Our mission is to protect and nurture Point Lobos State Natural Reserve, to educate and inspire visitors to preserve its unique natural and cultural resources, and to strengthen the network of Carmel Area State Parks. pointlobos.org
Well, we sure hope you like rocks. This issue is devoted to the incredible geology of Point Lobos – the jagged and abrupt coastal bluffs, the upturned seafloor visible along the entire south shore, the traces of life left long ago — and yes, the conglomerate. Once you’ve had a taste of the rich story told in the rocks, you’ll never see the landscape in exactly the same way again. This fascinating, complicated, and at times, violent, history has created the foundation for the Reserve as we experience it today.

As many of you know, California State Parks is considering a reservation system for Point Lobos State Natural Reserve as part of a broader plan to balance safe public access with resource protection and protect the Reserve from damage by intensive visitor use. That broader plan includes ongoing research of human impacts to critical and irreplaceable natural and cultural resources, restoration projects to replace lost habitat, more effective trail boundaries, more effective and new methods of conservation messaging and increased enforcement.

These topics are diverse and there are as many opinions on what should happen to protect Point Lobos as there are visitors. Some people think that access is the most critical consideration while others believe that natural and cultural resource protection must be the first priority. The mission of State Parks dictates that there must always be a balance, a delicate tension, between the two.

As an active partner, the Point Lobos Foundation supports and encourages California State Parks as it considers novel, adaptive management strategies to responsibly balance access with conservation. With your help, PLF is in its fourth year of funding research to study Point Lobos’ natural resources, including the effects of visitors on protected wildlife and habitat, in order to provide scientific data to support sound solutions in the future. This is critically important; the data does not change because of public pressure or personal agenda. We can count on the science to help us understand both the challenges and the opportunities.

Like the rocks that form the structure of this place that we all hold dear, this data is creating a strong foundation of knowledge that will continue long after we are gone. This holiday season, please give generously so that we can continue providing this vital support to our California State Parks partners.

Gratefully,

For more information about the Carmel Area State Parks General Plan, in process since 2012, visit pointlobos.org. Halfway down the homepage you’ll see a link titled “Adaptive Management of Point Lobos”. Clicking there will connect you to more in-depth information about the Carmel Area State Parks General Plan and about PLF’s positions, and official comments, on various aspects of this plan.

One of the many South Shore Bluff restoration sites in its early stages. This site was planted with native species in 2017. Other sites are coming onboard with the second phase, beginning in December 2018. This project is funded primarily through California State Parks, with ongoing support provided by the Point Lobos Foundation. Image: Point Lobos Foundation
The mystery of Weston Beach

Trace fossils of a prehistoric organism can be seen in the rocks. But what was it?

by Ed Clifton

Most visitors to Weston Beach are completely unaware of the innumerable fossils that lie in the rocks beneath their feet. There are no shells or bones, however. Fifty million to 55 million years ago, what is now rock at Point Lobos was loose sand and mud on the floor of a submarine canyon, and that canyon floor was alive with organisms crawling over and through the seafloor.

The marks they left behind are called trace fossils and they create strange patterns in sandstone and mudstone at Weston Beach. Deciphering these traces presents a real challenge for geologists and the most spectacular of them has baffled us for decades.

Most of the trace fossils are infilled tunnels once occupied by an animal, or simple passageways where an animal pushed its way through the sand or mud. But one of the Reserve’s trace fossils is a complex repetitive arrangement of dark mud and light-colored sand that is difficult to explain.

Its pattern resembles certain seaweeds, leading a geologist in the 1930s to interpret them as impressions of fossil seaweed. In 1965, a member of the Botany Department at UCLA, using photographs, identified the trace as the remains of a fossil coralline alga.

Those of us who followed those earlier studies at Point Lobos, however, realized that the feature could not be the remains of an ancient seaweed. The dark material that partly defines them consists of mud rather than organic material, and they are three-dimensional, passing up and down through the sedimentary layers.

Fossil seaweed, by contrast, should look more like a two-dimensional leaf impression. The first detailed description of the trace was made by Gary Hill, a young geologist with a strong background in biology who worked with me on the rocks of the Reserve in the late 1970s. His 1981 paper offered the first attempt to reconstruct a three-dimensional model of a very complex trace fossil.

