



Marin Art & Garden Center (MAGC) Exploring Habitats Field Trips

The Marin Art & Garden Center (MAGC) in Ross, California, seeks funding to expand and support its Exploring Habitats field trip program, a nature education offering designed for elementary school students throughout the community.

History and Overview

MAGC, a 501(c) 3 non-profit organization, was founded in 1945 by local conservationists who sought to protect the 11-acre property from development. Its founding members, led by Marin County environmentalist and philanthropist Caroline Livermore, were instrumental in advocating for and protecting Marin's environment. They succeeded in protecting Angel Island from development in addition to founding the Marin Conservation League. Sixty-six years later, MAGC remains an environmental and horticultural hub of Marin, offering breathtaking gardens that provide a quiet place of solitude to relax, take a stroll, paint, or simply admire the beauty of the outdoors. In addition to its sprawling gardens, MAGC offers educational programs for children and adults in the areas of gardening, horticulture, history, conservation and the arts. The Center's award-winning gardens are home to the Moya Library/Ross Historical Society, Laurel House Antiques, the Marin Society of Artists art gallery, performing arts facilities of the Ross Valley Players and the Porchlight Theatre Company, the Pixie Park playground and the Ross Recreation Garden School pre-school; MAGC also includes as its tenants the Oceanic Society and the Tamalpais Conservation Club. In addition, MAGC partners with the Marin Master Gardeners, the Garden Society of Marin, Marin Garden Club, the Marin Rose Society, Marin Bonsai Club, Ross Recreation, The Marin Municipal Water District and others to provide a variety of public programs. For nearly seven decades MAGC has offered a venue to revel in nature, in the arts and in the area's rich history.

Reaching the Community

After 66 years of providing the community with a sanctuary of natural beauty, MAGC seeks to expand its educational offerings to serve younger generations and continue its standing as a highly regarded learning resource for all ages. According to www.census.gov, approximately 252,000 people reside in Marin County, 80 percent of whom are white and about 42 percent of whom are between ages 18 and 65. Twenty percent are less than 18 years old. The median household income of nearly \$87,000 is 67 percent higher than that of California as a whole, placing Marin residents in the higher percentile of household income.

Despite the high number of children in the area and the personal wealth that exists in Marin, funding for conservation studies has dwindled significantly in area public schools. Due to the budget cutbacks throughout the California education system, funds are slim for activities that enhance environmental awareness among children. Area students do not have access to these enriching and important programs. The Exploring Habitats field trip offers nature education that does not exist elsewhere in Marin, and at few, if any, easily accessible locations in the Bay Area. Through lessons on topics such as composting, predators and prey, pond life, pollination and natural observation, all of which complement the standard first and second grade curriculum, students receive a rich supplement to their schooling that cannot be found elsewhere. Detailed information about the field trips and their curriculum is below, under “Filling the Gap.”

Local teacher and parent demand for the Exploring Habitats field trips is so great that the current program serves only five percent of eligible classrooms that express interest in the program; these findings were completed through surveying in August 2011. In the 2011 – 2012 school year, the Exploring Habitats field trips were offered every Tuesday for 16 weeks: Eight weeks in the fall from September to November, and eight weeks in the spring from March to May. This means the curriculum reached 400 students. All 16 weeks were booked within two weeks after the sign-up period opened and a waiting list was opened. MAGC was pleased that an additional 32 classrooms were interested in the program. Over two kindergarten classes expressed interest, thus indicating the need for curriculum designed for kindergarteners. To serve the high demand for these educational field trips, MAGC seeks to expand its program to offer the field trips four times weekly for 18 weeks throughout the school year, expand the curriculum to also serve kindergarten classes, and offer a summer camp offering the same curriculum that would run for six weeks throughout the summer. This would increase the audience from 400 students to nearly 3,000 students annually.

Filling the Gap

Because school funding does not allow for conservation studies, thousands of students miss out on the important environmental knowledge they need to round out their scientific education. MAGC’s Exploring Habitats field trips fill this educational gap by providing hands-on experience with nature at a venue unmatched elsewhere in Marin.

The field trips are currently offered to first and second grade classes from schools throughout Marin. Teachers bring their class to MAGC and the Master Gardener docents greet them at the Butterfly Habitat Garden. Four distinct lessons are taught over the following two hours: Worm Bin Composting, Woodland Understory, Pond Life, and Bird and Butterfly.

