

nature notes

VOLUME 8 • WINTER 2021



CENTRAL COAST STATE PARKS ASSOCIATION



As we progress from 2020 to 2021 there is much to reflect upon.

This past year has presented enough challenge and transformation to last us a lifetime. The world we currently live in has forced us to take a look at how we interact with other humans, our community, our nation, our planet, and of course our own homes and backyards. We have found new ways to connect with loved ones from a distance and sought out experiences in nature to help balance us.

I have reflected on how much CCSPA has morphed in the two years since I started my journey here. Alissa and I laugh about how we first looked around the office and at each other and said, "now what?" Together with the CCSPA Board, State Parks staff, volunteers, and docents we have grown and strengthened the roots of this organization. We are not finished but I am proud of how far we have come.

Looking to the future we are working to ensure that our parks and the programs we love can open and resume safely. We look forward to welcoming everyone back to the Spooner Ranch House after a professional cleaning and once it is deemed safe to reopen. We are excited to provide a much-needed update of the entrance and gift shop at the Museum of Natural History. Most important of all are the continued efforts to support our virtual programs - until we can resume in-person activities once again, these programs are critical to engaging the community and school-aged children in understanding our environment. If there is a signature goal of CCSPA, it is to support State Parks in their objective to foster our future environmental stewards.

We have enlivened our inventory and partnerships with local businesses to include custom candles with Fable Soap Co. and select Coffee Blends with Coastal Peaks Coffee. Our collaborations with local businesses create opportunities for mutually beneficial outreach. We look forward to forming new relationships with our local business community.

During these tumultuous times, we remain grateful for the continued support of CCSPA members and donors.

Here's to many more sunrises in the coming year!

Kristin Howland

Executive Director
Central Coast State Parks Association

CCSPA is an independent 501(c)(3) non-profit. We are one of 85 similar cooperating associations across the state who work in partnership with State Parks. Tax ID #: 51-0198869.

Cover photo: Blue dragonfly by Dustin Humes | Unsplash.com
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Kristin Howland

STAFF DIRECTORY

Kristin Howland
Executive Director
ed@centralcoastparks.org
(805) 548-0391

Alissa Maddren
Membership and Events Coordinator
membership@centralcoastparks.org
(805) 548-0384

Sheri Robesky
Retail Operations Coordinator
store@centralcoastparks.org
(805) 548-0392

BOARD MEMBERS

Marylou Gooden - Board Chair
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STATE PARKS LIASONS

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www.centralcoastparks.org

MAKE A DIFFERENCE

Are you ready to make a difference? CCSPA is looking for new board members and volunteers! Contact us:
ed@centralcoastparks.org

QUICK FACT

30

The wingspan, in inches, of some dragonflies that lived 325 million years ago!

SUPPORTING EDUCATIONAL OPPORTUNITIES IN STATE PARKS



"Study nature, love nature, stay close to nature. It will never fail you." - Frank Lloyd Wright

When you think of a place where you can experience serenity, beauty, and the opportunity to "study, love and stay close to nature", what comes to mind? If you are like many of us who cherish our public lands, you think of one of our Central Coast State Parks. They are our "special places."

This year, in order to keep themselves and others safe, volunteer docents and State Park Interpreters have been unable to offer the in-person walks and presentations you love. But that doesn't mean that interpretive and educational activities aren't happening. This past summer, CCSPA

funded the first-ever "Coastal Explorers: Bridging Youth and Families to Parks Program" hosted by State Park Interpreters. Using the latest technology, students and their families participated virtually in park-themed science activities, offering them a deeper understanding of the natural and cultural diversity in our parks and inspiring them to become environmental stewards in their own communities. In the words of one parent:

"Thank you for providing opportunities that connect our children to nature especially during these difficult and challenging times where we are unable to do so safely due to Covid-19. Thank you for bringing happiness and a breath of fresh air to our doorstep!"

