

### **Adjusting Routines**

End-of-year holidays are upon us, although the season doesn't feel so festive under our current pandemic circumstances. Yet while the social gatherings typical for this time of year are not advisable right now, you can still safely savor the indulgent spreads usually served at those gatherings. And fewer people to please means fewer food restrictions, presenting a ripe opportunity to get experimental with your menus.

One way to freshen things up is to let plants dominate, which can not only boost the nutritional value of your meal, but will also help the environment. Leslie Stewart delves into this in her article on the next page, explaining how our food choices affect our climate. She highlights recent efforts by the nonprofit Acterra to reduce the carbon footprint of our diets, including an event with local chefs who shared some of their favorite seasonal and sustainable dishes. The presentation by Lenore Estrada, co-founder and owner of Three Babes Bakeshop in San Francisco, inspired the *Monitor*'s own pastry pursuit showcased on this page and on the back cover.

As for our front cover, rest assured it conveys no culinary angle, despite what you may have heard about the gourmet potential of frog legs. The featured amphibian — being held by ecologist Jackie Charbonneau in a photo by David Riensche — is a California red-legged frog, and it is protected by federal and state law. You can read more about the efforts of Charbonneau and other conservationists to bolster the habitat of this species in Robin Meadows' article on page 8. Aleta George will keep you in nature on page 10 with an examination of how military veterans find therapeutic benefits in outdoor recreation, while on page 5 Cecily O'Connor explores a similar concept in a





Making democracy — and deliciousness — work.

photo by Alec MacDonald

different setting for her article about slow streets programs.

And with that, we're just about ready to wrap up 2020 — right after we acknowledge recent donations from readers Mary Ann Benson, Patricia Boyle, Gloria Chun Hoo, Virginia Kamp, Maude Pervere, Emily Schmidt, Steve and Wendy Smit, and Winifred Walters. If you care to join these generous folks in supporting the *Monitor*, there is a donation envelope tucked into these pages. Or if online giving is more your style, you can visit us at bayareamonitor.org/donate instead.

In any case, we thank you for your readership, and wish you a safe and restorative holiday season leading into what will hopefully be a much less tumultuous new year.

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## Healing the Planet, One Plate at a Time

By Leslie Stewart

The COVID-19 pandemic has restructured the way Bay Area residents eat, with more people ordering groceries and prepared food online, more people cooking at home, and many people increasingly concerned about how much their food costs. Organizations and agencies concerned about climate change are hoping that as people adopt new ways of thinking about food, they will consider moving to a healthier diet, not just for themselves but for the planet. Less meat, dairy, or eggs can slim waistlines and also lower greenhouse gas emissions. In a region where wildfires are becoming an annual reminder of the impacts of climate change, grocery carts and carry-out menus may be ways for diners to fight back.

"Our food system is part of the climate problem," declared University of Aberdeen professor Pete Smith in a virtual August 12 lecture for Acterra, a Palo Alto nonprofit that works on creating local solutions to environmental problems. Specifically, Smith was addressing the fact that greenhouse gas emissions from putting meat on the table are significant, particularly for beef and lamb, but also for dairy products, pork, and poultry. He cited a 2018 *Science* study that showed 26 percent of the world's emissions are from food, 58 percent of those food emissions are from animal products, and 50 percent of the emissions from farmed animals are from cattle and sheep.

Simply put, the larger the animal, the larger the emissions problem. Cattle, especially, require large amounts of feed, which must be grown, harvested, and transported if animals are not grass-fed. They also generate a lot of manure, which is rich in methane and produces nitrous oxide when stored and used as fertilizer. Cattle and sheep are both ruminants, animals that digest plants through enteric fermentation, which generates internal methane-bearing gases that are then emitted from both ends of the digestive system. Other meat sources, primarily pigs and poultry, emit less methane but also contribute to nitrous oxide emissions directly through their waste and indirectly from the fertilizer used on raising soybeans and corn for their feed.