In **Worm Bin Composting**, students learn the value of composters – creatures that break down vegetative ingredients and turn them into rich soil additives. Children gather at the worm bin, which is located near MAGC’s Butterfly Cottage, and are then asked to deposit a small amount of the content into a shallow container using a trowel. The Master Gardener docents help children search for and identify compost creatures such as millipedes, earthworms and white worms, inspecting the creatures closely. Docents emphasize the food, water and shelter that all

exist within the composting system and provide a habitat for the composters. The lesson emphasizes the necessity of these creatures; they break down organic refuse that in turn feeds plant life with nutrients, creating a healthy planet.

In the **Woodland Understory** lesson, students learn about the natural habitats of animals in Marin County. Docents display animal skulls, emphasizing the clues such as jaw, teeth and eye placement that indicate whether the animal is predator or prey. Students gain perspective on where humans fall in the great food chain. Students have the opportunity to pet fur pelts, discuss camouflage and learn which animals blend into the California hills to avoid predation. The lesson takes place beneath MAGC's sprawling English Oak, and students learn how to discover the age of the tree and examine its seedlings. Docents discuss with the children the difference between moss and lichen; this lesson offers a wide breadth of knowledge about natural habitats in Marin.

The **Pond Life** lesson takes place at MAGC's small freshwater pond. Students locate a variety of creatures and create their own habitats using their own basin (personal pond), clear container (science lab) and net. Life in the pond is vast, with a variety of creatures such as scuds, damsel and dragonfly nymphs, water striders, mosquito fish, water snails and worms. Docents teach the students how and why these creatures exist in the pond and what they eat. This lesson offers students the opportunity to explore a dynamic natural habitat they wouldn't otherwise experience in the classroom.

In the **Bird and Butterfly** lesson, students learn about the intricate relationships between insects, birds and plants. Bird and butterfly identification cards offer valuable lessons about species types, while bird nests teach the nesting techniques of avian life. An exploration of flowers during this lesson teaches students about the flowers' role in the lives of birds and butterflies; students learn how evolution has provided birds such as hummingbirds with a way to reach tubular blooms and how insects facilitate floral reproduction. Children also learn about bird communication using canisters containing rice, pennies and other items to create their own "call," leading them to a classmate with the same call. Finally, docents facilitate a lesson in how to best enjoy nature, stressing quiet observation. Children close their eyes and listen, raising one finger when they identify a sound that could be mechanical, human or sourced naturally. This exercise encourages children to experience the natural world in a conscious, deliberate way.

The Exploring Habitats field trips are unlike any other lesson available to elementary school students in Marin. The lessons learned during the field trips supplement the first and second grade curriculum, and offer the real-life experience students need to absorb the information in full. Without the field trips, students would not have the opportunity to collect their own water nymph, watch a garbage-eating worm, examine a real animal skull or even sit quietly in nature. These experiences solidify lessons about the environment and round out a student's perspective on the natural world around him or her.

MAGC would like to offer this irreplaceable experience to a greater portion of area schoolchildren. A larger population can be reached by expanding the program; to do this, MAGC

needs to hire additional teachers to administer the curriculum, hire an education coordinator to schedule the trips and reach out to more schools, maintain and enhance the garden areas such as the freshwater pond and English Oak and purchase additional materials used during the field trips.

Exploring Habitats Program Expansion

MAGC proposes to increase the field trips serving Bay Area first and second grade classrooms to 54 total sessions per year and add 18 sessions per year for kindergarten classrooms. For 18 weeks from March through May and September through November, Mondays would be designated for kindergarten field trips and Tuesday through Thursday for first and second grade field trips. Fridays would be used to maintain and enhance the garden areas used for the field trips.

To expand the Exploring Habitats program to serve kindergarteners, MAGC requires the funding to: A) Hire teachers with the skills to educate kindergarteners; B) Create a curriculum based on the first and second grade content, adjusted for kindergarteners; C) Hold a teacher training; D) Add garden areas specific for the kindergarten curriculum; E) Purchase materials specific for the kindergarten curriculum.

To expand the program to serve an additional 38 first and second grade classrooms per year, MAGC needs to: A) Hire additional teachers; B) Hire an education program coordinator to manage the program; C) Maintain and enhance the garden areas; D) Purchase additional materials used for the field trips; E) Hold a teacher training.

