

Flowers Can Foster Children's Awareness

By Lynn Libous-Bailey

"Let your child(ren) know that you are interested in what they're learning and what is going on in their classroom." everyone told me. "It's really important to get involved." Sure, I thought, I work a full time job outside the home. Just how involved can I be?

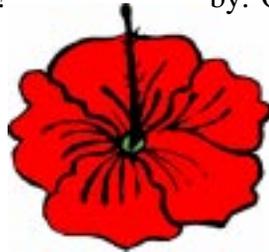
When my daughter entered four-year-old kindergarten I signed up to make cupcakes for Halloween, supply fruit drink for Valentine's Day, and dye the eggs for the Easter Egg Hunt. But surely, I kept thinking, there is more that I can do. Something that would enlighten them to the world around them, make them think, and feed their minds.

Not sure exactly what I could do, an opportunity presented itself. The calendar which came home for the month of September had 2 to 3 colors written in the

Monday slots. These were the colors the class would be studying that week. The students were asked to bring something from home that contained that color. I am a weekend gardener with an affection for native plants. Color abounded in the yard during the fall so why, I thought, couldn't my child take flowers? And so it began.

The first week brought with it the colors red, blue and yellow. Those colors were easy enough to come by. On Sunday evening, my daughter and I walked around the yard. With clippers and an old purple metal pitcher in hand, I had her find flowers that were the colors we needed. Red came easily enough in the twisted, partially open flowers of the Turks cap mallow (*Malvaviscus arboreus*) and the large fully opened flower of the Texas Star Hibiscus (*Hibiscus coccineus*). Satisfied with two stems of each, my daughter eagerly held the pitcher while I placed the stems in the water.

"What color's next?" she asked. (continued on page 3)



Announcement:

Ken Berg has been appointed the U.S. Fish and Wildlife Service's Field Supervisor of the Southern California Field Office in Carlsbad, California. Ken was instrumental in developing and implementing the Native Plant Conservation Initiative as the federal representative for the Bureau of Land Management. His strong support and collegial leadership will be missed; however, we hope he will move the NPCI National Strategy forward in Southern California. Our best wishes to him on his move back to California. His new address will be:

U.S. Fish and Wildlife Service
2730 Locker Ave. West
Carlsbad, CA 92008

"Hey, is that a sticky 'Tupac' flower?"

Notes from the Presidio High School Stewardship Program

By Damien Raffa

After learning that a botanist of yesteryear imaginatively perceived a monkey's face in the flower of *Mimulus aurantiacus*, Filipino-American 10th grader Adrian recently coined a new name for sticky monkey flower. Rather than a monkey, he saw the face of the late rap singer Tupac in the yellow-orange blossom. Another common name is born for a common native plant here on the Presidio.

Situated in close proximity to a densely-populated urban environment, the natural habitat of the Presidio coexists with an extraordinary diversity of human culture. As one of our participating high school biology teachers likes to say, the world of the city is more about social systems than ecosystems. Accordingly, the Presidio High School Stewardship Program attempts to bridge the often-divided realms of plant communities and city neighborhoods by creating education programs that are responsive and relevant to the multicultural urban youth who we serve.

Our resource-based high school program was catalysed when a local high school teacher approached us in 1994 with (continued on page 4)

NATURAL EDUCATION, REVISITED

BY ANITA BECKWITH

As the population of the earth steadily increases, so do the problems associated with that growth. In our school systems alone, higher rates of crime and suicides and lower grade scores are often associated with expansion. Expanding the size of schools means that we lose touch with children as individuals. It also means that we are using all available space for classrooms at the expense of native plant habitat.

Wynne and Wahlberg, professors from the University of Illinois, described their perceptions of the problem of expansion in the educational systems as a loss of intimacy. (1995) Public schools are merging, creating large school districts. In the last 50 years the "average per-school enrollment increased 410 percent, and the number of individual schools declined 69 percent with a decline in school districts of 87 percent." (Wahlberg 1995) What we now have are fewer schools, but each of them is massive, with an enormous number of students. Individuality and creativity are no longer recognized and nurtured, as academics become the driving force.

Educators are once again asking whether it's more important to fill the planet with scientists, mathematicians, English professors and athletes than it is to help students develop creativity and individuality which will, in turn, help them to understand the world and their place in it. Justifications cited for this second choice include our detachment from nature and its global consequences.

