Volume 35 * Number 1

Spring * 2012

S

Point Lobos Foundation

Route 1, Box 221789 Carmel, CA 93922 831-625-1470 www.PointLobos.org

Features

- 8 Ecosystems: Kelp Forests
- 14 The Forgotten Shores of Peace

Matt Rosenstein

Departments

- 3 Message from the President Sandy Hale
- 4 Under My Brim Dana Jones
- 5 Observations Sparky Starkweather
- 10 Quotes from the Docent Log *Edited by Rick Pettit*
- 15 Memorial and Tribute Gifts

Photo Contributors

Chuck Bancroft	Ed Bierman
Ed Clifton	Chuck Davis
Stan Dryden	Dida Kutz
Art Muto	Rick Pettit
Celie Placzek	Paul Reps
Kevin Shabram	

Point Lobos Magazine Editorial Director Dida Kutz dida@didakutz.org

> Point Lobos State Natural Reserve

The mission of the Point Lobos Foundation is to support interpretive and educational programs that enhance the visitor's experience, and to assist California State Parks in preserving Point Lobos State Natural Reserve.



Officers

President Vice President Secretary Treasurer Assist. Treasurer Sandy Hale Lynne Miles Bill Eckert Jay Sinclair John Drum

Directors Fred Brown Stan Dryden Skip Flohr Jeff Johnson Kathy Petty

n Steve Dennis en Bill Eckert Sharon Hoffman n Augie Louis y Stella Rabaut Cindy Walter

Docent Administrator Stan Dryden

Fund Development Coordinator Lisa Cook

Docent Coordinator/School Group Coordinator

Melissa Gobell

Cooperating Association Liaison Eric Abma

Copyeditor

Charles Schrammel

Use your smartphone to visit our website





Point Lobos Magazine is printed on recycled paper and published four times per year by the Point Lobos Foundation. Copyright 2012. All rights reserved. PDF versions available at www.PointLobos.org

Cover: Painting poppies. Photo by Art Muto.

Carmel

A MESSAGE FROM THE PRESIDENT Sandy Hale



am pleased to take over as President of the Foundation at this time of great challenges but also great opportunity. My wife Hope and I love experiencing Point Lobos as docents, as visitors, and as hosts for friends that come to the area. Thanks are in order to outgoing President Skip Flohr. Due in large part to his leadership, the Foundation is stronger now than it was when he took over two years ago. Thanks also to outgoing Board members Judd Perry (who has also served as President), Rick Pettit, Dick Dalsemer, and Carl Voss. All of you have given far more of your time, energy, brainpower, and often manual labor than you signed on for. Fortunately, Judd, Rick, and Carl have agreed to continue to serve the Foundation on various committees.

We welcome new board members Fred Brown, Stella Rabaut, and Cindy Walter (docent representatives), and John Drum (at-large representative). Fred, Stella, Cindy: you will love it.

In his last message, Skip Flohr talked about the Foundation's support of the docents' interpretive activities and school outreach. The Point Lobos docents logged over 21,000 hours of volunteer time supporting the Reserve in 2011. Last year, docents led over 2,100 elementary students on guided walks within the Reserve—including over 600 as part of the Foundation-supported outreach program, where we pay transportation costs for economically disadvantaged schools. Congratulations!

Thanks to the generosity of many of you, at the time of this writing we have raised over \$27,000 for the Sister Anna Voss Memorial Fund. Proceeds from this fund will be used exclusively to support the Point Lobos docent program and school education outreach programs relating to the natural sciences at the Reserve. Thank you all.

The Foundation recently completed a five-year strategic plan, for the period 2012–16. We will say more about this later, but I want to say a bit about our top priorities for the next couple of years.

Our highest priority is to continue to support and protect the Point Lobos State Natural Reserve and to contribute to enhancing the visitor experience during this critical time of State budget stringency. We will work with State Parks to help maintain and improve trails at the Reserve and to stem the increase in invasive plants. Most of all, we will support docent interpretation and education activities. We also hope to begin offering specialized member tours, including tours of State Parks properties adjacent to the Reserve.

We will work with the docents to continue to expand and improve the school outreach program. We will work with State Parks to do the same with the very successful *Summer Adventures* program. We will explore the creation of a science camp that would take advantage of the Reserve and adjacent State Parks properties.