We hope that soon, our parks will once again bustle with in-person walks, talks, and teaching. But the development of virtual learning opportunities like "Coastal Explorers" has been a silver lining to these challenging times. Your support of CCSPA ensures our parks will "never fail you." Your gift of \$25, \$50, or \$100 will enable more programs like "Coastal Explorers" to foster a lifelong interest in studying nature and caring about our environment. You can donate to our year-end appeal online at <https://fundly.com/ccspa-2020-year-end-fundraiser> or mail your check and write "Year-end fundraiser" in the memo line.

CCSPA HOLIDAY GIFT GUIDE: PURCHASE WITH A PURPOSE

We are so excited to announce that this year we have created beauty and we are thrilled to introduce our special gifts, from our home to yours. Only available through CCSPA and CA State Parks in San Luis Obispo County. Deliver joy to your friends and family while supporting State Parks!



STATE PARKS CHOCOLATES

Choose from nine different flavor options made with love by local chocolatier Mama Ganache. Beautifully wrapped, vegan, organic, handmade and ethically sourced make these stocking-stuffers a sure hit for the sweet tooth in your family.



STATE PARKS CANDLES

These jars of joy were created after a few days of smelling oils with Fable Soap Co. in Los Osos, CA. We highlight these candles with native flora of the Central Coast: sage, eucalyptus, oak-moss, wild grass, and pine are just a few of the notes. Hand poured, small batch, and sustainably sourced.



STATE PARKS MUG & COFFEE

Coffee makes the world go round, and Coastal Peaks Coffee Company has filled our cups! Wake up to one of our two blends created knowing this cup of joe will become a ritual in your home. Montaña de Oro or Pismo wrapped beans.



STATE PARKS MUG, CANDLE & BLANKET

This custom designed super soft blanket comes in two prints: monarch butterfly and sea otter. A warm reminder of the wonder and amazement that breathes life into the Central Coast. Original art by Amy.



BIRD MIGRATIONS: OVERVIEWING AN AMAZING JOURNEY

Above our heads, largely unseen, a remarkable journey has been taking place, the migration of billions of birds to their wintering grounds.

Blackpoll Warblers, for example, from the far north boreal forests, migrate down the east coast to spend their winters in South America, as far south as the Amazon basin in Brazil. They all follow the east coast southward, so the birds breeding in Alaska have a 3,000 mile journey just to get to the "start" of their southbound journey. At Cape Hatteras in North Carolina, they head southeast over the open ocean at night. Prevailing winds will carry them toward South America. When they make landfall, they will have flown 2,000 miles, with no rest, no water, and no food. And then they will repeat the journey in the spring, a round trip of 10,000 miles. The Blackpoll Warbler is 5 inches in length and weighs half an ounce, a strenuous journey indeed.

Stories of long distance migration stagger the mind. Four week old Bristle-thighed Curlews will fly from the Yukon Delta in far northwest Alaska, and make a 5,000 mile, non-stop flight to islands in the south Pacific. Hummingbirds, which weigh about as much as a penny, fly nonstop from

North to South America, over the Gulf of Mexico. Brant, the small dark geese we see on Morro Bay every winter, leave Izembek Lagoon in the Gulf of Alaska and fly here in about 48 hours, losing one third of their body weight en route..

Waning day length will trigger these birds to become more active in feeding, doing nothing but gorging themselves, adding fat storage. Then they must migrate, for their food, especially in the northern latitudes, is about to disappear.

Scientists have long pondered how a bird, some straight out of the nest, is able to find its way to the same wintering grounds that its ancestors have used for millennia. For years it was thought that birds used visual landmark cues and the sun for orientation, and that is certainly part of it. But most birds migrate at night, where the visual cues are limited. It has been found that birds can recognize constellation formations to orient themselves. Research has shown that birds can detect the earth's magnetic field, and even use olfactory senses to smell their way home! Very recent studies have found the presence of the Cry4 protein in birds eyes, that allows them to "see" the magnetic fields of the earth. Migration truly is a wonder of nature. - Mike Stiles

WHISPERS FROM THE GROVE: MONARCH MIGRATION UPDATE

Monarch butterflies are making their way back to Pismo State Beach Monarch Butterfly Grove! Historically, monarchs join us here on the Central Coast between November and February to overwinter in more moderate weather.