While it may seem that the answer is to turn to pasture-raised beef and free-range poultry, these practices require more land than the feedlots, stalls, and cages used for "factory farming." The demand for meat is growing worldwide as wealth and population increase, but studies indicate that there simply isn't enough suitable land to meet that demand with less intensive meat-production methods. In an early study of this issue, David Pimentel of Cornell University concluded that "if all the U.S. grain now fed to livestock were exported and if cattlemen switched to grass-fed production



Jo Lerma-Lopez and other local chefs promoted plant-based cooking for Holiday reFresh, one of the online events in Acterra's Healthy Plate, Healthy Planet program that seeks to decrease the carbon footprint of food.

systems, less beef would be available and animal protein in the average American diet would drop from 75 grams to 29 grams per day." Experiments on whether pasture grazing and manure spreading can lower emissions and sequester carbon in the soil demonstrate that here too there are scientific limits, in this case to the soil's capacity to hold carbon. In his Acterra lecture, Smith commented, "There are many reasons to choose grazed livestock, but climate is not one of them."

These global considerations set the stage for local actions. Although the numbers vary by community, a 2015 UC Berkeley study showed that the average Bay Area household generates over eight metric tons per year of carbon-dioxide-equivalent greenhouse gases from the food that it uses, almost half of that from meat and dairy. Abby Young, climate protection manager with the Bay Area Air Quality Management District, gently suggested, "It would be really good if we all cut back a little." Young is involved in the agency's Climate and Food program, which is focusing on the ways that better food choices and less food waste can reduce those eight metric tons per year. Through a partnership with Acterra's Healthy Plate, Healthy Planet program, the agency

# Healing the Planet, One Plate at a Time (from page 3)

is promoting a "plant-forward" approach to eating.

"Plant-forward" diets offer variety and do not necessarily have to be vegetarian or vegan. As Smith remarked, "the decision never to eat meat again is very binary," and people who can't imagine such a choice may be encouraged to know that simply lowering meat consumption can achieve significant changes. Smith quoted a 2009 study that concluded that including fewer animal products in the global diet allows everyone to be fed, and land is made available for energy and nature conservation.

In the Bay Area, a region with great diversity and a strong

interest in good eating, it's easy to find ways to be more plant-forward. Many residents are already well on their way. Some have consciously chosen to designate one day a week as a plant-forward day, a concept promoted by the organization Green Monday, and its partner Meat Free Monday, founded by Sir Paul McCartney.

Others are eating more plant-based foods because those dishes are on the menus of favorite restaurants. Holiday reFresh, a November 1 Healthy Plate, Healthy Planet webinar, starred well-known chefs from around the region presenting plant-based dishes for festive meals. Viewers may have been tempted by the Gumbo Z'herbes available at Brown Sugar Kitchen, or plan to recreate the Wild Mushroom Hot Pot from Mister Jiu's for a family dinner at home.

Sometimes a few small tweaks — such as replacing cow's milk with

coconut milk — can change a traditional dish to a healthier, more climate-conscious version. Acterra's new online Facebook community is sharing recipes, tips for buying ingredients, and reviews of local eateries with plant-forward menu items.

The Holiday *re*Fresh panel drew from many cultures that already use plant-based dishes or plant-forward menus. Asian, Mexican, Native American, Creole, and apple-pie American were all represented.

For other food traditions, the changes may be more substantial, but even more worthwhile. Jasmine Leyva's film *The Invisible Vegan* was the topic of an earlier Healthy Plate, Healthy Planet webinar (the webinars are all available to watch on YouTube). The film focuses on how Black people can reclaim their African and Caribbean cultures of plant-

based eating and move away from traditional soul food, which is heavy on meat and sugar.

In the film, Leyva and others discuss the strong impact that animal products can have on land, water, and climate change, as well as on personal health. Panelists in the Acterra webinar, including Leyva, also explored some of the issues around eating less meat and dairy, including humane treatment of animals, concern for working conditions in the meat-raising industries, and addressing environmental racism that restricts access to healthy foods for low-income communities.

They also discussed some of the barriers, perceived or real, to realigning the way people choose to eat. lauren (sic) Ornelas, founder of the Food Empowerment Project, reported that "preaching to people drives them away — they say, 'Let me come to this my own way." She stressed that although she did have to learn to like new flavors, there are foods that she would otherwise never have tried, such as Ethiopian, which she really enjoys.

