THEACORN

American River Natural History Association Quarterly Magazine - Fall 2024



President's Message, Fall 2024



I can't believe it is fall again. Reminds me of a song lyric "and the seasons, they go round and round". Fall is a special time at the Effie Yeaw Nature Center (EYNC). The spring-born animals in our Nature Study Area (NSA) have grown and fattened up in preparation for winter. The deer are about to go into rut season, offering some dramatic moments. The colors are mainly browns and tans except for that one tree down on the river at the end of the trail that puts on a colorful show. The days are getting shorter and evening arrives earlier, making it easier to hear and see nighttime activity in our woodland.

Speaking of nighttime activities, nocturnal animals are the topic of a beautifullyillustrated article by Eric Ross in this issue of The Acorn. Also featured is a discussion of what an NSA is and how ours compares with others along the American River Parkway. Other stories cover monarchs, volunteer activities, climate change and our Discovery Store, and how to train a raptor.

Our June "Feast in the Forest" event was fun. And thanks to all of you who participated and donated, it was a financial success as well. We cannot continue the amazing programs that EYNC provides without this kind of support. There will be more opportunities to support the Nature Center this fall including the Holiday Sale, Giving Tuesday, and the Winter Appeal.

We finally got our Master Plan for Facilities Improvement through the California Environmental Quality Act (CEQA) approval process. If you know anything about CEQA, you know that this is quite a process; but without CEQA approval, a project can't really move forward, especially in an area that is protected as both a natural habitat and a cultural resource. Gratitude goes out to all of the people who had a part in making this happen.

The General Membership Meeting is on the calendar for Tuesday, September 17th. The start time will be announced closer to the event. This is a great opportunity for people to interact with other ARNHA members, meet the Board, and get to know staff. It is also a time to see the Nature Center as it transitions to fall and learn about all the exciting projects that are in the works. Please attend and show your support.

Speaking of support, have you thought about including the EYNC in your estate planning? I was unaware of such a choice until I needed to put together a good plan for myself. Including the Nature Center in your plan is a way of ensuring that your values of caring for the earth and caring for how this place educates people to protect the planet will continue. That can be part of your legacy.

Come visit and feel the seasons change.

Autumn is a second spring when every leaf is a flower. Albert Camus

Joey Johnson President

The Acorn is published quarterly by the American River Natural History Association (ARNHA), a 501(c)(3) non-profit organization that supports the Effie Yeaw Nature Center and Nature Study Area.

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Nocturnal Animals at Effic Yeaw

By Eric Ross

Human beings are diurnal, meaning they are generally active during the day-time and inactive in the nighttime. In contrast, many non-human animals are nocturnal, meaning they are generally active during the night and sleep during the daytime. (Some biologists also include a third category, crepuscular, that refers to animals most active at dusk or dawn.) The Effie Yeaw Nature Center's Nature Study Area (NSA) contains habitat for numerous nocturnal animals such as bats, owls, skunks, raccoons, opossums, and bobcats; however, because the NSA is closed after dark, opportunities to see them are limited to specially-organized nighttime guided hikes.

Evolutionary biologists have sought to determine the origins of both diurnality and nocturnality. One leading hypothesis called the "nocturnal bottleneck theory" focuses on the Mesozoic Era also known as the Age of Dinosaurs (starting 252 million years ago [mya] and ending around 66 mya). During that time span, large and dominant diurnal dinosaurs hunted extensively worldwide. Scientists theorize many ancestors of modern mammals became active at night to avoid contact with dinosaurs by day. They evolved highly developed senses of hearing, smell, and special adaptations of eyesight for night vision. After dinosaurs died out, many mammals remained nocturnal, while others adopted diurnal habits.

Bats. Bats' nocturnal lifestyle protects them from predators such as hawks, exposure to the sun, and high temperatures. Bats hunt at night, using short bursts of high frequency sound to locate flying insects (echolocation), thus avoiding daytime competition for food from birds. In Sacramento, we have two prominent species of bats, the hoary bat (*Lasiurus cinereus*) and the Mexican free-tailed bat (*Tadarida brasiliensis*). The hoary bat roosts in trees and sleeps during the day hanging upside down. The Mexican free-tailed bat can be found roosting on building walls and under road bridges before hunting at dusk and at night.