We experienced a later start to their arrival this season with the first clusters seen in early November. The latest count of monarchs was taken the morning of November 17th, where 200 monarchs were counted clustering within the grove.

Visitors are encouraged to bring their own binoculars as volunteers will not be present inside to provide telescopes for monarch cluster viewing. In lieu of docent-led talks, Oceano Dunes District Interpretation team has created a series of YouTube videos on the incredible migration and lifecycle of the monarch butterfly. These videos can be viewed on the Oceano Dunes District - CA State Parks YouTube Channel, or accessed within the butterfly grove via QR codes found on the information kiosk next to the mercantile trailer.



The CCSPA Monarch Mercantile trailer is open daily from approximately 9 a.m. to 4 p.m.



Dustin Humes | Unsplash.com

THE BUZZ ON DRAGONFLIES

Dragonflies are one of the most easily identifiable insects: active in daytime, brightly colored, huge eyes, large wings and common in many parts of the world. Some are even migratory. There are over 3000 identified species of dragonflies and they continuously show up in art and jewelry, and also in legends and mythology.

Dragonflies belong to insect order Odonata, which includes some of the most ancient and largest flying invertebrates. Those that lived 325 million years ago had wingspans up to 30 inches! They went extinct about the time the dinosaurs started roaming around. Today's dragonflies average between three and quarter inches up to five inches in length.

One amazing thing about dragonflies is that they look back at you! If you get close to one they will turn and look directly at you with their huge eyes. Those large compound eyes are made up of nearly 28,000 individual ommatidia (clusters of photoreceptor cells) and they cover most of their large heads. These eyes are specialized for seeing movement and recognizing prey by shape. More than 80 percent of a dragonfly's brain is dedicated to analyzing visual information. Their mouths are adapted for biting and chewing, with a lower jaw, the labium, that can be extended rapidly, grabbing prey! As adults they feed on other insects, particularly midges, mosquitoes, and spiders, sometimes bees and butterflies. Some dragonflies will sit motionless watching what is going on around them while looking for prey. Others take their prey on the wing and swallow it while still flying.

Dragonflies have six rather long spiny legs attached to their thorax, or middle segment. These legs may be used for subduing and holding prey while flying. Two pairs of elongated, membranous wings covered in crisscrossing veins are held straight out to the sides when they land. The many veins give strength to the large wings. In dragonflies, the hind wings are larger and broader than the first pair of wings.

These wings are marvels, allowing dragonflies to hover, fly forward and backward. They are speedy flyers moving about 100 body lengths per second forward and three body lengths per second backwards. Not only speedy, but very maneuverable.

Males defend their territories while awaiting females, or go out and actively search for them. There seems to be no courtship; the male just grabs the female in flight. They take on an interesting position while mating called the "wheel" position. The male's terminal appendages clamp on to the female behind her eyes and he then tows her along. She will then curl her abdomen under the male and put her ovipositor (egg laying device) into his genitalia which are on the underside of the second segment of his abdomen. He may continue to hold the female to prevent other males from mating with her. In some species the male may remove sperm from a previous mating, before mating himself.

The eggs hatch, some within weeks, some overwinter, into bottom dwelling nymphs that look nothing like the parents. They have dark colors, broad heads and wide large eyes, with spiny legs, and breathe with internal gills. These nymphs do have the lower lip to grasp prey and feed on aquatic insects, small tadpoles and fish. This labium may be up to one-third the length of the nymph. Depending on the species, some may go through up to twelve molts, shedding of the exoskeleton, growing with each one. Wing pads or buds begin to show as the nymph gets larger. This goes on for a month to several years, depending on the species.

Most of the life of a dragonfly takes place underwater.

