



Segoe Lily

Newsletter of the Utah Native Plant Society

VOLUME 25, ISSUE 3

MAY/JUNE 2002

Segoe Lily and Cactus Refuge Populations

By Jeff Mitchell

Utah has several endemic species of cactus, which means that they occur nowhere else in the world. Because of limited distribution and rarity, these cacti become prized possessions for cactus hobbyists and merchandise for commercial collectors. A number of these plants have been listed as endangered or threatened under the Endangered Species Act. Even so, illegal collection still occurs



as enforcement agencies do not have ability to fund adequate enforcement over the remote areas where these plants live.

For the last several years, I have been cultivating native Utah cactus and propagating them with the intent of making these interesting cacti available to the public without having to resort to collection from habitat. By mass producing these plants, I hope to drive the cost of buying cultivated plants below the costs required in collection, thus eliminating any profit motive from collection.

There are several constituencies that want these plants, and their needs need to be accommodated by any propagation plan. The least fussy constituency doesn't really care where the plant comes from. All they want is a plant for their windowsill. These are the easiest to handle. Cactus enthusiasts, researchers, and people involved with habitat restoration would want seeds or plants from specific areas, and they want the material to be genetically representative of a particular population. This segment of demand can be supplied from refuge populations.

A refuge population is a group of plants which is genetically representative of a population in the wild, but which is grown at a location away from the wild populations. A refuge population can serve as a backup for the natural



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populations, provide seed for restoring areas from which a species has been extirpated, and for providing researchers and hobbyists with a source of genetically representative material from a particular location.

While some endangered and threatened cacti are available from commercial sources, the numbers of cacti used as seed producers are not typically genetically representative and may represent only 10-30 plants. This is better than nothing, and would satisfy people who want the plants for their windowsill. But it is certainly not optimal for the hobbyists, researchers and folks doing habitat restoration. The question then becomes how to get a representative parent population without further endangering plants in habitat. The answer is to collect seed which is much more abundant than plants. So the idea is to collect a small percentage of seed (10 percent or less) from each plant in a larger more representative population. The larger the parent population, the better the representation. While gathering the seed, the remaining seed can be placed in strategic microhabitats where they are more likely to germinate. This would be done to offset the relatively negligible amount taken for cultivation. A brood stock with several hundred plants cultivated from these seeds can then be established. Further genetic representation can be brought in by pollinating cultivated plants from plants flowering in habitat without taking any more plants or seeds.

Ok, that is the theory. How is it working out with *Pediocactus despainii*?

Pediocactus despainii is an endangered endemic from the San Rafael Swell in Emery County in central Utah. I have successfully grown *Pediocactus despainii* from seed and have several hundred seedlings. These seedlings are not genetically representative as the parents probably number less than 20 plants. It is a good start, however.

My germinating facility holds 4 72 cell flats of seeds and plants which grow under 8 F40CW fluorescent bulbs. This will be expanded to a total of 8 trays in the near future.

The first planting was in November 2000, and 88 of 128 sprouted. 48 died due to moisture retention in the soil. The remaining 40 were placed outside during summer 2001, survived, and were repotted into 4" pots in March 2002 and are growing rapidly. The second planting was in March 2001. 225 of about 500 sprouted. Only 2 died. The third planting was done in January 2002. 90 of 300 sprouted. 0 died.

The second and third plantings have been moved outdoors from my fluorescent germinating rack. The seedlings have been placed under two window screens to provide shade from direct sun until they can adapt to the brighter light.

Hopefully, I will have the first and second plantings in flower by spring 2004. At that point these non-representative plants will be producing thousands of seeds which can then be cultivated for sale. The proceeds would be used to finance expansion of a non-profit organization dedicated to mass producing endangered plants with the intent to reduce collection pressure on plants in the wild. I'm also hoping to develop a working relationship with the Fish and Wildlife Service to be able to set up refuge populations which can be used for restoration of damaged areas and potentially some expansion of populations into adjacent similar habitats in the wild. I am in the process of cultivating additional species and hope to report on those at some time in the future.



If any of you have seeds you would like to donate to this project with or without location data, or have any questions, contact me at mhedgies@hotmail.com. If seeds are of endangered or threatened plants, they need to be cultivated or otherwise legally acquired.