Early in this century, an international team of trace fossil specialists examined the trace and concluded that it was made by the feeding and locomotion of a clam that lived within the sediment beneath the sea floor. They presented a somewhat different three-dimensional model of the trace, which they named *Hillichnus lobosensis*, in recognition of Gary Hill’s initial description (trace fossils are given genus — *Hillichnus* — and species — *lobosensis* — names as if they were actual animals — “ichnus” is a term used by paleontologists for animal traces).

Diagram: Richard Bromley, et al. Three dimensional model showing the complexity of the trace fossil Hillichnus lobosensis.
Because *Hillichnus* is so geometrically complex, it looks quite different depending on which part of the trace is exposed and its orientation relative to the exposed rock face.

For example, on a surface parallel to bedding, the upper part of the trace forms a succession of aligned circles or semi-circles filled with sand and/or mud. On surfaces perpendicular to bedding, however, the same part of the trace becomes a somewhat regularly spaced set of upward-sweeping dark muddy streaks.

Cross-sections through the center of the trace provide a totally different aspect depending on whether the animal was moving perpendicular to the exposure or parallel to it. Without the careful study of Hill and Bromley it would be easy to assign the different manifestations of the trace to the activities of several very different types of animals.

Was the trace formed by the feeding of a clam beneath the sea floor?

After looking at hundreds of examples, I remain unconvinced. I find the complexity of the trace, the fact that it commonly displays no connections to an overlying sediment surface (a clam must extend its siphons up to the seafloor to breathe), and the existence of a central sand/mud core to be inconsistent with the clam interpretation.

An ancient burrowing deep-water holothurian (sea cucumber) seems to me to offer more promise as the *Hillichnus*-maker. It may also have been produced by an animal unlike any alive today.

Given its abundance and striking appearance at Point Lobos, *Hillichnus* is surprisingly uncommon in other rocks in California or elsewhere in the world. It has been reported from a few deep-water rocks on the U.S. West Coast and in Japan. Its presence is cited as evidence that the rocks at Point Reyes are Carmelo Formation equivalents that have been offset northward along the San Gregorio and San Andreas Faults.

**Examples (A-E) of the feathery trace fossil, *Hillichnus lobosensis*, at Weston Beach. Example C displays a central core of light-colored sand. What kind of creature could make such a complex trace as it worked its way through the sand and mud of a submarine canyon 50-55 million years ago?**

**Different views of the trace display it quite differently. (A) shows the upper part of Hillichnus on a horizontal surface of sand and mud; (B) shows the same part of the trace (arrow) as seen on a sandstone surface perpendicular to that surface (dime for scale). Photos: Ed Clifton**

The next time you visit Weston Beach, look carefully at the flat surfaces of light-colored sandstone beds exposed on the beach. There is a good chance you will see this remarkable, mysterious trace fossil.

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**Ed Clifton has been fascinated by the rocks of Point Lobos ever since he first saw them in 1965. After receiving degrees from Ohio State University and John Hopkins University, he had a 38-year career as a geologist with the U.S. Geological Survey and the petroleum industry. He is a Point Lobos Docent and a former president of what is now the Point Lobos Foundation.**

**His email address is eclifton@earthlink.net.**
A quick glance at 80 million years

Moss Cove is the place to go for the condensed story of the Reserve’s geology

by Larry Rychener

If visitors with only a few hours to spare want to learn about the rocks of Point Lobos, where should they go? Moss Cove is an excellent place to study the geology of the Reserve in a compact setting. In a dozen or so feet, one can view a sequence of geologic events involving crystallization of magma (molten rock), intrusion of a vein, faulting, and two episodes of erosion and further deposition. Altogether, these events span a period of 80 or more million years.

In the accompanying photograph, the woman’s feet rest on granodiorite, the oldest rock in the Reserve. Granodiorite was emplaced as a magma and slowly crystallized at a depth of several miles beneath the Earth’s surface. Excellent exposures of this rock, polished by wave action, can be seen along Moss Cove beach. In these exposures, the constituent mineral grains are easily visible, most notably large, rectangular crystals of orthoclase feldspar surrounded by a matrix of smaller grains: plagioclase feldspar, quartz and biotite mica. These minerals are hard, harder than a knife blade, which accounts for the higher elevations and more rugged topography of many portions of the Reserve underlain by granodiorite.