We are currently co-funding State Parks development of a general plan for the Reserve, the Ranch directly across Highway 1 from the Reserve (which the Foundation Board would like to see named the "A.M. Allan Ranch" to differentiate it from the Reserve), and State Parks' Carmel River State Beach and Hatton Canyon properties. We will promote maintenance of Point Lobos as a Reserve and uses of the adjacent properties that are compatible with those at the Reserve itself. The first stakeholder meeting in mid-February kicked off a process of public engagement that will last more than a year.

The Point Lobos State Natural Reserve has been called "the jewel in the crown" of California State Parks. It also is the jewel in the crown of a regional grouping of state and county parks and other public-access lands that includes the Reserve, the A.M. Allan Ranch, Carmel River State Beach, Palo Corona Regional Park, the Carmel River Parkway, and others. Your Foundation is increasingly engaging with other community organizations to assure that visitors now and far into the future are able to enjoy the unique natural and cultural values of not just the Reserve, but all the treasured properties that make up this network.



News from California State Parks

Under My Brim Gets a Makeover

by Dana Jones, District Superintendent, California State Parks

With the recent retirement of Ranger Chuck Bancroft the search went out for a new Under My Brim author. Fortunately, California State Parks employs many dedicated and hardworking people taking care of its many parks statewide. From the park aids who greet our visitors in the kiosk, to the rangers, lifeguards, maintenance, administration, and resources staff, there is a dedicated crew of people that work at Point Lobos. Each of these folks plays an important part in keeping the park here for future generations to enjoy. In subsequent Under My Brim articles you will hear from these State Park employees and will be entertained by their stories and insight into working at Point Lobos and working for State Parks.

Get Involved - Planning for Future Generations at Point Lobos

There are days and moments in our lives that create lasting memories we will never forget. For many people those memories were created in a State Park. We hear from park visitors every day about how they have been coming to Point Lobos for generations. To ensure we are serving the public and protecting our parks for future generations we have started working on the "Carmel Area State Parks General Plan." This planning process is your opportunity as a park visitor and supporter to become a part of the future for Point Lobos, Carmel River State Beach and the Hatton Canyon and A.M. Allan Ranch properties. Visit the Carmel Area State Parks General Plan website at www. parks.ca.gov/?page_id=26868 to learn how you can take part in this important planning process.

Partnerships Help Keep Parks Open – Support the Point Lobos Foundation

As our budget shrinks and park closures are on the horizon, State Parks relies heavily on its partners. The Point Lobos Foundation works closely with State Parks to help provide support in many areas including the Docent program, interpretation, planning and maintenance. Read through this edition of the Point Lobos magazine and see the difference this partnership is making at Point Lobos and around the State. The importance of supporters and partners will be evident in this issue when you read about wildflowers by Sparky, quotes from some of our dedicated Docents, the importance of kelp ecosystems, and a poem about Point Lobos submitted by a student from Santa Monica High School.

Photos left to right courtesy of Chuck Bancroft, Kevin Shabram, Chuck Davis, Dana Jones.

observations

by Sparky Starkweather, State Park Squirrel

Spring is here! At last it's the month of March when we spring ahead and you can change your clocks to enjoy longer daylight hours. Set your clocks ahead before you go to bed on Saturday, March 10th.

I don't usually sleep in. I'm up nice and early so I can venture out and see what's up. Mushroom season was way too brief. I love a good porcini and even slippery jacks. I've had my fill of pine nuts and now I'm ready for some variety! Early spring is the hardest time of year for me because buried nuts begin to sprout and are no longer available, and many new food sources have not become available. During these times I can feed on the buds of trees. And I'll be out looking for other seeds and green vegetation. I may even feed on flowers. So you better get your cameras out and consult Art Muto's book, Wildflowers of Point Lobos State Reserve. Get to them before birds, ground squirrels, and I get to them.

Most people can easily recognize most of the common flower blooms in the Reserve. Our state flower, the California golden poppy, is one of the most prolific. There were incredible blooms last year out in Hudson Meadow, on top of Granite Point, and on the south side of the Bird Island Trail. Bush lupine in both the yellow and blue forms can be seen in the Hudson Meadow and right out in front of Whalers Cabin. For a real treat there are more bush lupines up San Jose Creek than you can possibly count. *Ceanothus thrysflora*, commonly known as blue blossom or wild lilac, is found all over the Reserve from Cypress Grove to Bird Island and all along the roadways.