About the author: Jeff Mitchell was formally trained in computer science, and has had an interest in biological and natural sciences all of his life. He has been working with native Utah cacti for the since 1996. He is currently working on propagating 11 species of native cacti with others in the works.

2nd Annual Native Plant Sale at REI

Saturday, May 11, 10:00 a.m. to 4:00 p.m.

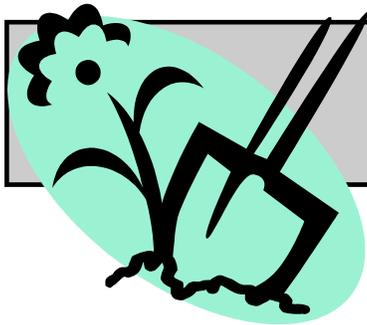
Meet us in the parking lot at the REI store at 3285 East 3300 South in Salt Lake City. This event will feature a grand assortment of native plants and seeds for sale as well as posters and possibly other items. We will have plants we have produced, and several nurseries will be participating as well. Plant sale proceeds will be used to support the UNPS Heritage Garden program.

Tony Frates and other UNPS members:

I would like to thank your organization for the work which has been completed in the past. I have worked in Washington County since the late 70's and do remember the progress for T&E plants which was made. I would like to update you on the progress which has recently been made on the dwarf bear-claw poppy. The following actions have been taken: The last several years a trail system has been developed in the Red Bluff Poppy Habitat and Stucki Springs Holmgren Milkvetch Habitat to centralize mountain biking activities and control OHV use. Along with the trail system, a bike patrol has been established to provide emergency care to bikers when needed and to monitor OHV activities. Patrol members are equipped with cellular phones so law enforcement authorities can be notified on any OHV activities. Also restoration work has been completed by our office and several Americorp Crews to erase unwanted trails, and other surface disturbances (approximately 10 acres of restoration each of the past 3 years). We have completed an exchange with the State of Utah on poppy habitat in the Webb Hill Population (south of Brigham Road). This exchange consolidated the better habitat in this area and provided for an addition of approximately 80 acres poppy habitat. The past several years we have completed approximately 8 miles of protective fencing for the poppy. The following populations are now fenced from OHV and other surface disturbing activities: Shinob Kibe, Webb Hill (both north and south of Brigham Road), Red Bluff. The St. George Field Office (BLM) has completed a land use plan (1999) which provides a number of protective measures for T&E and BLM Sensitive Plan Species. The Warner Ridge and Red Bluff Habitats were designated Areas of Critical Environmental Concern. This year we will be completing protective fencing on 1 or 2 Shem Milkvetch Populations to restrict OHV and livestock grazing use. Also we will need some of the existing fenced areas patrolled and fence maintenance completed. We would like to work with your local Chapter on completing some of this work. I look forward to hearing from you. Bob Douglas Wildlife Biologist St. George Field Office 435-688-3204.

The Garden Niche Opens in Sandy!!!

Going native at long last, there will be a nursery in the Salt Lake area specializing in Utah native plants: The Garden Niche will open in Sandy on Monday, April 22. It is not a total coincidence that this is also Whole Earth Day. Our goal and purpose will be to provide plants that can grow in harmony with our other natural resources, rather than opposing them. Native plants are adapted to our climate; hot and dry in the summer, cold and wet in the winter. They do not suffer from the many pests and diseases that occur on tender exotics, so the pesticides are not needed. They thrive, in their own hardy fashion, with little or no added fertilizers, soil conditioners, or extra water. We have chosen water-thrifty plants for their unique beauty and usefulness in habitat creation for birds, butterflies, and native bees. Some examples: Cliffrose and Bitterbrush are medium-sized shrubs with cream-colored, wonderfully fragrant flowers like small simple roses that will perfume your yard. Pinyon pine is a slow-growing native pine that can produce pounds of delicious nuts in the Fall, and the bluejays know all about it. Dorr's sage is a petite shrub with fragrant leaves and lovely purple-blue flowers. The garden staff will be able to assist in design and plant choice, including modification of watering regimens to conserve during the continuing drought. The principal nurseries supplying stock for The Garden Niche are Janett Warner's Wildland Nursery in Joseph, Utah, and Merrill and Robert Johnson's Great Basin Natives in Holden, Utah. The Garden Niche is located at 10650 South, 700 East, Sandy, Utah 84091. The phone number is (801) 523-5020. Hours will be 10-6, Monday through Saturday.