Following this erosion, gravel and sand were deposited on the surface. These sediments are thought to have accumulated in a submarine canyon (similar to the present-day Monterey Canyon), one wall of which is clearly visible on the wall of the Pit, just west of Moss Cove. Fossils show this sediment accumulated 50 million to 60 million years ago. Today this sediment is preserved as the sedimentary rock known as the Carmelo Formation. Good exposures can be seen at Moss Cove, the Pit, Sea Lion Point and along South Shore Trail as far south as Hidden Beach.

A second erosion surface, marked by the red line, formed relatively recently (geologically speaking) during the previous interglacial period of the Pleistocene. Called a wave-cut terrace, this surface extends throughout the Reserve and was formed by the actions of waves and organisms eroding the coastline landward over long periods of time. This terrace is covered by near shore and terrestrial sediments, and capped by a dark soil layer.

Point Lobos is an enduring source of fascination to geologists and a short walk to Moss Cove explains why. Like a novel condensed from a much longer story, millions of years of history are written plainly in the rocks.
A young woman stands on granodiorite, the oldest rock in the Reserve. But the bigger picture is not so simple. The lines differentiate a variety of geological features described in this article.

Photo: Larry Rychener
Be the rock

Photographers focused on geology need to surrender to their imagination

by Celie Placzek

“...innocence of eye has a quality of its own. It means to see as a child sees, with freshness and acknowledgment of the wonder; it also means to see as an adult sees who has gone full circle and once again sees as a child – with freshness and an even deeper sense of wonder.”

— Minor White (1908-1976)

The rocks at Point Lobos, and at Weston Beach in particular, have captured the imagination of photographers for decades, including Edward Weston himself. I read that his son Brett convinced his dad, after many attempts to come and just have a look at Point Lobos. I wonder what Edward’s expression was like when he finally made his way down onto what was then called Pebble Beach.

Fast forward many decades to the rock outcroppings at Shore Acres along the Oregon coast. It was there that a wise photographer took a group of his aspiring students on a field trip. My first impression was how much these formations reminded me of those at Point Lobos, which, by the way, I had never photographed.

After many admiring remarks, our instructor said, “OK, I’m going to leave you here for the rest of the day, and what I want from each of you is to... be the rock.”

He didn’t say analyze the formations. He didn’t say figure out their composition or age. He didn’t even say take out your cameras and make a portfolio of stunning photographs. All he said was “be the rock.” My first thought was, “Oh help, what am I going to do! I’m sure the other students know exactly what he means. But I sure don’t.”

I wandered over the outcroppings, noticing the shapes and textured layers of the rocks. The filtered light through the fog rendered the colors like paint on an artist’s palette. These rocks not only looked like those at Point Lobos but the weather was familiar as well. It felt like a typical summer day back home. I wished I had brought an extra sweater.

Celie Placzek began making photographs decades ago at Girl Scout camp with a small Brownie camera recording fun-filled days with friends. As time went on, photography continued in the background her life, but, before long, it grabbed hold of her with an invisible hand and pulled her into the digital world, never letting go. Today her cameras include a full-frame Canon, a Micro Four Thirds Olympus and an iPhone 8+. She believes life couldn’t get much better than being a wandering photographer and a Point Lobos Docent.

Her Web site can be found at about.me/celieplaczek and her email address is celiep@me.com.

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But weather aside, I needed to start thinking about our assignment. It took me some time to put away the cranky child’s voice in my head and pause. I recall sitting down and gazing out towards the ocean, listening to the waves push against the shore. I thought of the photographer Minor White, who once said: “...the photograph acts as a symbol or plays the role of a metaphor for something that is beyond the subject photographed.” I felt comforted by his words. Maybe I could do this.

Finally I set aside my thinking mind and allowed my imagination to take hold. Soon I found myself falling down a rabbit hole into another world where I began seeing faces where there were no faces, and dancing figures and even spaceships on their paths to somewhere else.

I finally realized that I didn’t need to “do” anything. I didn’t need to make anything happen. The images would come to me. Before long I found myself crawling over the rocks like a hermit crab carrying my camera equipment on my back. I was hooked. I didn’t want this ever to end.

Fast forward again, this time to Point Lobos recently where I saw a shirt lying on Weston Beach. It was in shades of gray with dark polished stones like buttons down the middle of a yellow placket. When I returned home and showed my son what I had photographed, he said, “Come on mom, you didn’t see any shirt, or any buttons or even a yellow whatchama-call-it. All you saw was a rock!” And he was right, absolutely right. Once again, I had let myself be carried away by my imagination.