Edith Cobb said, "experience in childhood is never formal or abstract. Even the world of nature is not a 'scene' or even a landscape. Nature for the child is sheer sensory experience." (1977) This is

particularly striking when we consider the changing patterns of "child play" from groups of children building rock forts and treehouses to the single glassy-eyed child sitting in front of a computer terminal playing solitary computer games. Do we want their sensory perceptions and experiences to be built on the true beauty and wonder of nature or on imitation leaping frogs and monkeys on a computer screen?

Joseph Pearce, in discussing the primary perceptions of a child, used the terms magical thinking, to describe the child's way of knowing the world, and "bondings to the earth," suggesting that interaction with the physical substance of the living earth (e.g., rocks, trees, wind) is critical to the child's developing brain and intelligence. (1971) In other words, if we only understand the mathematical equations that represent the necessity to save the planet and never truly comprehend the ephemeral concepts of the "wonders" of nature, can we be expected to act morally to preserve all species? Ruth Wilson, said, "Failing to recognize and support children's ways of knowing can have serious implications on how they will relate to the natural world over the span of their lifetime." (1997) If that is the case, is it possible for an individual who has never walked barefoot in the early morning dew, plucked petals from a daisy and watched the flight of a swallowtail butterfly through a wildflower meadow to act responsibly in preserving our environment? "By validating and reinforcing the child's ways of knowing, we will be fostering a life-long love of the natural world. By failing to do so, we could be contributing to the increasingly more complex environmental crisis, which is considered to be due, in large part, to a growing psychological detachment from and prejudice against nature." (Cohen 1984)

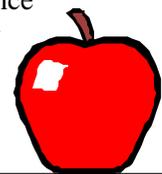
Fortunately, there is a movement across the nation to bring children back to nature. It manifests itself in the form

of natural wildlife habitat gardens replacing asphalt and concrete in schoolyards, hands-on greenhouse horticultural projects as part of the science curriculum, community volunteer programs involving the reclaiming of native plant habitats, vegetable gardens to feed the needy, and many other programs. Perhaps we have found an acceptable means of merging academics with lessons that only nature can teach.

The Herb & Botanical Alliance, a nonprofit organization in New Jersey, has developed many such programs based upon the idea of using nature itself as a tool for outreach. These ongoing projects include developing native, natural wildlife habitat gardens with local elementary schools, a greenhouse horticultural therapy program designed to aid developmentally challenged teenagers in overcoming social stigmas and stimulating the learning process, and service learning projects with the NJ Department of Corrections, Juvenile Division which exposes inner city youths to the concepts of biodiversity and sustainable organic agriculture. Intergenerational service learning projects with Stockton College's Gerontology Program serve a dual purpose in teaching students about the problems of the elderly while helping retired citizens to remain active through a program which will provide organically grown produce to hospice programs and soup kitchens for the homeless.

Program support can also come in the form of information and materials. For example, the NJ Coalition of School Yard Habitats, an affiliate of the Alliance for New Jersey Environmental Education provides

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I held up a 3X5 card with the word 'yellow' printed on it. After she read the letter she smiled. "I know where a yellow flower is," she said and she led me to the front of the house where the clump of 'Firework' goldenrod (*Solidago rugosa* 'Firework') was still in bloom. Three stems of the arching sprays were added to the pitcher and we were off to the back to find the sunflowers that she suddenly remembered seeing the day before. Still in bloom, the stiff hairy sunflower (*Helianthus tomentosus*) with its towering 7 foot stems were the next choice. Three stems were cut and the lemon yellow flowers of this sunflower provided a wonderful balance to the Hibiscus in the vase.

"B-L-U-E. Mommy does that spell blue or purple?" my daughter asked as I held up the next card for her to spell out. "Blue," I said, smiling, "Can you find a blue flower for the arrangement?" While blue may be lacking in many yards, ours contains bog salvia (*Salvia uliginosa*), which has naturalized in many areas across the southeast. As with many other plants of that genus, the foliage is highly aromatic. Just not pleasantly so. The clear true blue flowers are the redeeming characteristics of this plant and it became the third color to round out the arrangement.