Several panelists mentioned the issue of affordability, particularly for communities in "food deserts" where fresh foods may be hard to obtain. GW Chew, aka "Chef Chew," doesn't see this as critical. "If you have the desire to cook, going vegan can be done pretty cheaply," he asserted. "Beans, rice, pasta aren't expensive. A bag of beans is one dollar, and that can probably give you six to eight servings — but it's work!"

six to eight servings — but it's work!"
Chew's Oakland-based company, Something Better
Foods, is making plant-based "meat." He explained that
because plant ingredients are cheaper than raising animals,
"in a few years, plant-based proteins will be the same price as
meat." Asked about "cell-based meat," which produces animal
protein in manufacturing facilities instead of from livestock,
Chew responded, "That will reduce ethical issues — animals
are not going to be killed — and the environmental issues,
but it will not solve the health issues. It's a better step, but not
the best step. Plant-based is the most natural form."

Whatever the argument — personal health, animal cruelty, social justice, racial empowerment, or environmental impacts — there are many factors driving a shift away from meat and dairy as they are currently consumed. The vegan



and vegetarian communities have been making many of these points for years, but the issue of climate disruption is an important addition to the list.

Leyva remarked, "I don't think people think about food a lot of the time. When I grew up, it was just a habitual act that I

didn't know held any particular power." As she and others are coming to realize, that simple daily act does hold power, and it's there for everyone to wield, at the end of their forks.

*Leslie Stewart covers air quality and energy for the Monitor.* 

### Word on the Slow Street: Cities Explore Extending Programs

By Cecily O'Connor



Slow streets programs in places like San Francisco have created new and safer walking and bicycling opportunities.

photo courtesy SFMTA

Bay Area kids are biking without traffic interruption, pavement has become a gateway for social connection, and original art installations are addressing pandemic-related transportation challenges and inequities.

These are by-products originating from "slow streets" programs that began in at least a dozen Bay Area communities this spring. Signs, cones, and barricades are limiting car traffic and providing more space to safely walk, bike, and move as the coronavirus pandemic and social distancing guidelines heighten the need to be active outside.

For these reasons, slow streets programs have been generally well-received among Bay Area residents. But they aren't without shortcomings, including complications regarding geographic equity and community outreach. Stakeholder engagement continues to be important as transportation officials — uncertain about vaccine timing and the eventual end to social distancing — consider whether slow streets programs will outlast the pandemic.

"We're trying to evaluate what 'permanent' even looks like" and be transparent about the pathway there, said Warren Logan, policy director of mobility and interagency relations for the Mayor's Office in Oakland.

Early on in the pandemic, the City of Oakland began a slow streets program, borrowing from its 2019 bike plan. That plan laid out a 74-mile network of neighborhood bike routes from which transportation officials have launched 21.4 miles of slow streets since mid-April.

Cities such as San Francisco and Redwood City soon followed Oakland during the spring, and newcomers may still get on board. City of San Jose officials are exploring street closures for pedestrian and bike-only use following approval of its "Better Bike Plan 2025."

"We're not first out of the gate but we're making sure we're learning the lessons [other cities] have to offer about how to implement a program," said Jessica Zenk, deputy director of San Jose's Department of Transportation.

The *Monitor* spoke with officials in the three early-adoption cities to see how recent activity is shaping slow street development.

#### **Oakland**

About 77 percent of Oakland residents said they support the slow streets program, based on a spring online survey. Data

### Word on the Slow Street (from page 5)

also points to a desire to extend the program after shelter-inplace restrictions ease, with residents in West, Downtown, and North Oakland communities expressing the most enthusiasm.

Since support can vary by demographics and geography, community groups have urged better engagement to understand why slow streets weren't as successful in areas such as East Oakland.

City councilmember Loren Taylor, who represents East Oakland's District 6, said slow streets are part of a broader set of solutions to help neighborhoods affected by traffic safety, crime, and violence. Ney Avenue, which became a slow street in late May, is in an area "that's not hyper-receptive to bike lanes and

other interventions that have been part of the increased pedestrian mobility effort," Taylor said.

What city transportation officials also discovered is that a January hit-and-run accident that killed a mother on 98th Avenue continued to generate feelings of distrust about the city's handling of traffic violence and the role of slow streets in improving the situation, according to Logan.

"While Slow Streets may not be a perfect program, we were then, and continue now, to pursue rapid,

proactive solutions to streets we know are dangerous," he said.