On any given day, hundreds of photographers come to Weston Beach bringing with them every make and model of cameras from the large format view cameras mounted on polished wooden tripods to pocket-sized smartphone cameras. I too have become one of these camera-toting people on Weston Beach. Some of us are in search of literal interpretations of what we see while others reach inside for abstract expressions.

I have come to believe that regardless of the image each person creates, what is most important is the process of “being the rock.”
Weston Beach. This high definition image, was inspired by photographer, Sean Arbabi, a Central Coast professional landscape photographer who has spent many days photographing Point Lobos.

Photo: Paul Reps
Not of this Earth?

The Kingdom of Fungi has many oddities

by Chuck Bancroft

For all of my career at Point Lobos I tried to seek out, identify and learn about, photograph and “pass it on with wonder” the wonderful diversity that is our “Crown Jewel of the California State Parks.” Even in retirement I still get out on the trail to discover new things. There are endless species to learn about and photograph. But many times when finding something new I just can’t figure out what that darn thing is. So I rely on the experts I have met to help with the tricky and elusive identifications — Michael Mitchell for native plants, Brian Weed and Don Roberson for birds, Jerry Loomis for marine mammals and marine invertebrates, and, of course, Phil Carpenter with the Fungus Federation of Santa Cruz.

The Kingdom of Fungi has long been a favorite of mine. Starting in 1981 I began to photograph the species I found at Point Lobos. Sister Anna Voss was my mentor until she said “you need more help than I can give you.” She told me to join the Fungus Federation of Santa Cruz. I did and started taking classes with David Arora. I met Phil Carpenter (Ph.D. chemist, Eagle Scout, science adviser, past president of the federation and an all-round great guy). In 1991 we started giving programs down in the Monterey area for some very special mushroom foraging events and continue to do so today. We eat really well with the best chefs at the events preparing exquisite entrees and desserts with the wild mushrooms that abound. It just doesn’t get any better.

But……there are still the odd and unusual things found in the woods. Below are species that you probably overlook when walking the trails because they are certainly not the most common ones that most people look for. These are not your typical mushrooms or fungi. In fact several of them are not even fungi. Here’s just a taste of the oddities you might find. No pun intended. These are not edible.

A slime mold gone to the dogs
Fuligo septica

Slime molds are primitive organisms with an identity crisis. They share many characteristics with fungi and are still placed in the Kingdom of Fungi by some authorities, but others now place them in the Kingdom Protista division Myxomycota. Slime molds obtain nutrients from bacteria, fungi and decaying organic matter. Slime molds appear in our area in the fall after good rainfall. Size is variable, ranging from several inches to 2 feet or more in diameter. Color is also variable, but the most noticeable form appears as a bright yellow, slimy mass when fresh. At this stage it is frequently referred to as the “dog vomit fungus,” and is able to “flow” slowly across the mulch a distance of several feet, ingesting dead matter as it goes. When conditions for growth are no longer favorable, movement stops, the mass changes color and dries up. Spores are then produced which are carried away by wind to new locations.

Chuck Bancroft spent 31 of his 35-year career as a State Park Ranger at Point Lobos. In retirement, he still does programs and nature walks for members of the Point Lobos Foundation. His sources for this article include “Mushrooms of the Redwood Coast” by Noah Siegel and Christian Schwarz; Harvard University Graduate School of Arts and Sciences (gras.harvard.edu); Encyclopedia of Life (eol.org) and Mykoweb.com. All the photographs are his own.
Many-headed slime
*Physarum polycephalum*

This slime mold inhabits shady, cool, moist areas, such as decaying leaves and logs. Like slime molds in general, it is sensitive to light; in particular, light can repel the slime mold and be a factor in triggering spore growth. I found this growth on the side of the Rat Hill road, seemingly feeding on pine needles.

Bird's nest fungus
*Nidulariaceae*

This species is obviously named for its appearance. This fungus receives its nutrients from decaying wood and plant matter; I found a sizable patch of this in mulch. The mushroom forms a structure that looks like a small bird’s nest. In the “nest” are tiny flattened spheres which look like eggs. These spheres are small capsules called peridioles which house the spores. The “bird’s nest” is shaped in a way that it becomes a perfect splash cup. When a raindrop falls and hits the cup of the mushroom, it has enough force to propel the peridioles into the air, up to a meter away! The peridioles can then land on a solid surface, such as a leaf or twig, and stick to it. From there, the spores are released and the whole life cycle starts over again.