Art's flower book is really handy when you start seeing the great variety of color and shapes in flowers that are not so easy to find or identify. I'm very partial to the not-so-common blooms.

Although bird's-foot trefoil is not native, it is still an uncommonly beautiful bloom. Little is known of its origin and early use. It is widely distributed in Europe and was first described there in 1597. The use of the plant as a cultivated species was first recorded in Europe about 1900. It was first reported in North America in 1934. Birds-foot trefoil is a long-lived perennial. The mature birds-foot trefoil plant has a deep taproot with many laterals. It is a leafy legume that resembles the pea plant. The



flowers are bright yellow with orange to red-tinged areas. Seaside painted cups are found throughout the Reserve,





but you're probably finding the red variety. Walking along the south shore or on the Bird Island Trail, the red is very commonly seen. The yellow variety is much harder to find. One of the most wonderful trails on the south side of Carmel Bay, with its incredible views and lack of people, is the service road below Ribera Road. Right next to the service road is a wonderful growth of this unique lemon-colored Castillja.

Before reconstruction began on the Bird Island Trail, we found this hybrid or deviant California poppy. At the beginning of the loop at Pelican Point was an incredible blooming of this strangely shaped poppy. Notice the many golden petals; a closer inspection reveals the orange disc below the petals. The trail should be completed sometime in June. Let's look for this poppy to reappear.

Wedge-leaved horkelia is a very distinctive low growing plant in the rose family. Nineteen species of horkelia are found in California. I find it along the South Shore Trail from Weston Beach going north to the Slot in the more exposed parts of the coastal scrub habitat; it blooms between April and September.

Piperia elegance or Yadon's piperia is named after Vern Yadon, the former head guru at the Pacific Grove Museum of Natural History. When we first came to Point Lobos there were big names of natural history that we all wanted to be like: Vern Yadon, native plants; Don Roberson and Brian Weed, birds; Alan Baldridge, marine mammals; and Jud Vandevere on everything except mushrooms. And of course Sister Anna Voss

Hybrid California Poppy







and Helen Lind were our "in house" mentors.

This "elegant" flower was seen by many of us last year just up the trail from the Whalers Cabin. Look for it at Coal Chute Point as well.

Hooded ladies' tresses possess a beautiful spiral display of the flower. This member of the orchid family (Orchidaceae) has long, narrow leaves growing from the bottom of the plant, and may have small, scale-like leaves on the upper stem. White or cream flowers are ornate and fiddle-



flowers are orange-red and appear from March through July. It has formal looking dark green foliage. The black berries are edible but bitter.

shaped, and grow in a spike around a thick stem. Look for it along the grassy areas of the south shore, especially around Hidden Beach. Twinberry is an unusual tree-like shrub. I've only seen it growing in one place. This plant is drought and pollution tolerant. The

Point Lobos State Marine Reserve and Point Lobos Marine Conservation Area are two of the nine no-take State Marine Reserves within the Monterey Bay National Marine Sanctuary. An appreciation of the kelp ecosystem is crucial in understanding why these marine reserves are vital to our state's economy, as well as to our enjoyment of the sea.

Ecosystems: Kelp Forests



Relp forests grow predominantly on the Pacific Coast, from Alaska and Canada to the waters of Baja California. Tiered like a terrestrial rainforest with a canopy and several layers below, the kelp forests of the eastern Pacific coast are dominated by two canopy-forming, brown macroalgae species, giant kelp (*Macrocystis pyrifera*) and bull kelp (*Nereocystis leutkeana*).

Giant kelp, perhaps the most recognized species of brown macroalgae, forms the more southern kelp forests, from the southern Channel Islands, California to northwestern Baja.

Four national marine sanctuaries harbor kelp forests. Giant kelp inhabits the Channel Islands National Marine Sanctuary as well as the Monterey Bay National Marine Sanctuary, where giant kelp and bull kelp coexist. In the more northern Gulf of the Farallones and Olympic Coast National Marine Sanctuaries, kelp forests are comprised of predominantly bull kelp.