One solution to improve Oakland's slow streets program is the "hardening" of materials in priority neighborhoods. Local artist Jonathan Brumfield, as part of a Smart Growth America initiative, has built and painted several sturdy barricade planters and signage that better harmonize with Oakland culture while still encouraging safe distancing. The first installment, unveiled in October, sits at the intersection of Plymouth Street and Auseon Avenue.

The Oakland Department of Transportation sign shop is using Brumfield's artwork to develop aluminum signs that will be introduced in phase two of the program and rolled out on streets like Ney Avenue, according to Logan.

"We hope the combination will provide additional clarity about the program while reducing confusion associated with other construction in Oakland neighborhoods," he said.

#### San Francisco

The San Francisco Municipal Transportation Agency (SFMTA) found about 78 percent of 6,500 residents support

its slow streets program, based on an online questionnaire between April and September. However, staff felt that data wasn't representative of the city as a whole, said Shannon Hake, SFMTA's slow streets program manager. So they're refocusing outreach on individual neighborhoods to determine the program's future and its quality-of-life impact beyond the pandemic.

"We're looking for a longer-term rationale for having slow streets," Hake said. "So we're looking back at the San Francisco general plan, which is supportive of streets like this. One of the things we want to make sure we do is really focus on neighborhood outreach along corridors that may be considered for future permanent changes."

> Feedback from the Glen Park Association (GPA), a San Francisco neighborhood group, shows proand-con aspects as experienced on Chenery Street, two blocks of which are closed to car traffic.

Nicholas Dewar, who lives on the 900 block of Chenery Street, said there's been "no significant downside for us" and that it "really shifts the feel of our surroundings" to have kids playing, joggers out, and people chatting as they walk to Glen Canyon Park. But he's noticing cars travel faster now compared to



New barricade planters by artist Jonathan Brumfield were recently installed in Oakland.

when the program started on Chenery Street in late May.

Bonnee Waldstein, GPA's secretary, added that more drivers are using Chenery Street to cut through traffic and that she felt overall the two-block configuration is "not ideal and causes a lot of confusion."

SFMTA hopes to resolve issues such as these gradually by communicating more with residents living on slow streets. Additionally, a big area of focus is making tweaks to slow streets signs and barricades, most of which were intended for short-term use and are vulnerable to wear, tear, and vandalism. Some residents have even taken it upon themselves to help, creating homemade signs and planters to reinforce safety.

Now, SFMTA is transitioning to the use of more durable materials, including flexible roadway delineators and posts, along slow streets corridors. They're already in place on Page and Shotwell streets, Hake said. The move will help cut the agency's maintenance and replacement costs.

Flexible treatments are supported by \$1.175 million in Proposition K sales tax funding received from the San Francisco County Transportation Authority in September.

This revenue stream will help SFMTA run its slow streets program for at least another year, Hake added.

#### **Redwood City**

On the Peninsula, Redwood City officials restricted vehicle access along 5.5 miles of roadway stretches to establish a slow streets pilot program that began May 1 in higher-density and lower-income neighborhoods with less access to outdoor space.

When asked when the pilot program should end, about 44 percent of residents said "never" and 16 percent said "immediately," based on more than 200 responses from surveys distributed via social media ads and directly to people living on slow streets. The rest of responses were somewhere in the range of ending the pilot when either the weather turns cold, a vaccine is available, or shelter-in-place is lifted.

But some slow streets in Redwood City's pilot program are earmarked as bike boulevards per its 2018 transportation plan. That could provide an avenue to transition to more permanent traffic-calming measures should the city council decide to extend the program, said Jessica Manzi, transportation manager.

"With bike boulevards we're not restricting traffic, but they are designed in a way that people drive more slowly," said Manzi, adding that these byways rely on a combination of features like traffic circles, speed bumps, and bulb outs.

#### **Taking It Slow**

The common denominator among many cities is that there is ongoing support for slow streets and cities are showing commitment to think creatively to keep programs going.

Oakland transportation officials are considering a "pop-up" approach that would, for example, provide residents flexibility to close their streets to vehicle traffic only on weekends.

"Maybe time is the variable we need to adjust versus geography," Logan said.

Legislation also may prove a motivating factor for some cities. Recently passed Senate Bill 288 (Wiener) speeds up approval of sustainable transportation projects, including slow streets. That could provide cities who've been piloting slow streets projects an opportunity to make programs permanent as communities think about their use of public space.