Owls. Locally we have three prominent species of owls: the barn owl (*Tyto alba*), the western screech-owl (*Megascops kennicotti*), and the great horned owl (*Bubo virginianus*), all nocturnal. The word owl comes from the Anglo-Saxon word ule, which was derived from the Latin word ululo, meaning to howl or hoot.

Barn owls are large owls that nest in hollow trees, cavities, and, yes, sometimes barns. They eat prey mostly active at night: small mammals such as rodents, shrews, bats, rabbits, and birds. They hunt silently with slow wingbeats over open fields, locating prey (often in complete darkness) using their impressive auditory senses enhanced by their flat faces that capture sound like a satellite dish.

Western screech-owls are tiny owls (about 8 inches tall with a 20-inch wingspan) with grey-brown coloration and wide streaking that camouflages them from predators when they perch in trees. Western screech-owls do not screech but have calls comprised of a series of trills that sound like a bouncing ball.

They use their exceptional hearing and excellent night vision, and employ several strategies to catch prey, including swooping down from a perch, chasing their quarry in the air, and walking on the ground. Their diet includes insects, small mammals, birds, and some reptiles and amphibians.



Mexican free-tailed bat. Photo ©Ann Froschauer US FWS.



Barn owl. Photo ©Katherine Roberts.



Western screech-owl. Photo ©Katherine Roberts.

Great horned owls live up to their name with body lengths and wingspans reaching 25 inches and 5 feet, respectively. Adults can be quite vocal, with a deep but loud "hoo-hoo-hoo hoo hoo." Their mottled coloration ranges from grey to black and brown, beige and white. They have feathery ear tufts that look like "horns."

Great horned owls are excellent hunters, taking all kinds of small to medium-sized animals and even capturing prey larger or heavier than themselves. As keystone predators, they help to control populations of prey animals to maintain a balance in the ecosystems they inhabit. They mostly hunt at dusk and at night from a perch, flying low over the ground. Like other owls, they have facial discs made of feathers that direct sounds to their ears allowing them to detect the location of prey.

Skunks. In Sacramento, the striped skunk (*Mephitis mephitis*) is our most common skunk species. The size of a domestic cat, it has a small head, a squat body, and long claws on its forefeet for digging. A nocturnal omnivore, it feeds mostly on insects, fruits, and rodents. It is black with a distinctive white stripe that begins on the crown of the head before splitting into two stripes near the shoulders and continuing down the back.

Such patterning in animals is defined as "aposematic"—an animal's warning to potential predators that it is not worth encountering. The stripes notify predators of the skunk's defense mechanism, musk glands under its tail, which can produce a smelly spray. Usually even-tempered, a striped skunk will not use that defense unless threatened. Because the spray can cause nausea and temporary blindness, skunks are rarely attacked by other mammals.

Raccoons. The North American raccoon (*Procyon lotor*) ranges through much of California. Raccoons have prominent black "masks" across their eyes. Wellbuilt with small erect ears, a projecting muzzle, short legs, and a black-banded longish tail, they average up to three feet in length, weigh between 15 and 25 pounds, and are covered with shaggy gray, black, and brown fur.

Raccoons are crepuscular and nocturnal. They are omnivorous, feeding on crayfish and other arthropods, rodents, frogs, and fruit, especially figs locally. Raccoons, like skunks and bats, are frequent vectors of rabies, which can not only kill them but also endanger humans.

Opossums. Common in Sacramento, opossums (*Didelphis virginiana*) are the only native North American marsupial (pouched animal). Cat-sized, fuzzy and grey, they have short legs with pink bare feet, long pointed snouts, mouths with 50 teeth, and bare, prehensile tails. Their feet are shaped somewhat like human hands with an opposable toe ("thumb") for limb grasping; their tail is also used for climbing trees.