Excited by sharing some of 'her' plants with the class, Mabry took the arrangement in on Monday. I had written the common names of each flower in the corresponding Crayola color with a brief description of each for the teacher to read. A note attached to the pitcher let the teacher know that the odor was from the foliage of the salvia and not rancid water in the pitcher! When I arrived to pick my daughter up after school the teacher was overwhelmed with enthusiasm. Not only did the children enjoy the different colors and shapes of the flowers, but the odor differences as well. A unanimous consensus of "that blue one stinks" was returned by the class.

In the weeks that followed the colors green and purple were on the addenda. The vase was filled with the dangling green seed heads of woodland river oats (*Chasmanthium latifolium*). It not only provided something green, but something moving as well. The children loved them, as did the teacher when I told her she could keep them for a dried arrangement. Since I had hundreds of them, I sent enough so that each child could do a crayon rubbing, in green of course, of the arching flower head to take home.

Additional green came from several stems each of scented goldenrod (*Solidago odora*), mountain mint (*Pycnanthemum montanum*) and Sweet annie (*Artemisia annua*). The vase was not only filled with different shapes,

but three scents as well. The report from the teacher was another A+. My daughter told me the kids liked the scent of these plants "a lot better than that stinky blue one!" Another sense awakened.

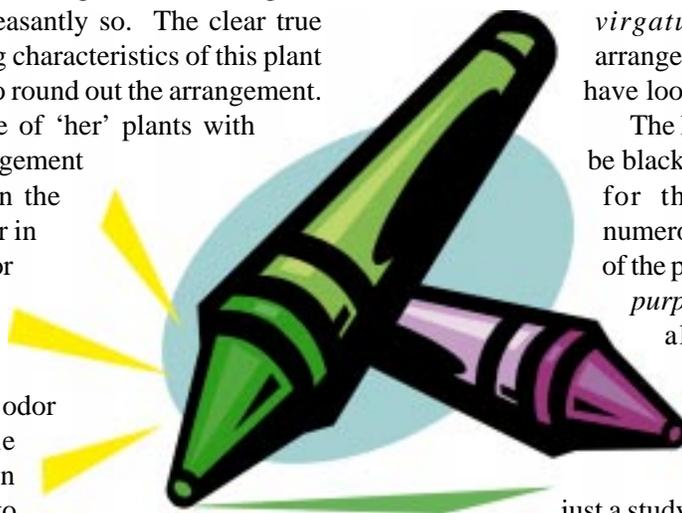
When it was time to gather something purple, I was more excited than my daughter. She selected several stalks of the American beautyberry (*Callicarpa americana*). The fruits had already attained a deep purple color and she knew they were going to love these because "they look like purple balls on a stick." Added to the beautyberry in the purple pitcher were several stems of a purple flowered New England Aster (*Aster novae-angliae*). It made for a memorable, if not slightly gaudy arrangement.

Orange and brown were the next colors to be studied. It was my daughter who noticed the last cluster of orangish trumpet creeper flowers (*Campsis radicans*) blooming along the grey cypress fence. Brown comes easy enough during the late fall and we gathered several stiff fawn-colored flower spikes of blazing star (*Liatris spicata*) and a handful of tan switchgrass (*Panicum virgatum*) blooms. An October arrangement from the florist couldn't have looked better.

The last colors to be studied would be black and white. The arrangement for these colors would be of numerous stiff, now blackened cones of the purple coneflower (*Echinacea purpurea*) and three stems of the alba form of American beautyberry (*Callicarpa americana* 'Alba') with its perfectly formed ivory fruit clusters. It was more than just a study in contrasts, it was a study in memory as well. Most of the children remembered the beautyberry from the purple form they had seen several weeks before. Being able to pull from past experiences, the teacher informed me, was as important as learning something new.

I am currently planning a permanent "Crayola Garden" using native plants. It will have to be an after school / work / weekend project, but the interest from parents, teachers, and students is high. Participation comes in all forms. I may not be able to give an entire morning to help out with parties or assist on a field trip, but I can participate and hopefully make a difference in the way the children view the native flora. ♪

Lynn Libous-Bailey is an avid gardener living in Leland, Mississippi. She is also the editor of the Mississippi Native Plant Society Newsletter and contributes numerous articles about native plants to that and other publications.