Events and Activities

Waterwise Landscaping Class

May 7 and 14, 6 to 8 p.m. Red Butte Garden. This two night class will focus on all aspects of waterwise landscaping, from proper design, irrigation technologies and drought tolerant plant selection.

Utah Native Plants in the Landscape

May 18, Red Butte Garden, Lecturer: Paula Mohadjer. For more information call 581-IRIS. \$5 or free with garden admission price.

Upcoming Field Trip to Farmington Canyon

July 13th – Set this date aside for a great field trip up Farmington Canyon with Forest Service Ecologist Wayne Padgett. Details will follow in the next Segó Lily as to where and when to meet and what to expect from this spectacular trip.

Albion Basin Wildflower Walk

July 27th- Wildflower walk at Albion Basin! If you have not seen this gem in the height of summer, it is an absolute must! (Even if you have seen it, it's time to go again!) The display of wildflowers is astounding! Steve Jensen and Ann Crawley will lead this interpretive hike and answer any questions about the wildflowers, wetland characteristics and geomorphology. The two leaders completed a study in this area a few years ago, so they are very familiar with many aspects of Albion Basin. This promises to be a magnificent tour lasting about 4 hours. Meet at the parking lot of Goldminer's Daughter at the base of Alta Ski Area at 10 am and carpool it from there. The tour should end at about 2 pm. For further information, call Mindy Wheeler at 699-5459.

Utah Native Plants in the Landscape

Thursday, June 6, 7-8:30 p.m. Jordan Valley Water Conservancy District, 8215 S 1300 W. Back by popular demand! Susan Meyer, President of the Utah Native Plant Society, is once again teaching her acclaimed Native Plants in the Landscape workshop. Great slides and a wealth of information! Due to limited space, please RSVP 1-877-728-3420.

Garden Fair Days at Jordan Valley Water

June 8 and July 13. 8:00 a.m. to noon. Jordan Valley Water Conservancy District. The Garden Fair includes "Ask an Expert" information booths such as the Utah Native Plant Society, Center for Water-Efficient Landscaping, and Utah Water Conservation Forum, food vendors, and Waterlou entertainment. This will also be a great opportunity to pick up some of our beautiful native plants, because ALL of Utah's native plant and seed sellers will be there: Wildland Nursery, Great Basin Natives, Utah Wildflower Seeds, High Desert Gardens, and Paul Ames' seeds. JVVCD, 8215 S 1300 W, West Jordan. For more information call Paula at 565-4300.

Landscaping with Utah Native Plants Class

June 13 and 14. University of Utah Lifelong Learning class that will be held at Jordan Valley Water Conservancy District, 8215 S 1300 W. What better place to find plants that fit into your landscape than the natural environment around you? We'll cover which plants are native to Utah, sources for purchasing native, soils an dirrigaiton and maintenance. Garden walks will expose you to many examples. \$49. To register call 587-5433.

Waterwise Gardening Basics in the Demonstration Garden

June 20, Thursday 6-7:30. Paula Mohadjer, Conservation Horticulturist, JVVCD. This class will be held at the JVVCD Conservation Demonstration Gardens, 8215 S 1300 W, West Jordan, for hands-on learning about waterwise gardening. Topics will include irrigation technologies, waterwise design, and proper plant selection. Free. As space is limited, please register at 565-4300.

Red Canyon Field Trip

The plans are still developing for a weekend at Red Canyon; I have info on a Bristlecone Pine forest in the area, and we have several members who know the endemics there. I can't get reservations at the campgrounds, but the person I talked to thought there shouldn't be a problem getting sites, except on Memorial Day weekend.

So I am scheduling the trip for a weekend between May 17 and June 15 (excluding Memorial Day) and the exact date will be set after I get a final response from members. Currently the idea is to have one or two group hikes on Saturday, and a potluck supper afterwards. The campground sounds nice and fully developed, including showers; see the website at

<http://www.fs.fed.us/dxnf/campground/redcanyon.html>.

