to the following: 1) the success and media coverage of the city's community garden program; 2) the renewed interest in growing your own food and eating healthy and organically; and, 3) the 150-person waiting list for plots in the downtown area. The cry for more community gardens was heard by the City of Sacramento Department of Parks and Recreation and in 2010, three new community gardens were constructed with another three planned for 2011.

The park department currently has two stand-alone community gardens on land that was donated to the city. The other three gardens are in city parks. The smallest garden is 40' x 60' and has 10' x 10' plots. Their largest garden measures approximately 1 acre with 52 plots that are 8' x 16' or 16' x 16.' Bill Maynard, a part-time city employee, oversees the community garden program for the City of Sacramento. Each community garden has a garden advisory committee that manages the maintenance of common spaces, the wait list, and plot assignments. As a public park department, accessibility and inclusion is a part of each community garden design, which includes accessible surfacing of decomposed granite (Figure B.4.2).

For the City of Sacramento Department of Parks and Recreation, community gardens offer much more than just gardening and vegetables. They are sites for learning, training, and fun.

After a chance meeting with an English as a Second Language (ESL) instructor at an outreach event, garden program coordinator, Bill Maynard, discovered an opportunity for the students to try out their English language skills on him. It turned out that there was a chapter in their ESL text book on community gardening. The students were able to use key words from the chapter, such as "organic," "fertilizer," and "tomato," to ask questions about the garden. This 2-hour outdoor classroom session turned out to be a great way to use the garden beyond its originally intended use.

Mr. Maynard believes it is the connections with the community that go beyond the garden fence that make a difference in this project. To emphasize that point, he shared a story

Figure B.4.2. Accessible garden beds are constructed of concrete retaining wall blocks and wood 2 x 12 boards. *Photo courtesy of City of Sacramento Department of Parks and Recreation*

Figure B.4.3. A lady bug-shaped cistern stores harvested rain water that was collected in large metal flowers.
Photo courtesy of City of Sacramento Department of Parks and Recreation

about the transformation of a man confined to a wheelchair. The gentleman worked for an organization that planned to use one of the park department's accessible garden plots to show persons newly confined to wheelchairs how to garden; however, he was not initially interested in this program. After the first harvest, the gentleman became hooked on gardening. Now, he is one of the most vocal supporters of the community garden program and has been quoted as saying "Community gardens are truly magical places."

The community gardens are also used by a group that works with mentally disadvantaged teens and adults as a source of outdoor therapy. The perimeter fence around the garden creates a safe environment in which their clients can walk or run freely.

This park department's community garden program has successfully integrated recreation and community amenities such as a common orchard, grape vines, integrated art, native plantings, and streetscape. For example, two bocce ball courts were added to a non-plantable area of the garden that contained a low-level soil contamination. As a result, these courts capped the contamination and provided a home for a local bocce ball club. Bocce has become a popular activity for gardeners while they water or during garden potlucks.

Mr. Maynard continues to find other opportunities for recreation and club use, such as horseshoe pits, chess tables, urban bee keeping, radio-controlled cars, and outdoor trains. Whimsical art has also been successfully integrated in the garden. From a tomato-shaped plaza to a carrot bike rack and a lady bug cistern (Figure B.4.3), art demonstrates this community's character and the garden's permanence. In all, this community garden has truly become a special representation of this community.

To find out more about this project, please visit wmaynard@cityofsacramento.org.

PROJECT #5: SWOPE PARK COMMUNITY GARDEN AND BEAN STALK CHILDREN'S GARDEN, Kansas City Community Gardens, Kansas City Missouri

Contributor: Ben Sharda, Executive Director, Kansas City Community Gardens and Mary Roduner, Children's Gardening Coordinator, Kansas City Community Gardens

The Kansas City Community Gardens (KCCG) is an example of a successful park district and not-for-profit partnership designed to meet community needs. KCCG is an organization that provides self-help and educational assistance to low-income people, children, and community groups in the metropolitan Kansas City area. The organization helps people grow their own food in backyard garden plots, vacant lots, schoolyards, and at community sites.