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a stated need: to enliven classroom learning about plant biology and ecosystems with field trips to the Presidio, which had just shifted status from an Army post to a national park. Since then, the program has grown from working with one teacher at Washington High School, a half-mile from the Presidio, to working with teachers, administrators, volunteers and high school students from all reaches of San Francisco. This collaborative web of relationships has resulted in a six-module curricular program which now spans the school year and graduates about 100 young adults well-versed in native plant restoration every spring.

Our curriculum incorporates ecological principles relevant to plant biology and ecology as well as larger ecosystem and habitat-related topics and issues. As a whole, the modules (conducted primarily at our restoration sites) and pre- and post-site activities offer students an integrative and contextualized experience of the needs and seasonal changes of plant ecosystems, as well as insights into the challenges presented by habitat competition and loss. Each module program addresses different aspects of native plant restoration and relevant concepts. To create a larger context for our restoration work, we begin the year with a “sense of place” program in which students role-play the last 10,000 years of natural and cultural history of the area. This experience is followed by programs on outplanting, propagation at our native plant nursery, invasive non-native plant removal, and monitoring techniques. The year ends with a “stewardship fair” in which students meet representatives of local environmental organizations to learn about opportunities for environmental action in their own neighborhoods and communities.

Notably, our education program can be adapted to accommodate both educational *and* land management goals. Nearly every week here on the Presidio young people are applying academic knowledge and skills to benefit living ecosystems, all within a stone’s throw from dense urban sprawl. In addition to our educational objectives we strive to cultivate a sense of being part of history and a sense of their own ability to make positive changes as land stewards in their city world. Our experience reaching out to new constituencies has confirmed our belief in the value of diversity on multiple levels. The exchange between the cultures of urban youth and those of native plant restoration and the National Park Service has infused our experience of the work we do with new meaning and perspectives. Simply put, it spices up the conventional. *Hey, is that a sticky “Tupac” flower? Yes, Adrian, it is!* ☞

Damien Raffa is an Environmental Educator at Golden Gate National Recreation Area.

Bibliography

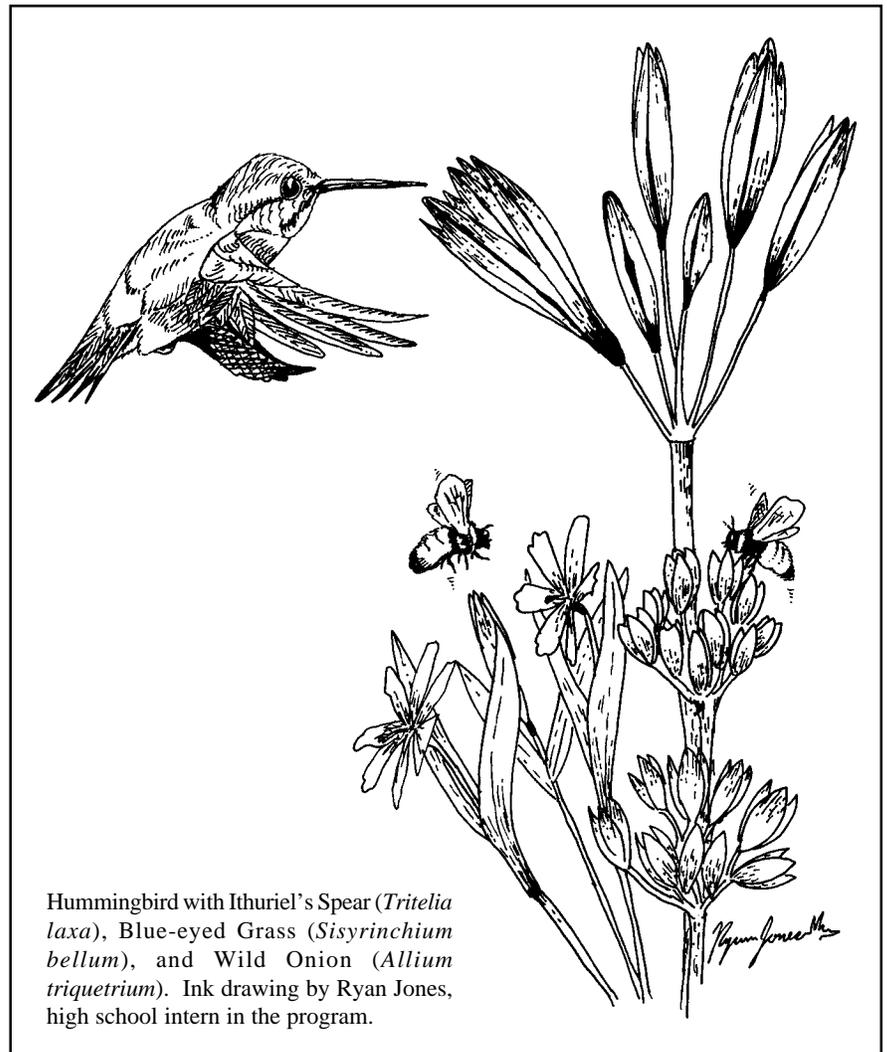
Presidio Natural Resources. Evolving since 1994. *Creating Community: Curriculum for the Future...Students, Stewardship, and Sustainability*. For a copy of our curriculum, contact Nancy Caplan at (415) 561-4315.