"In a certain way, [SB 288] goes hand in hand with supporting this period of experimentation," said Johnathan Kass, interim director at SPUR, a nonprofit planning group. "The CEQA review process can be burdensome and discouraging for doing really good and sustainable transportation projects."

If anything, the pandemic has revealed wide-scale energy for walking and biking, interest that advocacy groups intend to harvest and spread to new areas.

"The demand is still there," said Patrick Band, executive director of the Napa County Bicycle Coalition.

The group has proposed slow streets in the City of Napa where the Oak Knoll South automated bike and pedestrian counter recorded 21,082 users on the Napa Valley Vine Trail in August, up from 8,970 users the prior year.

Said Band: "Ridership and use of our existing bike and pedestrian corridors is as high as it's ever been."

*Cecily O'Connor covers transportation for the Monitor.* 



### Cattle Ponds Double as Habitat for Threatened Amphibians

By Robin Meadows



Resource conservationists prepare to survey wildlife in a livestock pond in Eastern Alameda County.

photo courtesy the Natural Resources Conservation Services

When ecologist Jackie Charbonneau learned that cattle ponds in the East Bay hills are vital to rare amphibians, it came as a surprise. Stock ponds can be so muddy and trampled that "they can look like a bomb hit them," said Charbonneau, who works in Alameda County at the U.S. Department of Agriculture's Natural Resource Conservation Service. But looks can be deceiving. As an East Bay Regional Park District intern early in her career, she found that stock ponds are full of California red-legged frogs and California tiger salamanders, which are unique to the state and federally listed as threatened.

"I thought, 'Holy cow, this is amazing," Charbonneau recalled. But the stock ponds dotting East Bay rangelands are in trouble. Most were built so long ago — about half a century — that they are eroded and choked with silt. Today Charbonneau is part of a multi-agency team that restores these unconventional wildlife habitats. Other partners include the Alameda County Resource Conservation District and the U.S. Fish and Wildlife Service.

Red-legged frogs are the largest native frogs in the western U.S., at up to three inches for tadpoles and five inches for adults. Named for their vivid red hind legs, these otherwise well-

camouflaged frogs breed in still, deep waters between January and March. When summer comes, they go dormant in cool, moist spots like leaf litter or ground squirrel burrows. Before that, the mostly nocturnal adults eat anything from insects to smaller frogs and even mice. In turn, red-legged frogs are eaten by herons, garter snakes, and foxes, to name just a few of their predators. Worst of all is the American bullfrog, which was introduced from the East Coast during the Gold Rush for people to eat. Bullfrogs gobble red-legged frog tadpoles and froglets, wiping out entire populations from breeding pools.

California tiger salamanders, about eight inches long with striking yellow spots against shiny black skin, would stand out if they didn't spend most of their lives hidden. Like red-legged frogs, adult tiger salamanders shelter in burrows during the summer. These insect-eating amphibians typically emerge to breed on a stormy November night, trekking as far as one mile in search of a pond. Tiger salamanders can live 10 years but don't mate until they are four to five years old. Many don't mate at all. Birds, fish, and bullfrogs pick them off, cars squash them as they cross roads, and the vernal pools and seasonal ponds where they breed vanish during droughts.

The biggest threat to California's red-legged frogs and tiger salamanders, however, is habitat loss to urban development and farming. And that's where rangeland stock ponds come in. "They're oases for wildlife," Charbonneau said. In addition to amphibians, the ponds sustain a diversity of animals from bats to mountain lions.

To protect the stock ponds that red-legged frogs and tiger salamanders rely on, in 2005 Charbonneau helped launch the Wildlife-friendly Pond Restoration Program. Alameda County has about 700 stock ponds scattered across its rangeland, about 200,000 acres or two-fifths of the county's area. "The program stemmed from requests from ranchers," Charbonneau said.

Darrel Sweet was one of the first ranchers to participate in the Wildlife-friendly Pond Restoration Program. His family has operated a cattle ranch in the Altamont Hills near Livermore since the 1860s, and today their thousand acres are stocked with about 100 Angus cows, an even-tempered black breed that naturally lacks horns. Ranching all those cows takes a tremendous amount of water. "They weigh 1,200 or 1,300 pounds," he explained. "A cow will drink 25 gallons of water on a hot day."