Currently, MAGC offers Exploring Habitats Summer Camps to children in kindergarten through second grade for eight weeks during the summer. The summer camps offer the Exploring Habitats curriculum to all Bay Area children, not just by classrooms. Parents can enroll their children in the summer camp week by week, knowing that they will be learning valuable lessons and having fun. To expand the program to offer a summer camp open for enrollment Monday through Friday from June through August, MAGC needs to: A) Hire additional teachers; B) Hold a teacher training; C) Purchase additional materials; D) Maintain and enhance the garden areas.

Serving a Need

MAGC believes that all students, regardless of their economic status, deserve equal educational opportunities. MAGC seeks to offer the Exploring Habitats field trip experience to classrooms from Title 1 schools – low-income schools that educate children whose families are for the most part under the poverty line. Sixteen of the 54 field trip sessions each year will be reserved for these schools, depending on interest from the classrooms. Additional sessions may be offered depending on demand. To serve these schools, which generally cannot afford transportation of students off campus, MAGC will fund bus transportation to and from campus.

Exploring Habitats Budget and Fundraising

MAGC's projected cost for the first year of expansion is \$105,000. This includes: \$16,000 to staff additional teachers (\$6,000 for first/second grade, \$6,000 for kindergarten, and \$4,000 for summer camps); \$60,000 to staff an education coordinator; \$5,000 for a teacher training program; \$10,000 for garden enhancement and maintenance; \$5,000 for kindergarten curriculum development; \$5,000 for materials; and \$4,000 for transportation of Title 1 school classrooms.

Additional costs include administrative overhead, printing of materials and the cost of evaluating outcomes with surveys. MAGC expects these additional costs will total \$3,000.

MAGC has an annual budget of \$635,000.

MAGC has currently received funds of \$5,000 for first and second grade field trip session this fall. Unfortunately these funds do not allow for the program to expand; only to remain serving just a small portion of Bay Area schoolchildren. MAGC seeks funding from individuals, foundations and corporations to expand the program. We are confident that such expansion will make a positive impact on thousands of children, thus creating a positive impact on the world.

Projected Outcomes and Evaluation

The expansion of the Exploring Habitats field trips will ensure that a greater number of students have the opportunity to take part in hands-on nature education. With this education, children will become more environmentally aware, appreciative of their natural surroundings and educated about science – qualities that will enhance future generations' impact on the world at large.

To evaluate the effectiveness of the field trips, MAGC will administer surveys. Teachers will be asked questions such as: Was the covered material relevant to your classroom curriculum? Do you think the students absorbed the information in full? Which portions of the lesson did the students respond to the most? Were the hands-on experiences an enriching supplement to the material studied in the classroom? What changes have you noticed in the students after the field trip?

Conclusion

Dwindling funds for conservation studies have created significant gaps in science education. America's children face gaping holes in the curriculum they're taught, causing an unfortunate deficiency in their scientific knowledge. MAGC seeks to solve this educational rift by offering greater opportunities for real-life enrichment in nature. The Exploring Habitats field trips are highly educational, stimulating and enriching as they complement material students learn in the classroom and teach valuable lessons about our natural world. MAGC predicts that by offering

this experience to thousands of children throughout Marin, positive environmental changes can begin to take place in generations to come.



Appendix A: About the Master Gardeners

The Marin Master Gardeners (MGs) are a trained group of 300+ volunteers who share their knowledge and skills with home gardeners and community organizations. Through educational outreach and community service, the MGs work as non-paid staff members of the University of California Cooperative Extension (UCCE), answering inquiries and providing research-based information on all areas of plant health and gardening practices to the public.

Their mission is to extend research-based knowledge and information on home horticulture, pest management, and sustainable landscape practices to the residents of Marin County.

The MGs focus on providing knowledge and information that promotes healthier plants, people, the environment and our community through the following activities:

- Answering home-owner gardening questions at the Help Desk and Farmer's Markets
- Conducting classes and other hands-on learning events like the Marin County Fair
- Designing and implementing demonstration gardens that feature a variety of plants and growing environments like the ones at Falkirk in San Rafael
- Write educational articles that appear weekly in the Marin Independent Journal, Patch and the Marin Master Gardener newsletter, The Leaflet
- Conducting on-site garden evaluations (in conjunction with Marin Municipal Water District) for opportunities to reduce water use
- Assisting in the development of school gardens

The Marin Master Gardeners work on community service projects throughout Marin, including bay-friendly garden walks, demonstration gardens, school gardens, community gardens and more.

To learn more, please visit www.marinmg.org.