Solitary and nomadic, opossums are most active foraging at night between 11 pm and 2 am. They eat wild plants and animals, including carrion and even bones because they crave calcium. Because of their low body temperature, opossums are largely resistant to rabies and other diseases. If threatened, opossums will hiss, bare their teeth, or collapse pretending to be dead ("playing 'possum").



Great horned owl family. Photo ©Katherine Roberts.



Striped skunk. Photo @ Katherine Roberts.



Common raccoons at twilight. Photo courtesy Grand Teton NPS.



Opossum. Photo ©Daniel Lee Brown.

Bobcats. Bobcats (*Lynx rufus*) are a California native species. Two or three times bigger than domestic cats, they weigh 15 to 25 pounds. Striking in appearance, their coats are gray with black or brown spotting, their ears have tufted tips, their faces framed by furry "mutton-chops", and their tails stubby and black-barred. At present, California's bobcats are estimated to number between 70,000 to 100,000.

Solitary and elusive, these carnivores are most active at night or during twilight. They usually range around their own established territory and move between resting and hunting areas. Bobcats contribute to healthy diversity by controlling prey populations in the wild. Common prey include various rodents, birds, amphibians, reptiles, insects, rabbits, as well as deer fawns. Once bobcats locate prey, they stalk within short range and then pounce. Bobcats do not pose a danger for people.



Bobcat. Photo @Joey Johnson.

Eric Ross is a Docent at EYNC, an ARNHA Board member, and a Certified California Naturalist.

UPCOMING EVENTS AT THE NATURE CENTER

NatureFest 2024 - Sunday, October 6th, 10 a.m. to 2 p.m. Join us for live animal shows, guided nature hikes, demonstrations & exhibits, and lots of kids' activities. Food and drink available for purchase.

Poe in the Park - October 26, 6:30 p.m. to 9:30 p.m. A Night of Eldritch Enjoyment

Family Turkey Trot - November 16, 9 a.m. to 12 p.m.

Annual Holiday Sale 2024 - Saturday, November 30, 10 a.m. to 2 p.m.

Come do your holiday shopping at EYNC to benefit the Nature Center and local crafts people. Local artisans will be selling their own creations including woodwork, jewelry, art, prints, pottery, photography, holiday decor and more. This is also the perfect time to pick up items from EYNC's Discovery Store such as nature guides from ARNHA, which make perfect gifts for nature lovers of all ages.

Under the Oaks Book Club - Meets the first Sunday of every month from 11 a.m. to 12:30 p.m. Snacks, conversation, and a visit from an Animal Ambassador. Contact **carries@sacnaturecenter.net** for details!

Events Calendar

Check out our monthly calendar of events to find more out about the above events as well as weekly guided nature walks, monthly children's book readings, our Nature of Things lecture series, and many other fun activities.



How Do You Train a Raptor?

Interview with Alyssa St. John, EYNC Animal Husbandry Manager

Raptors are smart but cautious animals. They can learn to follow simple commands but will only take direction from people they've bonded with and learned to trust. Although Animal Care staff, Naturalists, and some EYNC volunteers have been trained to handle our raptors and hold them on gloves, Animal Husbandry Manager Alyssa St. John is the only person who trains the birds.

Bonding takes time. Although Alyssa has been working with the EYNC Animal Ambassadors for more than a year, she has only recently moved up to a position where she has responsibility for training the raptors. Alyssa is currently focused on training Orion, our Swainson's hawk. She spends an hour or so every day working with him just to build his trust. Patience and persistence are key to training a raptor.

The enticement for a raptor to take direction is food. It is the lure to get him to move to a desired location. When a bird completes a requested task, it is rewarded with very small pieces of food. The task must be repeated over and over again with reinforcement provided by a tiny food reward each time. Small pieces of mice, rats, quail—the regular rotating diet for EYNC raptors—are the common rewards. The training continues over days and weeks.