One of Sweet's stock ponds was built around a spring in 1966 and was about to fail. "The whole dam was about to go down the canyon," he said. But fixing it on his own was daunting because projects involving listed species require permits from regulatory agencies. "Ranchers used to think, 'Oh my god, I hope they don't find red-legged frogs on my land," he said.

Cost is another hurdle to fixing stock ponds. It took about \$35,000 to dredge out his pond — which is about 10 feet deep with a footprint the size of a house — and then retrofit the dam and spillway to government engineering standards. Depending on the size and surrounding terrain, pond restorations can run as high as \$200,000.

The Wildlife-friendly Pond Restoration Program offers ranchers cost-share funding as well as technical assistance in meeting engineering standards. The program also streamlines the permitting process, which can shorten the approval wait time from about a year to two months. So far, NRCS has dedicated about \$650,000 to the program, which has restored more than 40 Alameda County stock ponds.

Even with the cost-share provision, ranchers still face substantial out-of-pocket expenses. Avra Heller of the State Coastal Conservancy manages another wildlife-friendly pond restoration program that also covers the ranchers' share of costs in Alameda and Contra Costa counties. This program offers nearly \$500,000 in competitive grants

funded by Proposition 1 — the Water Quality, Supply, and Infrastructure Improvement Act of 2014 — and requires grantees to maintain their projects for 20 years by performing upkeep activities such as fixing stock pond leaks. Moreover, the program funds trough installation in addition to stock pond restoration. Piping water from a spring to a trough can help protect critical habitat for red-legged frogs, tiger salamanders, and other wildlife. "Riparian areas can be small and delicate on ranches, and troughs can get cattle off sensitive creeks," Heller said.

Climate change is projected to intensify droughts and increase the number of extreme heat days, adding urgency to stock pond restoration. Already, these ponds can disappear during dry years. During the most recent drought — the worst in California's recorded history — ranchers reported stock ponds drying up so early that red-legged frog tadpoles and tiger salamander larvae didn't have time to metamorphose into adults. Dredging out sediment deepens ponds, boosting their storage capacity so they stay wet longer into the year.

Sweet feels gratified in supporting the natural world. He remembers finding tiger salamanders in livestock ponds on his family's ranch as a child, and more recently spotted a red-legged frog in his restored pond with his five-year-old granddaughter. "We enjoy showing people the frogs on our ranch in the spring," he said. "These conservation projects keep us relevant and make ranching more valuable." 🎬

Robin Meadows covers water for the Monitor.



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### Lockstep with Nature

By Aleta George

United States Army veteran Maury Argento prefers to get her exercise outside. Sometimes she hikes with her family, but more often than not this businesswoman and mom climbs San Francisco's hills and outdoor stairways with her two dogs and infant child. Captain Argento has been out of the military for nearly 15 years, after having served for six years with specializations in weapons of mass destruction and communications. Primarily stationed in Germany, she was also deployed to a Saudi Arabia combat zone for a time, and after returning to civilian life was diagnosed with post-traumatic stress disorder (PTSD) and depression. "I was on medication, but the most effective thing for me has always been exercise and being outdoors. I suffer substantially if I don't get exercise and get outside," she said.

Argento found her way outdoors for healing, but not all vets do. More of them may be following in her footsteps, however, thanks to the Accelerating Veterans Recovery Outdoors (AVRO) Act. Authored by Congressman Chris Smith (New Jersey), AVRO was included in the Veteran's COMPACT Act, a broader legislative package passed by the House of Representatives in September 2020. The Sierra Club was one of more than 120 organizations that endorsed the House bill. It recently passed the Senate on the eve of Veteran's Day.

If signed by the president, AVRO will require that the Secretary of Veterans Affairs establish a task force to recommend ways to connect veterans with outdoor recreation as a form of medical therapy. "By identifying and eliminating barriers for veterans to access public lands, the Accelerating Veterans Recovery Outdoors Act will ensure that veterans can heal on the landscapes they served to protect," said Robert Vessels, campaign manager for the Sierra Club Military Outdoors program, in a press release from Senator Catherine Cortez Masto (Nevada), the author of the Senate's version of the bill. Some of the barriers the task force would likely address include transportation, park fees, lack of knowledge about where to go, and the need for childcare and family-friendly events.