Turkey tails
*Trametes versicolor*

The small, wavy, leathery shelves are a common sight in woodlands. Fresh fruitings are bright orange-brown to orange buff, fading in age or dry weather to dull buff or grey. *Stereum hirsutum* is sometimes confused with *Trametes versicolor*, the so-called “true” turkey tail. It has a banded upper surface, but is colored differently, usually a combination of grey, brown or cream. More significantly, it has a pored, not smooth fertile surface.

Cramp balls or coal fungus
*Daldinia concentrica*

Known by several common names, including King Alfred’s cake, it can be found in North America, South America and Europe, where it lives on dead and decaying wood, and in our area especially oak trees. It is a common, widespread saprotroph. The fungus is ball-shaped, with a hard, friable, shiny black fruiting body 2 centimeters to 7 centimeters wide. It resembles a chunk of coal, which gives it several of its common names, including coal fungus and carbon balls. According to legend, King Alfred once hid out in a countryside homestead during war, and was put in charge of removing baking from the oven when it was done. He fell asleep and the cake burned. This fungus is said to resemble a cake left to this fate.

Witch’s butter
*Tremella mesenterica*

This jelly fungus is common on stumps and fallen branches of oak trees in our area. It is not the dead timber that it consumes but rather a kind of bracket or crust fungus that itself has been feeding on the wood. It attacks false turkey tails *Stereum hirsutum*, and *Trametes versicolor*, the true turkey tail. In dry weather, these colorful fungi lose their luster and become hard orange crusts or brackets, in which state they are much more difficult to spot. When it rains, the fruit bodies rehydrate and turn yellow again.
Notes from the docent log

I’m not sure if this is a first. While on my shift at Whalers Cabin, a young couple with a newborn baby approached. They sheepishly looked around and, after spotting the film room, nodded to each other. They went inside and the husband positioned a chair to partially block the door. I decided it would be OK to ask, so I went over and said: “Would you like some privacy to...” The mother quickly and with great relief responded: “Oh, yes!” So I closed the door and positioned the guest book in front so no one would interrupt. A while later they came out and expressed their gratitude. As they left, I said; “You know, just a few yards down the road there are some harbor seals nursing their pups.” They looked at me with big smiles and went over to witness the serendipitous scene.

Castel Ortiz, 4/28/2018

During our Pup Watch at the Whalers overlook today we were watching one of our youngest and most mischievous pups, who earned the name Dennis the Menace (Thank you, Jan Cambier -- it fit perfectly!) He (for simplicity’s sake, only because we didn’t know this pup’s gender) was happily nursing from his mom while she peacefully rested on the beach. He was restless and changed nipples several times but finally settled down and nursed peacefully for a while, or so we thought! We were chatting with our guests and keeping things quiet when my wonderfully observant husband, Mike, looked up and noticed that Dennis had moved and was now nursing from the mom who was sleeping next to his own mom (her own pup was behind her in the shade).

Susie Pair, 5/12/2018
Low tides this weekend brought lots of families out to the tide pools at Weston Beach. We were there to help the visitors enjoy the wonders they might otherwise have overlooked. No missing the 8-inch ochre star proudly sitting out for everyone to see. Always a crowd-pleaser. The six-rayed star required a little more patience to discover. And my favorite was the baby white-spotted rose anemone peeking out from a crack, not bigger than an inch at this stage. I’m eager to watch it grow.

Karen Wagner, 7/15/2018
Some will do anything to avoid paying the $10 entry fee. In May, Senior Park Aide Samantha Shackelton watched a particular culprit “surf into the Reserve” on the roof of a visitor’s automobile. A clever Sharp-shinned Hawk fledgling found it easier to “thumb” a ride rather than fly into the Reserve, and stayed on the car as it proceeded down the road. Sam told the driver to open up his rooftop shade and look up! The driver of the car was totally enthralled with the experience. How does one top this?

Paul Reps, 8/14/2018

I am happy to say that my first haiku hike went beautifully today. There were six attendees. We walked in the fog in silence to three places along the Cypress Grove Trail, wrote haiku, and then read them to each other in each one of the spots. “I will never forget this walk,” said one participant at the end. It was beautiful to see how easily they fell into the magic of Point Lobos and how generous they were with their creativity and words. One young woman had a wonderful sense of humor and wrote her haiku about getting into the poison oak! They said the hike deepened their appreciation for the place, which was the intent. Mission accomplished. Next time there may be no one, but it was a good start and I’ll try it again.