At present Orion is learning to move onto a specific perch when Alyssa says "perch". After he masters that task, Alyssa will begin to train him to fly onto her glove when she says "glove". Another behavior she hopes to teach Orion is to get him to relax and allow her to touch his feet when she says "touch". Raptors are very sensitive about having their feet touched and their talons can be quite dangerous if they get defensive. Alyssa needs to be able to inspect the feet and file the talons from time to time to keep him healthy.

Alyssa plans to initiate training for Echo, our great horned owl, later in the summer. Echo currently will climb on a handler's glove in response to the words "step up". However, she will be difficult to train because she is not motivated by food. EYNC's other two raptors, Kelik-a-lik, the American kestrel, and Wek-wek, the peregrine falcon, have both been trained to respond to "step-up", "perch", and "touch". They are more responsive to training than Echo and Orion, and Alyssa hopes to train them to respond to the "glove" command later in the year.



Alyssa and Orion, the Swainson's hawk. Photo by Mary Louise Flint.

Alyssa St. John is Animal Husbandry Manager at EYNC. She graduated with a B.S. in Animal Science from UC Davis and completed a Masters in Natural Resources and a certificate in Wildlife Management from Oregon State University. She says a focus on animal behavior has helped her in developing a raptor training routine that includes reinforcement training and persistence. Prior to coming to EYNC, Alyssa had experience training parrots, cats and kookaburras at SeaQuest in Folsom. This interview was conducted by Mary Louise Flint, Editor, The Acorn.

a Day Full of Opportunities

by Melanie Loo

On April 17, 2024 Effie Yeaw Nature Center (EYNC) hosted a Day of Service for local conservation corps programs from throughout California. It was a day full of opportunities for young corpsmembers to gain new outlooks and experiences as well as for the EYNC Habitat Restoration Team (HRT) to get an appreciable chunk of work done and for EYNC Naturalist Jacob Sasscer to test his mettle as the EYNC interim Volunteer Coordinator.

For over 30 years, local conservation corps-run by California non-profit agencies—have provided programs for young adults to complete their secondary education and gain conservation-related job skills. These range from managing recycling centers to restoring habitats to fighting wildfires. This spring the Sacramento Regional Conservation Corps (SRCC) hosted a conference to introduce corpsmembers from all over the state to each other and to work opportunities in our region. On the first day over 200 corpsmembers heard from representatives of local organizations about available conservation-related jobs. Jacob Sasscer and American River Natural History Association Board Vice President Ed Smith presented information about EYNC and the conservation projects in progress here. Corpsmembers then selected organizations with which they wanted to volunteer for their Day of Service. While the State Capitol was the most popular choice, almost 40 volunteers chose to visit and serve at EYNC,

In preparation for their presentations, Jacob and Ed met with the EYNC HRT to identify projects and leaders available to share with SRCC. Eight HRT members plus Jacob signed on to lead in removal of invasive weeds, reduction of fire fuels, weeding and mulching around pollinator plants, weeding and enlarging cages around young oaks, and weeding and cleaning around the Village. In addition, Jacob coordinated with Sandra Waterhouse, Community Engagement Manager of SRCC, to ensure that all participants would have proper equipment and supplies.

The Day of Service began with introductions, sign-ups for projects, and a walk to the river. While Jacob highlighted off-trail sights, HRT leaders and corpsmembers got to know each other and the oak woodland surroundings. A morning work session was followed by lunch, more mingling, and a shorter afternoon work session where corpsmembers sampled a different project. There were several excited sightings of coyotes and new insects at work sites, and Jacob capped off the day by introducing corpsmembers to Echo, our resident horned owl.

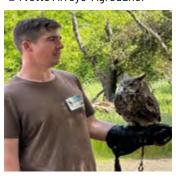
Reviews of the day were overwhelmingly positive. Sandra Waterhouse vowed that EYNC would be a valued collabo-



A team mulches around pollinator plants during SRCC Day of Service at EYNC. Photo ©Yvette Arroyo-Agredano.