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For more samples of artistic expression from volunteers for the Presidio program, see page 5.



(continued from page 2)

instructional materials and funds to local school systems in New Jersey to enable them to bring nature back to our school children. The Native Plant Conservation Initiative also provides information and materials which can be used to promote environmental education in schools and communities.

All of these programs are designed to promote awareness, education and involvement in nature. It's a good start, but we should not forget our roots and the natural wonders that we experienced in childhood. Children today may have expensive toys, but they lack the luxury of wide open spaces and the colors of the rainbow painted across the earth. If we don't help our children to experience these things, they may be lost forever. ♡

Anita Beckwith is the founder and Executive Administrator of the Herb & Botanical Alliance, a non-profit membership organization dedicated to promoting awareness, education and an understanding of plants in their natural habitats, the part they play in our lives and their connection to the environment as a whole.

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*Cinquain and Haiku from
Public Workday Volunteers
at the Presidio*

Generations
Exuberant, dedicated
Picking pulling laughing
Is that poison oak?
compañeros
Peggy Olwell & Pete Halloran

German ivy
pointy green
invading twining twisting
resistant smooth ubiquitous jungle
pest
June, Melina & Nancy

Weeding
Focused determined
Sweating grunting breathing
connected cleansing bonded rad
restorativity
Michael, Amy, Rachel G. & Liz L.

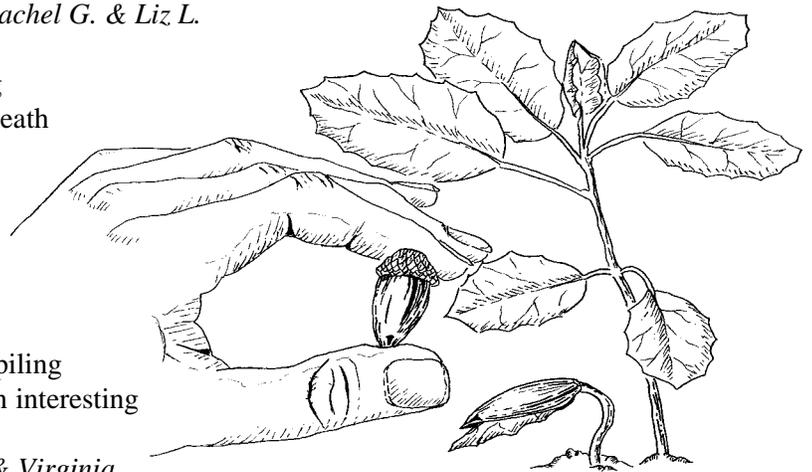
pulaski swinging
pampas falls beneath
the blade
habitat restored
Liz C. & Tom

Wild radish
Lavender bushy
pulling hacking piling
Tired satisfaction interesting
pretty big weed
Oronde, Lucho & Virginia

Primrose and Me

by Paul Ghiglieri
*a high school student inspired by
an English class field trip to
a coastal scrub ecosystem*