For the final molt, the nymph will crawl up out of the water and hang on while its exoskeleton cracks down the back of the thorax and the new adult emerges. It may take an hour or more for the new exoskeleton to harden and the wings to expand. Now as an adult it will live six to eight weeks.

New species are being described every year and dragonfly watching is getting more popular. They are a delight to watch on a calm day, most often near a pond or stream. Some species fly erratically, hovering in one spot for a few moments, seldom flying in a straight line. Those dragonflies that prefer streams will fly slowly back and forth along the stream, patrolling a hundred yards or more, some with their wings straight out to their sides, some species with their wings bent forward and down. Once landed some species sit horizontally while others perch vertically. Their heads are constantly turning to take in their surroundings. Go out and find one. They don't bite! - Claudia Freitas

Sources: "Common Dragonflies of California, A Beginner's Pocket Guide" by Kathy Biggs

"Odonata: Who They Are and What They Have Done for Us Lately: Classification and Ecosystem Services of Dragonflies" by L. May

"Encyclopedia of Insects" by KJ Tennessen

MEET KATIE DREHAGE, SENIOR ENVIRONMENTAL SCIENTIST



Katie Drehage is SLO Coast District's new senior environmental scientist. In this interview with Kristin Howland, Katie share some insights into her journey from Cal Poly undergraduate to the position she holds now.

Please tell us a little bit about yourself.

I have over 20 years of experience in the field of natural resource management as well as a degree in Ecology and Systematic Biology from Cal Poly. My career began with the U.S. Fish and Wildlife Services where I worked with the public and other government agencies on several formal and informal consultations, providing them with permits pursuant to the Endangered Species Act. I led recovery meetings comprised of scientists and stakeholders to create a recovery plan for the California tiger salamander. I wrote critical habitat rules and 5-year reviews for federally listed species. I organized range-wide, multi-agency conservation efforts. I conducted aquatic and upland surveys; coordinated annual range-wide survey efforts; and conducted surveys and habitat assessments for several listed species including California red-legged frog, San Joaquin kit fox, California tiger salamander, and the giant kangaroo rat.

I transitioned from the federal government to local government where I have remained for the past 12 years. As the principal environmental specialist for the County Public Works Department, I planned and coordinated the activities of the maintenance workgroup, provided mentoring, coordinated with internal and external partners, handled most of the personnel matters, reviewed work to assure compliance with established standards, requirements and procedures and developed, implemented and conducted employee training sessions. I conducted environmental review, field surveys, permit preparation, construction monitoring, and mitigation reporting for Public Works projects. I conducted pre-activity surveys for wildlife, including nesting birds, and sensitive botanical species. I coordinated

division activities with outside organizations such as Caltrans, State Department of Fish and Wildlife, U.S. Fish and Wildlife Service and other related environmental regulatory organizations as required. I reviewed reports for compliance with applicable laws and policies and tracked budget and milestones for staff and consultants. I monitored and assessed division functions and activities for effectiveness and operational efficiency.

Prior to these positions, I gained experience working as a Wildlife Biologist/Technician through the Endangered Species Program for the California Army National Guard at Camp Roberts where I collected, analyzed and assessed data on distribution, abundance, habitat utilization, and predator/prey relationships related to the endangered San Joaquin kit fox.

I also interned at the Regional Water Quality Control Board where I assisted the Central Coast Ambient Monitoring Program in gathering and analyzing background data to support the Total Maximum Daily Load (TMDL) values for watersheds along the Central Coast. I conducted field work along the coastline of the central coast and built and positive working relationship with the Regional Board.

Tell us about your passion and how it brought you to State Parks.

I've been obsessed with nature since childhood, discovering insects in my own backyard. I've gotten great hands-on experience in the field including trapping & surveying wildlife, monitoring water quality, conducting CRAM assessments, and conducting radio telemetry. Working for the federal and local government prepared me for an easy transition into State government where I'm adjusting quickly. I enjoy sharing my knowledge of natural resource management and protection, and working with diverse teams to balance resource needs with educational and recreational opportunities as well as project or program needs.