A team reduces fire fuels during SRCC Day of Service at EYNC. Photo ©Yvette Arroyo-Agredano.



EYNC Naturalist and interim Volunteer Coordinator Jacob Sasscer introduces Echo the owl to SRCC volunteers at the end of their Day of Service. Photo ©Yvette Arroyo-Agredano.

rator when SRCC hosts its next local conservation corps conference. Team leaders from HRT appreciated the substantial work completed by the young volunteers, and corpsmembers appreciated a chance to apply their training and be out in nature. Several corpsmembers made a special effort to thank Jacob for their experiences. For Jacob, the day provided a consolidation of many skills required to successfully manage a volunteer event. Coordinating people and supplies in advance, making multiple last-minute adjustments, and commanding attention in a crowd were a few skills Jacob acknowledged learning on the fly.

For some of us, the opportunity to witness Jacob's progression to greater responsibilities was an added reward for the day. Several years ago, Jacob started at EYNC as an animal care volunteer. Later as a student at Sacramento State University, he moved on to an internship at EYNC that gave him experience in all our departments and earned his bachelor's degree in Recreation, Parks, and Tourism Administration. In 2023, he completed the California Naturalist course and was hired as a Naturalist to lead summer camps and school programs. Jacob served the EYNC community as interim Volunteer Coordinator in Spring and Summer 2024 and is currently a Naturalist at EYNC. Thank you, Jacob!

Melanie Loo is a retired professor of Biological Sciences at Sacramento State University. She is a trail steward and member of the Habitat Restoration Team. All photographs were graciously shared by Yvette Arroyo-Agredano, Director of Corpsmember Programs at Civicorps, in Oakland, California.

Nature Study Areas Along the American River Parkway Connect Us to the Natural World By Dennis Eckhart

Readers of The Acorn are likely familiar with the 103-acre Nature Study Area (NSA) that surrounds the Effie Yeaw Nature Center. The sights and sounds of wild turkeys and acorn woodpeckers, deer munching on grass and leaves, and the occasional coyote scampering along trails shaded by stately oaks provide a quiet refuge to engage with nature and recharge. The NSA has its origin in the 1950s, when Effie Yeaw brought her elementary students to what was then called Deterding Woods. In 1965 the American River Parkway was established as a Sacramento County Regional Park, and various land-use designations, of which "Nature Study Area" is one, were assigned to the Parkway.

In addition to the one at EYNC, there are six other areas on the Parkway designated as NSAs. Together the NSAs cover about 8% of the Parkway's 4800 acres. Each NSA has much to offer visitors who want to enjoy a natural setting. But, first, what does the NSA land-use designation mean?



Figure 1. Location of Nature Study Areas (shown in dark green) along the American River Parkway. 1: Bannon Island, 2: Bushy Lake, 3: River Bend Park, 4: Effie Yeaw, 5: Rossmoor Bar, 6: Sacramento Bar Park, 7: Sailor Bar. Source: American River Parkway Natural Resources Management Plan, Figure 8-13.

According to the American River Parkway Plan, NSAs are the "most environmentally sensitive areas of the Parkway," and include areas "with the special characteristics of flora, fauna, topography, available surface water, or other characteristics, that are appropriate for...interpretive education and other limited passive recreational activities." (AAPP, 2008, pp. 116-7.) "Permitted recreational activities [in NSAs] include nature appreciation, pedestrian use (including walking, running, and hiking)..." (Natural Resources Management Plan, "NRMP", 2023, p. 3-14.) In fact, County ordinances explicitly prohibit dog-walking (even on a leash), horses (except on pre-existing horse trails), bicycle-riding, and smoking in NSAs. (County ordinances 9.26.057, 9.26.061, & 9.26.066.)

Figure 1 shows the locations of the NSAs along the American River Parkway. The one at EYNC is labeled number 4. Let's take a brief tour of the other six NSAs on the Parkway, beginning with number 1 downriver at Discovery Park and concluding at Sailor Bar Park.