There is also a commercial campground nearby with some cabins. See http://www.redcanyon.net/rc_rvpark/

Please respond to sgarvin@fs.fed.us or Susan Garvin, 801-356-5108 by May 10, and I will send you information on the plans as they develop. Also indicate if you'd like to participate in the potluck.

Great Perennials for Waterwise Landscaping

July 13, Saturday 10-noon. Jordan Valley Water Conservancy District. Lecturer: Franci DeLong, Xeriscape Design. Are you looking for some beautiful, long blooming, low-water and low maintenance perennials to use in your garden this year? This talk will give you a large palate to choose from and you'll see how they've been used in some of our local landscapes. Free. As space is limited, please register at 565-4300.

Trees and Shrubs for Waterwise Landscaping

August 15, Thursday 7-8:30 p.m. Jordan Valley Water Conservancy District. Lecturer: Doug Kilgren, City of Sandy Water Conservation Coordinator. Different waterwise trees and shrubs that can be incorporated in residential landscapes; both hard to find natives and ones found at the local garden center. Free. As space is limited, please register at 565-4300.

Ornamental Grasses

September 21, Saturday 10-noon. Jordan Valley Water Conservancy District. Lecturer: Julie Rotolo, Assistant Horticulturist. Learn about beautiful, drought tolerant ornamental grasses. This class will be held at the JWCD Conservation Demonstration Gardens so the grasses can be viewed in a garden setting. Free. As space is limited, please register at 565-4300.

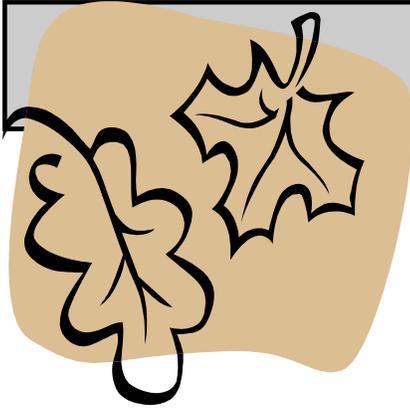
Dwarf Bear Claw Poppy

Dwarf Bear Claw Poppy to Benefit from grazing buyout The Grand Canyon Trust and The Nature Conservancy of Utah are fundraising for the purchase from a local Washington County, Utah rancher of the BLM grazing permit overlaying one of the largest remaining populations (Red Bluff) of the endangered Dwarf Bear Claw Poppy (*Arctomecon humilis*) south and west of St. George. TNC of Utah is attempting to raise \$8,000 as its share of the acquisition cost of cattle permits. If you are interested in contributing to this effort, contact Elaine York at (801) 531-0999 or at 0000,0000,8000eyork@tnc.org.

Zion National Park—What's up and Blooming!

under the "Southern Chapter" page that the Zion NP "What's up and blooming" link has been updated to include links to photographs for most of the plant species that are mentioned. The link is off of the Southern Chapter page or you can get there directly by navigating to: http://www.unps.org/zion/zion_index.html

UNPS is providing the resources to publish and maintain the information under its web site as a public service. UNPS member Margaret Malm is the author of actual material. I am doing the web work. Tony WASHINGTON COUNTY RARE PLANTS by Tony Frates As a part of an inquiry we made recently concerning the status of BLM related activities concerning endangered plant species in Washington County (including the ongoing plight of *Arctomecon humilis* aka dwarf bearclaw poppy which has long been the focus of various UNPS conservation actions and sponsored research projects), we received the following reply from Mr. Bob Douglas of the BLM's St. George Field Office which he has granted us with permission to reprint. We are extremely encouraged by the positive actions that have been taken and are being planned by the BLM and, through primarily our Southern Chapter, hope to foster a stronger working relationship and assist the St. George Field Office as appropriate and feasible in conjunction with rare plant related projects.



Chapter News

Cache Chapter

Despite the thick snow which lasted well into March, northern Utah's UNPS chapter eagerly anticipated greener times. We sponsored yet another sellout Native Plant Propagation Workshop on March 2nd. Participants have been reporting great success with this year's selections and are looking forward to planting them out. The USU Herbarium staff also gave us the red carpet treatment on our March 12th tour. We not only were able to (encouraged to!) pore through the samples collection, we saw how they are processed, the extensive library used in their research, the large slide collection, and even an online tour of their continuing database compilation. Oh, and those snacks! Thanks, Mary, Michael, and Ali.