Many have walked here — pounded fat abalone — voices hide in trees.

Lauren Banner, 7/13/2018

A spectacular morning at Sea Lion Point: Light breeze, warm sunshine. The sight of four whale-watch boats offshore promised big things, and closer inspection with binoculars did not disappoint. There were a dozen or more humpback whales near the boats, with lots of views of backs and flukes (but no acrobatics). Passed the word to visitors walking by, and called the Information Station but the docents there were already on it. The whales were too far offshore to get a photo with my phone, but the scene was imprinted on my memory. Also saw about a dozen otters in the middle of Headland Cove.

Stan Dryden, 8/15/2018

It was Point Lobos like it was 10 years ago. I bumped into fellow Docent Lyle Brumfield on the trail today and the Reserve was empty; it was like we had the place to ourselves! I saw a bobcat, a falcon, deer with young and a coyote near Piney Woods. Also, there was a weasel on the Sea Lion Point Trail. It was just a magical day! There are some benefits to Car Week!

Paul Reps, 8/24/2018

Two groups from Gateway Center (Pacific Grove and Salinas) — an organization “Providing Adults with Intellectual Disabilities the Best Environment to Live and Work at the Highest Level Possible” — enjoyed our Easy Access Adventure last Thursday. Thanks to the many docents who signed up for the event. Betty Maurutto was able to walk with the PG group and I was with the Salinas group. Two of the clients, Gloria and Bobby, were walking with me and were timid on the trail, so we were holding hands. Gloria was quite outgoing, but Bobby had trouble speaking and was very shy. Something that Gloria said made me think of a song and I started singing an oldie, and Bobby immediately started singing, in a clear, on-key voice! He knew all the words, and it was a beautiful, emotional time. The whole group joined in as we headed back to the parking lot, ending with “Jingle Bells.”

Alexanne Mills, 9/24/2018
Contributing from your IRA is an easy way to reduce your tax burden and make a significant gift to support causes you care about. In retirement the IRS requires you to withdraw a certain amount (a required minimum distribution or RMD) from your IRA each year whether you need the funds or not, and you pay income tax on every distribution you take.

If you are 70 1/2 or older, you can make a gift from your IRA account to benefit the Point Lobos Foundation. Gifts made from your IRA (up to $100,000 per year) are not reportable as taxable income and qualify toward your RMD which can lower your income and taxes.

Contact your IRA plan administrator to make a rollover gift to benefit the Point Lobos Foundation.

Questions? Contact Kenley Butler, Development Director at kenley@pointlobos.org or 866.338.7227 ext. 105.

If you are 70.5 or older, this is a great way to support Point Lobos!

THE HOLIDAYS ARE HERE. MAKE YOUR GIFT THROUGH MC GIVES!

The Point Lobos Foundation collaborates with its community partners through the Monterey County Gives! program. Point Lobos Foundation receives your full gift PLUS a prorated share of matching funds based on its total donations during the campaign. Leverage your gift to the Point Lobos Foundation this year by giving through MC Gives!

Rock the (IRA) Rollover:

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Acknowledgements

Memorials, tributes and grants
April 21, 2018 - October 20, 2018

MEMORIALS

In memory of Albert Curt Bowman
Barbara Oyama

In memory of Allan and Mary Hudson
Margaret Hudson

In memory of Allan Hudson
Dave and Bettsy Lima

In memory of Bob Ewen
Pat and Jay Sinclair

In memory of Claire Reordan
Nancy Spear

In memory of Curt and Betty Cureton
Judith and Bruce Cowan

In memory of David Hally
Doris Barrow

In memory of Dennis and Jeannie Judson:
Their love of the sea is unmatched
Fernando Robert Elizondo