1. Bannon Island. Just north of the boat ramp at Discovery Park, Bannon Island is a 54-acre triangular island, bounded by the Sacramento River, Bannon Slough, and Steelhead Creek. The island is densely forested with towering Fremont cottonwoods and huge oaks providing shade and habitat for birds (130 species have been recorded) and other wildlife. Unfortunately, not only is this NSA difficult to access - there are no bridges over Steelhead Creek or Bannon Slough - the area is currently closed to public access for safety reasons. So, for now, one can only look into the NSA from the picnic area in Discovery Park along Steelhead Creek or when riding or walking on the paved bicycle trail that runs along the Garden Highway above Bannon Slough. On a recent, hot weekend afternoon, while power boats and jet skis zoomed by on the Sacramento River and cars and trucks thundered above on the I-5 causeway, rough-winged and tree swallows swooped up and down the mouth of Steelhead Creek searching for insects, a belted kingfisher flew by, and two North American ospreys wheeled above (Figure 2).



Figure 2. Two osprey fly above Bannon Island. Photo ©Dennis Eckhart.

2. Bushy Lake. Just over the levee from Cal-Expo, Bushy Lake is home to California's only native turtle, the northwestern pond turtle, a "species of special concern." Other residents of this NSA include beavers, river otters, gray foxes, and other mammals, along

with 115 species of birds, 36 of which nest there. Since 2015 the Bushy Lake Restoration Project has been working to enhance habitat for the native turtles and for fire-resilient, culturally significant native flora and fauna. Owned by the State but managed by Sacramento County, Bushy Lake and its surrounds are also protected as a nature preserve under state law, the Bushy Lake Preservation Act of 1976.

3. River Bend Park. At 117 acres, the NSA in River Bend Park includes the largest forested area on the Parkway, consisting mostly of interior live oaks. Walking trails, including one along the top of the bluff overlooking the river, and park



Figure 3. A great horned owlet at River Bend NSA. Photo ©Dennis Eckhart.

roads wind through the NSA, where 141 species of birds have been recorded. From the bluff and along the riverbank, herons, egrets, ducks, geese, and an occasional osprey can be seen. Red-tailed hawks, kestrels, and great horned owls regularly nest here. In spring fuzzy white owlets peer out of nests high in the trees (Figure 3). While a few signs warn cyclists and

dog-walkers to avoid the NSA, sudden encounters with cyclists and dogs can be startling on the narrow trails.

5. Rossmoor Bar. Although it's not shown on any maps of the Parkway, there's a small (less than 1 acre) NSA at Rossmoor Bar Park. What Parkway maps do show, however, is the James C. Mullaney Memorial Oak Grove, about an acre of dense oak forest nestled be-



Figure 4. Mallards at Rossmoor Bar. Photo © Dennis Eckhart.

tween the riverbank at Clay Banks and the Jedediah Smith Memorial Trail at mile 18, across from the parking lot off El Manto Drive. One hundred twenty bird species have been recorded at Rossmoor Bar. On a recent afternoon, a bald eagle circled overhead as pipevine swallowtail butterflies visited wildflowers and mallard ducklings swam with their mother in the river (Figure 4). Numerous trails wind through the oaks (watch out for poison oak!) and then lead to the river, where sweeping views await.



Figure 5. Bald eagle at Sacramento Bar NSA. Photo ©Dennis Eckhart.

6. Sacramento Bar Park. Situated along the river between the El Manto and San Juan rapids, this 30-acre NSA is the most remote of the NSAs on the Parkway. Access is either via a dirt path that begins near Bannister Park or by following a wide path along the river for about a mile from the park's main entrance, past a great blue heron rookery and Bannister Pond, the largest of several year-round ponds (former gravel pits) in this

part of the park. Once in the NSA itself, take one of the side spurs that lead to the riverbank, where wood ducks, belted kingfishers, swallows and other birds can be spotted. Bald

eagles, Swainson's hawks, and Cooper's hawks perch in trees and soar overhead (Figure 5). Be sure to bring water on hot days, and remember that the only restrooms are at Bannister Park and at the park's main entrance off Pennsylvania Avenue.