I sit and gaze
The caressing waves, the silky sand
The unique terrain, the tall woods
The soaring birds and the binding ocean
And yet I am troubled
For my eyes are grasped not by these
wonderous things
but rather a Primrose plant
A plant!, I say, of all things!
Pale green and not but bigger than my hand
A handful of sand I decide
will be sprinkled like rain on this
wretched plant
For taking my eyes from an ocean and a
Gate, the woods and the waves, the birds and the
terrain
And so I sprinkled, sprinkled, sprinkled
onto five finger leaves and a center palm...
And then I see.
Not as tall, not as big
It does not think and cannot say
young, so young, its flower has
not yet blossomed
but equal to me is it indeed
Food for life, a link to a chain
of which I too belong
No eyes and no thoughts
but fuzzy and pale and plain
No house and no clothes
but sand, sand, and more sand
Wretched, no
but beautiful indeed.



Coast Live Oak (*Quercus agrifoli*) by Ryan Jones.

The following educational publications are available from the Center for Plant Conservation. For more information about these publications, please write to the Center for Plant Conservation, P.O. Box 299, St. Louis, MO 63166 or contact Robin Bruce at (314) 577-9450 or cpc@mobot.org.

Plants in Peril is an activity guide to exploring biodiversity and rare native plant conservation for middle school educators. The 24-page booklet includes background information, illustrations of rare native plants, and several activities to introduce middle school students to plant conservation issues in our country.

The *Guide to Educational Resources on Rare Native Plant Conservation in the United States* is a 72-page resource guide that profiles the educational efforts of CPC's Participating Institutions as well as organizations outside of the CPC network, with an emphasis on the five CPC priority regions: Hawaii, California, Texas, Florida, and Puerto Rico and the U.S. Virgin Islands.

The Silversword is a four-page plant conservation newsletter for young audiences that is produced twice a year and distributed to *Friends of CPC* within the organizations's newsletter. The Fall 1997 premier issue is now available, and the Spring 1998 issue will be available in April.

The *1997 Plant Conservation Directory* is a directory of names, addresses, phone and fax numbers, and e-mail addresses of botanical, conservation, and scientific organizations nationwide. It assists with plant conservation questions on state, regional, and national levels as well as current rare plant legislation.

PLANTING FOUNDATIONS VOLUME II, ISSUE I CREDITS

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Planting Foundations is a bi-monthly publication of the Native Plant Conservation Initiative. The goal of this newsletter is to help promote the information sharing and national communication which is needed to create the basis, or foundation, for further effective native plant conservation efforts. Reproduction of the information contained in this newsletter is authorized without prior written permission for educational and other non-commercial purposes. Electronic copies of *Planting Foundations* may be requested by e-mail or postal mail or may be found on the NPCI website at <http://www.aqd.nps.gov/npci> both in PDF and HTML format.

Planting Foundations is looking for news items, announcements, articles, short editorials, letters, and black & white art. Contributions, comments, and suggestions may be sent via postal mail, fax or electronic mail to:

NPCI - Planting Foundations
National Park Service
1849 C St. NW, Room 3223
Washington, DC 20240
Fax: (202) 208-4620
E-mail: native_plant@nps.gov

Celebrating Wildflowers!

The 1998 Celebrating Wildflowers On-Line Events Directory is now open on the Native Plant Conservation Initiative Website! Simply point your browsers to:

<http://www.aqd.nps.gov/npci/>

Just click on the Directory (under the Featured Page section) to view the events list organized by state. Tell your friends and family to browse the directory for fun events in their own states. We're constantly adding to the on-line listing, so keep sending in your event information! (Instructions are on the website) Also be sure to check out the Wildflower Events Hotline at 1-800-354-4595 which is updated every week.

For wildflower fun for children at home, take a look at the Celebrating Wildflowers Coloring Book in the Outreach Programs section of the NPCI website.

WANTED!

The next issue of the newsletter will be centered on the topic of present and past Native Plant Conservation Initiative/National Fish and Wildlife Foundation Grant Projects. We're looking for articles and short updates on the projects which have been partially funded by our grant program. Submissions may include photographs or other graphics. Please include a short two or three sentence biography with your article. If you have questions about article style, length, coverage or anything else, feel free to contact us.

Other news items, announcements, editorials, and contributions are welcome as well.

Submissions for the June/July newsletter are due by June 3, 1998 at the postal address, fax number or e-mail address given above.

We are always looking for suggestions for future newsletter themes, so please send your ideas our way.