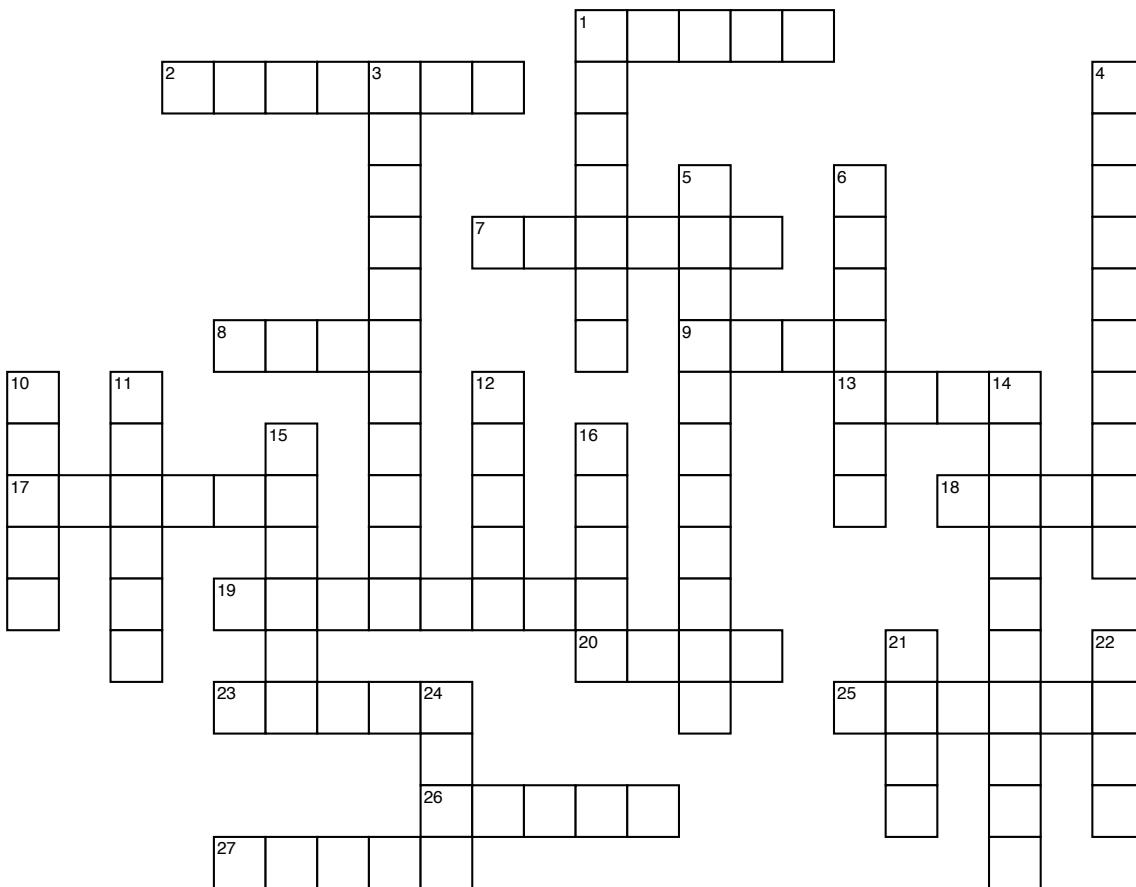
What has been your favorite part of the position so far?

Exploring the different Park units and meeting new people Highlights thus far include seeing the tahrw goats at the Castle & stopping to see the white wagtail that was at Villa Creek a few weeks ago.

What is the most interesting resource (i.e. plant, animal) we have here on the central coast and why?