7. Sailor Bar. Situated in the upland portion of Sailor Bar Park near the Illinois Avenue entrance, the Sailor Bar NSA is 37 acres and includes a large pond and the largest blue oak forest on the Parkway. A short walk from the parking lot leads to the pond where rows of turtles sun themselves on logs (Figure 6), mallards swim lazily by and red-winged blackbirds call from atop reeds. A dirt path, narrow and eroded in spots, circles the pond and connects to trails that wind through shady oaks along the north and western edges of the NSA. Sailor Bar is a popular birding destination, with 197 species recorded. Be cautious while hiking the trails; although bicycles and dogs are prohibited in all NSAs, cyclists and dog-walkers frequent this NSA.



Figure 6. Turtles at Sailor Bar. Photo @ Dennis Eckhart.

Most of the Parkway's NSAs can be located on maps posted on the **Sacramento Regional Parks website**. So, plan a visit to an NSA and get to know another gem of the American River Parkway. Exploring tips: Apart from the NSA at EYNC/Ancil Hoffman Park, the other NSAs mostly lack signs and boundary markers, so it's a good idea to check the map before you go, and please stay on established trails to protect the flora and fauna.

Dennis Eckhart volunteers at EYNC as a member of the Habitat Restoration Team and is team leader for invasive plant removal in our NSA. He is also an active member of the American River Parkway Foundation's Invasive Plant Management Program, a nature lover and photographer, and coordinates the Effie Yeaw NSA & Ancil Hoffman Park project on iNaturalist.

Monarchs Visil Effie Yeaw

by Melanie Loo

A shout of joy heralded the discovery of a monarch butter-fly larva (caterpillar) on April 25, 2024 in a patch of milk-weed dubbed "Site 1". A week earlier, monarch caterpillars had also been observed at "Site 2". These were the first monarch caterpillars found in the Nature Study Area (NSA) pollinator gardens since they were established in 2020.

Site 1 is off-trail in our NSA. It is an area where hundreds of showy milkweed plants, the preferred food of monarch caterpillars, have grown naturally for many years. In 2020 the Habitat Restoration Team (HRT) added about 50 flowering native plants (species other than milkweed) at the site to provide nectar as food for adult butterflies and other pollinators. The site was monitored weekly from spring to fall from 2020 to 2023 with no monarch eggs, larvae, pupae, or adults seen until this year.

Site 2 is an area between the Pond and Meadow Trails, where over 100 flowering native plants, including showy and narrow-leaf milkweed, were planted in 2021. This site was monitored weekly during 2023 after nibbled leaves were seen in 2022, but no eggs or caterpillars were found until this spring. In addition, showy milkweed plants in the courtyard around the Nature Center building have been monitored since 2016; no monarch life stages were found in 2020 and 2021, but eggs and caterpillars were sighted in 2022 and 2024. Unfortunately, in recent years, none of the hatched caterpillars have been observed to complete development, pupate, and emerge as butterflies, likely due to predation.

The group of Effie Yeaw volunteers monitoring monarch life stages (Krystin Dozier, Katharine Severson, Cindy Rogers, Kathy Moorse, Teresa Kahl, and Cal Nat students) participates in the Monarch Larva Monitoring Project (MLMP), a citizen science consortium aimed at unraveling causes of the population decline of monarch butterflies. The Xerces Society for Invertebrate Conservation reported that overwintering populations of Western Monarch butterflies decreased from 1.2 million in 1997 to about 1,900 in 2020. Populations rebounded somewhat to 200,000–300,000 in 2021–2023 but remain low.

Our California monarchs overwinter in the butterfly stage along the coast and fly inland in spring to lay eggs on milk-weed and begin their reproductive life cycle in the Central Valley. The whole life cycle (egg, 5 larval stages, pupation in a chrysalis to emergence as a butterfly) takes about 5 to 9 weeks (depending on the temperature) and is repeated several times during the spring and summer. The adult

monarchs emerging in mid-fall will have a lifespan of over 6 months, as they travel back to the coast, overwinter, and fly inland again.