In memory of Diana Nichols
Nelson and Laurie Balcar

In memory of Dr. Steven Blaback
James and Joan Kamrar

In memory of Ed Simon
Emily Fletcher Kaestner and Erik Kaestner

In memory of George Chapman
Ann Chapman

In memory of Gerald Holmes
Illia R. Thompson

In memory of Gerald Holmes
Maria Siciliano

In memory of Gerald Holmes
Rocco Siciliano

In memory of Gerald P. Holmes
Amy Porter

In memory of Gerry Holmes
Seth Oppenheim

In memory of Jerry Hoffman
Carol and Daniel Dobberpuhl

In memory of Jerry Hoffman
Sharyn Siebert

In memory of Jerry Irwin Hoffman, DDS
David and Phillips Thompson

In memory of Mary Ann Whaley
Baird Whaley

In memory of Megan Liane Mitchell
Fred Ross Lord

In memory of Murl, Brian, and
Jane Rigmaiden
Paul and Holly Hein

In memory of Putnam Payne
Thomas Payne

In memory of Richard M Jacobs
Linda R. Jacobs

In memory of Rose Marie Massion
Walter Massion

In memory of Shirley Rosenberg
Saul Rosenberg

OTHER

Blue Blues Productions, LLC,
Big Little Lies

TRIBUTES

For the birthday of Cherie Campbell
Abigail Harris with Diane and Ira

For the birthday of Miles Gilliom
Collette Ah-Tye

In celebration of Mr. & Mrs. Kevin
Brodwick
Glenn Higgins

In celebration of Bev and Bill’s Wedding
Benjamin Kelly

In celebration of Jim and Kathy Blaschke
Dave and Bettsy Lima

In celebration of the Farnham and
Jensen Families
Erin Misegades

In celebration of Jeannette Fowler
Harvey Pressman

In celebration of Fred and Carolyn Brown’s
50th anniversary
Jeff Johnson

In celebration of National Chinese
American Citizens Alliance
Randy and Geraldine Low-Sabado

In honor of Wayne Kelley
Bill and Barbara Deasy

In honor of the Rumsen Ohlone
native people
Linda and William Smith

In honor of Adella Castro
Paula Hansen

In honor of Jay Sinclair
Mike Sinclair

SISTER ANNA VOSS FUND

Donations made to the Sister Anna Voss
Memorial Fund, and the income generated
by it, is restricted to the education and
direct support of the Point Lobos Docent
Program and the school education
outreach programs.

In memory of Diane E. Dawson
Doug McCall

Jan Cambier
Richard and Anne Vilas
Terry Kosaka

In memory of Mary Cipperly
Wayne Cipperly

GRANTS

California State Parks Foundation

Estate of Betty Lou Loesch

Pebble Beach Company Foundation

Combined Federal Campaign (CFC)

Amazon Smile Foundation
Puzzle

By Ann Pendleton

Across
1  Layers of iron sediment creating colorful striped patterns of rock/ also marking birds for research
7  Vicky Odello is a great ____ of geological information
8  Point Lobos forms the southern part of ____ Bay
10 An area composed of erosional deposits/may also be a fun place to sunbathe
11 What coyotes leave behind
12 One, single, only
13 A sea ____ can create a hole in the rocks
15 An example of ____ strata can be seen at Weston Beach/ also Pisa’s Leaning Tower
18 55 million year old foot prints, found at Weston Beach
24 PL Docents ____ to interpret for our guests
25 Melted igneous rock
26 Our PL geologist is ____ Clifton
28 Could be 6 or abbr. for Virgin Islands
30 ____ has helped sculpt PL’s natural beauty
33 Example of erosional siliceous and other rocks and makes beaches soft
36 The mined granodiorite was used ____ SF Mint
38 Understanding ____ currents helps explain some of Carmelo formation
39 Spotting scopes are set up ____ guests can look through
40 PL Docents wear their green jackets and name badges as part of our ____ code

Down
1 One of the types of kelp found at PL/ also a feathery wrap
2 Not healthy
3 Class 40’s name of choice/ also a very large chiton
4 PL Docents ____ interpretation for our guests
5 ____ Beach is an amazing place to examine many rock formations/ also tide pool
6 ____ is found on the exposed quarry face at Whalers Cove parking lot
8 Scuba diving is allowed at Whalers ____
9 Sedimentary and igneous are types of these
12 PL has educational ____ available for our guests and docents
14 What an octopus squirts
16 ____ Formation is one of the most interesting rock formations at PL
17 ____ PL Docents are knowledgeable
19 The Native Plant Patrol could use more ____ members
20 SOS means ____ our Ship
21 Scat is a ____ that an animal was here
22 PL is one of the most beautiful places where land meets the ____
23 Rock type formed by magma and lava
27 Duff is leaf ____
29 FE/ also a small home appliance
31 Bunch ____ is a general way to describe many of CA’s native stalked plants
32 The tides at PL ____ and flow
34 Ed, Tom, Vicki ____ Larry are PL’s resident geology ____
35 A female deer
37 We are planting native plants ____ help protect the Monterey Marine Sanctuary

Answers at pointlobos.org/crossword