Just a week later, instead of gleefully exploring the Herbarium treasures, we sat stunned by Dr. Steven Dewey's Invasive Weeds presentation. The threat these weeds pose for Utah's natives cannot be over-estimated – millions of acres in the West have already been lost to them. Indeed, Dr. Dewey has particular concern for areas such as Logan Canyon's Franklin Basin, where he has found evidence of weed invasion along trails popular with snowmobilers and ATV riders. Coincidence? We wonder.

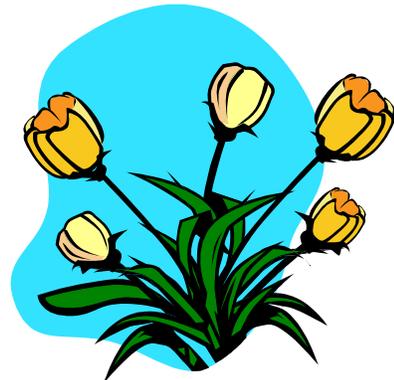
In April, things really start to get busy for us. On April 18th, we'll have a tour of the Logan High School Strawbale Greenhouse (6:00 pm at Logan High School, 162 W 100 S. The greenhouse is located in the far southwestern corner of the west parking lot, behind the storage barn.) Here's a great opportunity to see the building method everyone's talking about. A year ago, students and community members built Logan's first (legal) strawbale structure - a greenhouse - on the grounds of Logan High School. Jack

Greene, UNPS member, LHS science teacher, and project leader, will show us around. Jack will also lead us on May 9th for an evening hike in Smithfield Canyon (6:00 pm at the Birch Creek trail in Smithfield Canyon. Call 435-258-0303 for more detailed directions.) This time, we'll be walking up Birch Creek to see early spring flora, with an emphasis on ethnobotanical lore.

In mid-May we will offer the outing/workshop *Identifying Northern Utah's Natives*. Mary Barkworth, USU Herbarium Director, will lead this oft-requested outing for all ages and skill levels. Class size is limited to 15, so call early. (May 18th, 1:00 pm, probably Green Canyon. Small fee, about \$1-\$2, to cover cost of hand-outs. Call 258-0303 for more information or to register.) We hope to offer this class throughout the year, so stay in touch!

Southern Utah Chapter

The Southern Utah Chapter of UNPS has been busy the last few months. We have had several work days and have the Heritage Garden for Three Falls Elementary well under way. We have the drip system in and working. We had a special planting day with help from the 3rd grade classes at the school. The native plants which were provided by Zion National Park and the Utah Native Plant Society are starting to grow. We even have an Indian Paintbrush blooming!





UNPS Spring Grant Recipients

By Larry Meyer

The Utah Native Plant Society has a long history of awarding grants for the advancement of the goals of the Society. The first was over 15 years ago for the study of the dwarf bearclaw poppy (*Arctomecon humilis*). Recently we have been awarding several grants per year. The fruits of the projects can be seen in the *Sego Lily*; it is a requirement that the awardee publish an article here as a condition of the grant. This spring session there were three awardees who span the areas of basic research, field research and service projects.

The first award is going to Julie P. Rieder who is pursuing her doctoral degree in ecology at Utah State University. Her research involves the non-native plant, yellow starthistle (*Centaurea solstitialis*), a project titled "Yellow starthistle: An Investigation of Invasion Processes." She will investigate the mechanisms governing invasion and the susceptibility of plant communities to invasion. Her main objective is to contribute to our understanding of invasive weeds by investigating two phases of the yellow starthistle invasion process: initial colonization and subsequent encroachment. Her goal is to shed light on the mechanisms driving susceptibility of native communities to invasion by yellow starthistle. The research will be conducted in a yellow starthistle infested field at the Lindquist Memorial Gardens of the Wasatch in South Ogden, Utah. It will address the following question: How does proximity to a yellow starthistle patch, disturbance, nutrient availability, and seed rain of yellow starthistle influence the ability of yellow starthistle to colonize a native plant community?