According to the U.S. Census Bureau, the veteran population stands at 17.4 million, and many of them have dealt with lingering psychological effects from their service. The Department of Veterans Affairs reports that as many as 20 percent of Operation Iraqi Freedom and Operation Enduring Freedom veterans, and 12 percent of Desert Storm veterans, have PTSD in a given year. Thirty percent of Vietnam vets have had PTSD in their lifetimes. Symptoms can include



Outdoor recreation has been key to veteran Maury Argento overcoming post-traumatic stress disorder and depression. photo by Bhavya Thyagarajan Photography

trouble sleeping, functioning in normal activities, flashbacks of disturbing memories, and the inability to relate to others.

The Sierra Club's Vessels was 18 years old when he joined the military. He spent five years as an infantryman in the army, including 25 months deployed to Afghanistan and Baghdad during the surge. Upon completing his service, he went into a deep depression and couldn't relate to anyone back home in Indiana. "My transition story is pretty common. I pretty quickly became an alcoholic, and struggled with my mental health," he said.

His dad steered him to the Department of Veterans Affairs, and Vessels tried an array of different medications, but his turning point came when he moved to California with an army buddy. "Just being around someone with a shared experience, and having access to wild spaces and the outdoors, was a pretty immediate turn-around for my wellbeing," he said, while adding that he will likely have to deal

with his mental health struggles for the rest of his life. As a kid, he had gone car camping with his family, but didn't discover outdoor recreation as a form of healing and solace until he got out of the military.

He studied Arabic at a community college in Ventura while also camping and hanging out at the beach. "Just listening to the waves crash is really meditative," Vessels said. He transferred to UC Berkeley, where he earned a degree in Middle Eastern studies, and frequently headed for the Desolation Wilderness west of Lake Tahoe with a backpack and his dog.

"It's the ability to disconnect from the noise of normal

life and the fiveminute news cycle. If you're out for multiple days, it's rediscovering that circadian rhythm, just waking up with the sun, creating the day, doing whatever you want to do really, and going to sleep with the stars. There's something about that that helps me reset," Vessels said. The Sierra Club Military Outdoors program has taken thousands of

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Using horse-drawn carriages, Access Adventure provides the opportunity for veterans and other individuals with physical challenges to have outdoor experiences. 

photo courtesy Access Adventure

veterans on excursions, including backpacking, whitewater rafting, hiking, or simply geocaching at parks.

Argento prefers exercising outdoors for several reasons, even before the pandemic shut the gyms. "I pretty much stopped going to the gym when I was in the military. There are so few women, you get way too much attention that is not welcome and not enjoyable. The outdoors was a much safer, and fresher, option," she said.

Argento is a sports massage therapist now, and recommends that her clients run on dirt or barefoot in sand. "Veterans ran in boots for so many years that our feet are all screwed up," she said. When running on trails or in the sand, your stabilizer muscles engage, which doesn't happen on a treadmill, she added. Getting outside also offers fresh

air, vitamin D, and a break from screen time, all of which are good for everyone.

Depression and PTSD are maladies that aren't necessarily visible to others, but some veterans have to deal with physical injuries as well. There are many organizations that help those veterans in different ways. Suisun City-based nonprofit Access Adventure gets those with physical challenges outside on specially crafted, horse-drawn carriages. Michael Muir, Access Adventures' founder, is the great grandson of John Muir, the first president of the Sierra Club. Through Access Adventure, Muir has provided carriage rides for older vets for years at the Veteran's Home of California in Yountville,

and for his next endeavor plans to teach injured vets coming back from Iraq Afghanistan drive carriages. Although not a veteran himself. Muir has lived with multiple sclerosis since the age of 15, and knows the thrill of outdoor adventure through competitive carriage driving, which he has done — and won for years. "When

you're able-bodied one minute, and paraplegic or minus your legs the next, there's an incredible adjustment to make," Muir said. "It would thrill me to take a veteran, and show him or her how exciting this sport can be, and how amazing it is that a horse can compensate for your lost function. That's the thing for these younger vets, to convince them that their life can still be full and exciting and worth living," Muir said.

Vessels sees AVRO as a "first step towards normalizing outdoor recreation and time spent outdoors as a legitimate means to improve your wellbeing. And with the pandemic, I don't think it's ever been more clear how important getting outdoors is to our mental and emotional wellbeing."

Aleta George covers open space for the Monitor.

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