What triggers the longer life of the adults emerging in fall? How do the adults find patches of milkweed? What causes the declines and increases in monarch populations? These are all fascinating questions that entomologists hope to answer with the help of data from citizen scientists. You can find out more about the development of the MLMP group at Effie Yeaw in the Fall 2020 issue of *The Acorn*.

Melanie Loo, Ph.D. is a retired Professor of Biological Sciences at CSU Sacramento and volunteers at EYNC as a trail steward and a member of the Habitat Restoration Team.



Monarch butterfly caterpillar feeding on showy milkweed leaf at Site 1 in the EYNC Nature Study Area in 2024. Photo ©Kathy Moorse.

Practice Eco-Friendly Gift-Giving This Holiday

Fresh chilly breezes and falling leaves remind us that the holiday gifting season is approaching. Holidays are a joyous time, but excess consumption can contribute to climate change. Extracting natural resources, processing them into saleable items, distributing them, and disposing of discarded materials all contribute to fossil fuel use and greenhouse gas production. Giving sustainable or eco-friendly gifts can make you part of the solution rather than a contributor to the problem.

Sustainable gifts include items made of natural materials such as wood and organic cotton. These products are biodegradable and involve much less processing than synthetics. Nature-based gifts such as plants from garden cuttings, seeds, herbs, and dried flowers are also eco-friendly. Recycled and repurposed items are becoming popular. Purchasing from local artisans means less fossil fuel is used for transportation.

Gifts of love and time use little energy and will never go to the landfill. These include commitments to do chores such as home repairs and cooking or invitations to an event or a hike. How about giving an American River Natural History Association/Effie Yeaw Nature Center (EYNC) membership or personalized donation in the recipient's name?

Gift wrapping is another excellent way to be creative and climate-sensitive. Use recycled paper, newspaper, reusable bags and fabric or other eco-friendly material. Most store-bought shiny, metallic, or glittery wrapping paper contains plastic and can't be recycled. Collecting materials for making home-made gift tags can be a fun family activity as well.

One place to shop for sustainable gifts is the Discovery Store at the Nature Center. The store sells environmentally-friendly items from local small businesses as well as books published by ARNHA. Come by and check out the games and books for children as well as jewelry and hand-made cards.

EYNC greatly expands its eco-friendly gift selection during the one-day Annual Holiday Sale, which will be held on Saturday, November 30, from 10 a.m. to 2 p.m. In addition to Discovery Store items, the Holiday Sale features many local vendors selling their own creations, which may include woodwork, jewelry, art, prints, pottery, photography, holiday decor and more. Buying at the EYNC Holiday Sale is an opportunity to support local artisans, the Nature Center, and the environment. Please put the date on your calendar and come!

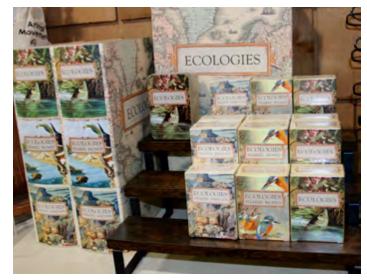
Kari Bauer is a longtime volunteer at EYNC and a community advocate for addressing climate change.



This beautiful Sparrow Hawk Flute was made of domestic aromatic cedar with turquoise cabochons. Photo ©Kari Bauer.



Cards such as these by Angie Pickman can be found in the shop. Photo ©Kari Bauer.



Ecologies games were designed by a biology teacher with inspiration from the American River Parkway. Photo ©Kari Bauer.

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A quarterly digital magazine for members featuring articles about our regional natural world, events at the Nature Center, volunteer features and opportunities, and more! Take a look at **The Acorn** archive.



Go to the **EYNC Events Calendar** to find out what's happening this month.

effieyeawnature.org