The second award was to Thomas O. Clark, Chief of Resource Management & Science at Capitol Reef National Park for a regional inventory of endangered plants in south central Utah. The objectives of this project are to: 1) conduct a regional endangered plant inventory to have accurate data on locations of these rare and endangered plant species both within and adjacent to CARE and, 2) to help develop monitoring criteria and standards for the listed species. The specific species to be studied are:

Barneby reed-mustard (<i>Schoenocrombe barnebyi</i>)	Endangered
Jones cycladenia (<i>Cycladenia humilis</i> var. <i>jonesii</i>)	Threatened
Last Chance townsendia (<i>Townsendia aprica</i>)	Threatened
Maguire's daisy (<i>Erigerion maguirei</i>)	Threatened
Western nodding ladies-tresses (<i>Spiranthes diluvialis</i>)	Threatened
Winkler cactus (<i>Pediocactus winkleri</i>)	Threatened
San Raphael cactus (<i>Pediocactus despainii</i>)	Endangered
Wright fishhook cactus (<i>Sclerocactus wrightiae</i>)	Endangered

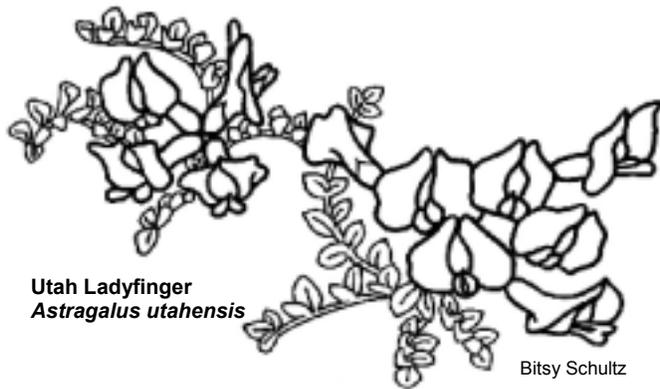
An additional species, *Gilia caespitosa*, is a candidate for listing. This project will map all known populations of these species in the Capitol Reef National Park and on adjacent BLM and FS lands. It will overlay known population locations with soil types, geologic formations, slope, and elevations to create a profile of potential habitat. Funding received through this Grant-In-Aid Program would be used to help fund a student through the federal Student Trainee Employee Program (STEP). The purpose of this program is to employ students majoring in appropriate programs to teach them about working for the federal government and give them the opportunity to learn more about their selected major in a work environment.

The third award goes to Tamara Naumann to fund a Natural Resource Internship at Dinosaur National Monument. The intern will be working with several projects over the summer. The first is a Volunteer Weed Warrior Program—this program focuses on education and volunteer service. Last year, the park worked with 768 volunteers, who donated 1,888 hours of service toward removing invasive tamarisk, perennial pepperweed and leafy spurge from the park. The second main project is Native Plant Propagation and Restoration. The intern will maintain a small nursery and demonstration garden, propagate new plants, collect native seed and work with other staff on restoration and education projects.

The funds for these grants come from poster sales and some from dues. Increasing costs for mailing and photocopying use an increasing percentage of dues money. New membership forms will have a spot for an additional donation to help fund our programs. The UNPS is increasingly active in initiating demonstration native, low water gardens through our heritage garden program, funding grants such as these and advancing the weed warrior program to try to eliminate invasive exotics that threaten our natives. We are an IRS approved charity and any donation is fully tax deductible. If you think these programs which directly benefit the Utah community are worthwhile, please consider a donation to our grant fund when you renew. If you really like these programs, send your check now! Thank you.

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For more information about the Utah Native Plant Society call:

Bill King: 582-0432
 Susan Garvin: 356-5108
 Larry Meyer: 272-3275
 Or write to: unps@unps.org

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<input type="checkbox"/> Household	\$25.00
<input type="checkbox"/> Sustaining	\$40.00
<input type="checkbox"/> Supporting Org.	\$55.00
<input type="checkbox"/> Corporate	\$250.00 and up
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Please send a complimentary copy of the Segó Lily to the above individual.

Please enclose a check, payable to Utah Native Plant Society and send it to:

Membership
 Utah Native Plant Society
 P.O.Box 520041
 Salt Lake City, Utah 84152-0041

Check out our website!
www.unps.org

Many thanks to Xmission for sponsoring the Utah Native Plant Society website.

Please direct all suggestions, articles and events for the newsletter to Paula Mohadjer at paulam@jvwcd.org. **The deadline for next issue is June 14.**

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