MONARCH JOINT VENTURE

Partnering across the U.S. to conserve the monarch migration

www.monarchjointventure.org

The Monarch Joint Venture is a partnership of federal and state agencies, non-governmental organizations, and academic programs that are working together to protect the monarch migration across the lower 48 United States.

MISSION

Recognizing that North American monarch (*Danaus plexippus*) conservation is a responsibility of Mexico, Canada and the U.S., as identified in the North American Monarch Conservation Plan, this Joint Venture will coordinate efforts throughout the U.S. to conserve and protect monarch populations and their migratory phenomena by developing and implementing science-based habitat conservation and restoration measures in collaboration with multiple stakeholders.

Our mission will be achieved by coordinating and facilitating partnerships and communications in the U.S. and North America to deliver a combination of habitat conservation, education, and research and monitoring.

VISION

The vision of this Joint Venture is abundant monarch populations to sustain the monarch migratory phenomena into perpetuity, and more broadly to promote monarchs as a flagship species whose conservation will sustain habitats for pollinators and other plants and animals.

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Schoolyard Butterfly Gardens

Planning your garden

Form a team

Include a variety of people who may be involved in the planning, installation, and maintenance of the garden, and keep them updated on your plans and progress. Your school principal or administration and head building engineer need to be supportive of and involved with your garden; other team members might include other teachers, parents, Master Gardeners, Master Naturalists, or a local naturalist. Student engagement at all levels of planning and implementation is also important.

Identify space for your garden

Finding just the right spot for your garden involves communication, consensus, and problem-solving. Utilize your team (especially the head groundskeeper) and/or students as you decide where to place the garden. Choose a spot that is easily accessible from classrooms, is in plain sight for public viewing, and is near a water source.

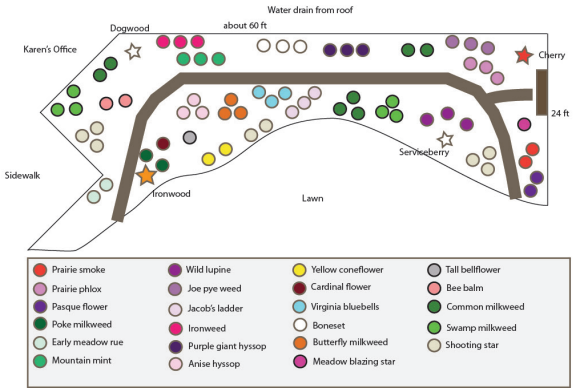
Take into consideration available space and other resources that are needed to build and maintain a garden. You may choose to start with a garden as small as 10'x10'. A larger or more ambitious team might plan a bigger garden. Remember that you can always start small and expand the site later.

For a healthy garden, you'll want to choose a location that receives full sun for a good portion of the day. You should also test the type and quality of the soil to determine which plants will do well there and if amendments are needed. Utilize existing features, like a row of shrubs or a large sign as wind breaks when possible.

Design your garden

Remember that:

- Monarchs need milkweed to survive, so make sure to include native milkweed (and other butterfly host plants).
- All pollinators, including monarchs, need nectar throughout the growing season. Choose a wide variety of flowering plants so that there is something blooming during the spring, summer and fall; start with at least 2-3 native flowering species for each season.
- Plan and map your garden. Use colors to designate different species and include spaces for other features, such as a bird bath, bench, sign, or walking path. Designing the map engages students, builds excitement about planting and using the garden, and comes in handy on garden planting day!



- Group plants in small clusters (at least 3-5 plants) by species. Make sure to space the plants far enough apart so that they do not crowd each other when they're full grown. Also make sure that short plants are not covered up by tall ones. If your garden space is limited, you may also experiment with potted plants or raised beds.

The Importance of Native Plants

Native species provide a broad range of ecological benefits, including greater water retention, erosion reduction, and forage and shelter habitat for a wide variety of pollinators.

Installing your garden

Determine the best time for planting

Planting can be done in either spring or fall. Spring planting should be done after the risk of frost has passed in areas with freezing winters. If you plant in the fall, perennial plugs or transplants should be planted when plants are not in bloom, temperatures have cooled, moisture is available, and before the ground freezes. Many seeds, including most native milkweeds, can be planted in the late fall or early winter (before the ground freezes). For species that need cold treatment to germinate the next spring, planting in fall or early winter allows this process to happen naturally.

Obtain plants or seeds for planting

Locate a native plant nursery on the Plant Native website (www.plantnative.org) or by contacting your local Wild Ones chapter. It is critical that any plants you purchase have not been treated with insecticides. Develop a relationship with a local garden club or Master Gardener; in addition to providing gardening information and help, they may also have transplants that they would be willing to share.

If you do not have funding, pursue small grant opportunities and ask local nurseries to donate plants. Work with your students to write a letter to send to nursery owners (usually in early fall) requesting plant donations.

An alternative to purchasing seed is to collect native seed from nature if you know of a source and have permission from the landowner.

Plugs are small plants that are transplanted directly into the ground. Plugs are easier for students to handle, you don't have to worry about poor germination, and the garden will come to life more quickly. However, they are significantly more expensive than seeds. You can start seeds in your classroom under a grow light, and then transplant them into the garden when the time is right.

Before you plant

Schedule a day for planting the garden (and a back-up) that works well for your team. Assign duties, keeping in mind that students and adults need clear tasks and the right tools. Your garden size might limit the number of people who can help at once, so consider using multiple groups at various times throughout the day.

Line up equipment needed for planting: rakes, wheelbarrows, old newspapers, hoes, gloves, and mulch. You'll want to cover the garden with 2-3 inches of mulch.

Prepare the site

Test garden soil to determine if the area is suitable for growing, or if it needs amendments. Sand, clay or wet soils may require specialized techniques.

Prepare the soil by first removing lawn or other plant cover and then tilling or raking the soil. If the garden will replace lawn, you will need to kill and remove the sod before planting. This may require assistance from the school grounds crew, parents, or a landscaping company. Before digging, locate and avoid any underground wiring or tubing. If space is limited, consider planting in containers.

Plant the garden

If you're using plugs, spread old newspapers (avoid colored ink and glossy-type papers) on the ground where you have prepared the soil. Use mulch to help keep the newspaper in place. This will help temporarily keep weeds from growing in your garden, giving the plants adequate time to establish.

After you've planted plugs, add straw or mulch to retain water in the soil and prevent weed growth. Water the newly planted plugs.

If seed is used, following the planting instructions on the package(s). Water the entire garden thoroughly after planting is complete.

As you plant, place signs or markers throughout the garden to identify the species you include. Markers will also help you remember where to look for new perennial plant growth in the spring.

Maintaining your garden

Water plants regularly for at least two weeks after planting. Additional water may be needed during warm, dry spells, or if the plants are drooping.

Weed by hand as needed. Avoid using herbicides and insecticides to rid your garden of unwanted plants and insects. Create a plant identification book to teach people what plants look like when they first emerge so they only pull weedy invaders and not the plants you've put into the garden.

Remember that host plants are meant to serve as food for caterpillars, so chewed leaves are a sign that they are doing their job.

Continue to monitor the diversity of the plant community, and add plants where the original plantings did not thrive. Once the garden is established, split, transplant, or remove plants that get out of control.

Leave dead plant material for wildlife during winter to provide food and shelter for many organisms. Clean up the garden in the spring as new growth starts to appear. Remember to compost!

Create a weekly schedule to engage community members and families to help with weeding and watering during summer.

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Photo credits: Wendy Caldwell and Teal Johannsen