I can't narrow my personal interest down to one resource; I'm a generalist and I find almost all resources equally fascinating. My experience has been focused on terrestrial biology but I'm eager to learn more about the marine biology we encounter within and adjacent to our Park units. I am always interested in hearing about rare avian migrants and any and all insects; I have a draw to amphibians, foxes, and the Morro shoulderband snail; and I am passionate about native vegetation & restoration. - Interview by Kristin Howland

PUZZLE: BIRD TYPES AND THEIR PARTS



Jibedog Puzzles

ACROSS

- 1 Fast flyer that lives up to its name
- 2 Lessen a propeller's air resistance
- 7 To repeat by rote
- 8 Bird covering used for warmth
- 9 A New Zealander
- 13 Brag exultantly
- 17 A male goose or a "look"
- 18 Going underwater, past tense
- 19 Red bird or high ecclesiastical official
- 20 Quest for adventure, "on a ..."
- 23 Roof and chimney nester, too busy to make deliveries
- 25 Member of ATL NFL team
- 26 Bird of prey grabber
- 27 Hi-rise construction lifter

DOWN

- 1 Pirate Jack
- 3 Tiny nectar eater that weighs less than a nickel
- 4 The "Speedy Gonzales" of birds
- 5 Bird known to steal songs of other birds
- 6 Morro Bay has white and brown types
- 10 Type of eye for close watch
- 11 California's has a nine foot wingspan
- 12 Edgar Allan Poe bird
- 14 The Acorn variety loves oak trees
- 15 A Robin's is red
- 16 Bird cover writing aid
- 21 Street traders method of selling
- 22 Small shorebird or nautical measure
- 24 Morro Bay has a festival each year

Crossword provided by Bob and Robbie Revel



Central Coast State Parks Association
202 Tank Farm Road, Suite H2
San Luis Obispo, CA 93401
(805) 548-0390
www.centralcoastparks.org

BECOME A NEW OR RENEWING CCSPA MEMBER

All members receive a copy of **Nature Notes** quarterly newsletter, discounts to CCSPA events and discounts at participating **Public Lands Alliance** stores. Additional benefits include:

\$25 Hummingbird

- ★ Two vouchers for admission to the **Morro Bay Museum of Natural History**
- ★ 10% discount at all **CCSPA** nature stores

\$50 Otter

- ★ Free admissions for two adults to the **Mind Walks Lecture Series**
- ★ Four vouchers for admission to the **Morro Bay Museum of Natural History**
- ★ 10% discount at all **CCSPA** nature stores

\$250 Monarch

- All benefits of Coyote membership, plus:
- ★ Invitation to **Afternoon with the Monarchs** at Pismo Monarch Butterfly Grove
- ★ An exclusive holiday shopping night at the **Morro Bay Museum of Natural History**

\$75 Raft of Otters

- Family Membership that includes two adults and unlimited kids 17 and under.
- All benefits of Otter membership, plus:
- ★ 15% discount at all **CCSPA** nature stores
- ★ **Explore Parks Passport** discount coupon book

\$500 Gray Whale

- All benefits of Monarch membership, plus:
- ★ Invitation to **Martini de Morro**

\$1,000 Oak Grove

- All benefits of Gray Whale membership, plus:
- ★ Invitation to a behind-the-scenes tour of Hearst Castle

\$100 Coyote

- All benefits of Raft of Otters membership, plus:
- ★ Invitation to the **Ice Cream Social** at Montaña de Oro

\$1,500 Keystone

- (Corporate Sponsorship)**
- ★ Logo and link on website
 - ★ Free small ad in **Nature Notes** newsletter (option to upgrade)
 - ★ Free small ad in the **Explore Parks Passport** discount book

Membership level: _____ Membership amount: \$ _____

I would like to make an additional donation to CCSPA in the following amount \$ _____

Total enclosed: \$ _____

Name (to be displayed on membership card(s)): _____

Street: _____

City, State, Zip: _____

Phone: _____ Email: _____

I would like to receive the **Nature Notes** newsletter via mail

I would like to receive the **Nature Notes** newsletter as an e-newsletter (digitally)

Please make checks payable to **CCSPA** and mail to: **CCSPA | 202 Tank Farm Rd. Suite H2, SLO, CA 93401**

You can also pay online at: centralcoastparks.org/membership