When KCCG needed to relocate its original community garden, the City of Kansas City Parks and Recreation Department helped KCCG find a permanent location at a former baseball field in Swope Park. KCCG operates independently of the park district. However, the park district does general perimeter maintenance and mowing and partners with KCCG for its summer camp program and Party in the Park events. The Swope Park Community Garden is a 3-acre site that houses KCCG's offices, community gardens, and the Bean Stalk Children's Garden.

The Beanstalk Children's Garden is a fully accessible garden that seeks to teach children about plants, food production, insects, nutrition, and plant science. It is a popular destination for children's groups and field trips (Figures B.5.1 through B.5.3).

Figure B.5.1. Entrance to the Beanstalk Children's Garden. *Photo courtesy of Mary Roduner, Children's Gardening Coordinator at KCCG*

Figure B.5.2. A child's view in the garden. *Photo courtesy of Mary Roduner, Children's Gardening Coordinator at KCCG*

Figure B.5.3. Hiding in the gourd house. *Photo courtesy of Mary Roduner, Children's Gardening Coordinator at KCCG*

Ben Sharda, the executive director at Kansas City Community Gardens, oversees the organization and teaches many of the free Friday workshops that KCCG offers. Topics include: "How to Start Group Gardens and Community Gardens," "Container Gardens for Food Production," and "How to Grow Great Onions." KCCG also shares its knowledge of garden-based lessons for school children in a workshop for planning schoolyard gardens. Interpretive signage reinforces the educational programming (Figure B.5.4).

More importantly, Mr. Sharda is overseeing initiatives to reach many people in need in the community. In addition to bringing the community to the garden, KCCG is bringing gardening to the community through their Community Partners Program. This is a partnership with not-for-profit groups whose missions include providing food assistance to low-income residents and seniors, offering nutrition education, garnering youth support, and building strong neighborhoods. KCCG has been instrumental in helping organizations, schools, and individuals start their own backyard or neighborhood gardens for local sources of nutritious fruits and vegetables. The organization works with more than 100 churches, organizations, and senior living facilities, as well as schools, with this program (Figures B.5.5 and B.5.6).

A new demonstration food garden has been built at a warehouse site for Harvesters Community Food Network, a regional food bank. This garden is a demonstration of urban gardens that can be created in backyards, vacant lots, and community spaces. The goal is to inspire organizations that pick up food at Harvesters and their clients to grow their own nutritious food.

Figure B.5.4. Fall cabbage and collards are on display in the garden. *Photo courtesy of Mary Roduner, Children's Gardening Coordinator at KCCG*

Figure B.5.5. A proud gardener shows of the beets he grew in his raised-bed garden. *Photo courtesy of Mary Roduner, Children's Gardening Coordinator at KCCG*

Figure B.5.6. Gardeners set out their tomato cages. *Photo courtesy of Mary Roduner, Children's Gardening Coordinator at KCCG*

"Brief" Program Evaluation Planning Guide for Short-Term Staff Development Activities

Directions: Use this form to quickly note your program evaluation plan for those short-term staff development activities that can be defined as awareness level or skill-development level programs according to the typology of staff development programs (Martin-Kneip, 1996).

Steps in the Evaluation Process	Training Activity: _____ _____	Training Activity: _____ _____	Training Activity: _____ _____
1. Describe the program goals, components			
2. State the purpose(s) of the evaluation			
3. Define the audience(s) and stakeholder(s)			
4. List any important contextual factors that may impact the program or evaluation			
5. List the evaluation question(s) that you are attempting to answer			
6. Briefly describe the evaluation design that you have selected (e.g., methods of evaluation)			
7. How will you analyze the data that you collect?			
8. How do you plan to communicate your evaluations results/ findings with your audience(s)?			