Conditions Required for Growth: Kelp forests grow along rocky coastlines in depths of about 2 m to more than 30 m (6 to 90+ ft). Kelp favors nutrient-rich, cool waters that range in temperature from 5° to 20°C (42° to 72°F). These brown algae communities live in clear water conditions through which light penetrates easily. Kelp recruits most successfully in regions of upwelling (regions where the ocean layers overturn, bringing cool, nutrientrich bottom waters to the surface) and regions with continuously cold, high-nutrient waters. Because the amount of dissolved inorganic nitrogen decreases significantly in marine waters warmer than 20°C, kelp experiences reduced or negative growth rates in warm water. This phenomenon is particularly evident in southern California where giant kelp forests deteriorate in the summer months.

Along the central California coast where the distribution of giant kelp and bull kelp overlap, giant kelp out competes bull kelp for light.

Kelp survival is positively correlated with the strength of the substrate. The larger and stronger the rock on which it is anchored, the greater the chance of kelp survival. Winter storms and high-energy environments easily uproot the kelp and can wash entire plants ashore.

The kelp forests in Gulf of the Farallones National Marine Sanctuary are small and localized compared to those in the Channel Islands, Monterey Bay, and Olympic Coast sanctuaries. Conditions influencing kelp forest development in Gulf of the Farallones National Marine Sanctuary may include increased wave motion, unsuitable substrate, urchin predation, and turbidity and salinity effects of the San Francisco Bay plume.

Unique Characteristics of Kelp Plants: Instead of tree-like roots that extend into the substrate, kelp has "anchors" called holdfasts that grip onto rocky substrates.

From the holdfasts, kelp plants grow toward the



water's surface. Gas bladders called pneumatocysts, another unique feature of kelp, keep the upper portions of the algae afloat. A giant kelp plant has a pneumatocyst at the base of each blade. In contrast, a bull kelp plant has only one pneumatocyst that supports several blades near the water's surface.

Life Histories: Giant kelp is a perennial (i.e., it lives for several years) while bull kelp is an annual (i.e., it completes its life cycle in one year). Both types of kelp have a two-stage life cycle. They exist in their earliest life stages as spores, released with millions of others from the parent kelp, the sporophyte. The spores grow into a tiny male or female plant called a gametophyte, which produces either sperm or eggs. After fertilization occurs, the embryos may grow into mature plants (sporophytes), completing the life cycle.

Giant kelp can live up to seven years. Factors such as the severity of winter storms may affect its life span. Its average growth (in spring) is 27 cm/day (~10 inches/day), yet it may grow up to 61 cm/day (2 ft/day). The average growth of bull kelp is 10 cm/day (~4 inches/day).

The Kelp Forest Ecosystem: A host of invertebrates, fish, marine mammals, and birds exist in kelp forest environs. From the holdfasts to the surface mats of kelp fronds, the array of

habitats on the kelp itself may support thousands of invertebrate individuals, including polychaetes, amphipods, decapods, and ophiuroids.

California sea lions, harbor seals, sea otters, and whales may feed in the kelp or escape storms or predators in the shelter of kelp. On rare occasions gray whales have been spotted seeking refuge in kelp forests from predatory killer whales. All larger marine life, including birds and mammals, may retreat to kelp during storms or high-energy regimes because the kelp helps to weaken currents and waves.

Perhaps the most familiar image of kelp forests is a picture of a sea otter draped in strands of kelp, gripping a sea urchin on its belly. Both sea otters (*Enhydra lutris*) and sea urchins (*Strongylocentrotus spp.*) play critical roles in the stable equilibrium ecosystem. Sea urchins graze kelp and may reach population densities large enough to destroy kelp forests at the rate of 30 feet per month. Urchins move in "herds," and enough urchins may remain in the "barrens" of a former kelp forest to negate any attempt at regrowth. Sea otters, playing a critical role in containing the urchin populations, prey on urchins and thus control the numbers of kelp grazers.

Reprinted with permission of the National Atmospheric and Oceanic Administration.



Quotes from the Docent Log

Whales Migrating, Thrashers Concertizing, and Docents Going the Extra Mile Compiled by Rick Pettit

November 9, 2011: Ed Clifton

It was a warm windless day and the sun was approaching the western horizon. As I waited by the Information Station, I became aware of a bird calling from the scrub just north of the parking lot. It was an incredible song, loud and varied, with melodious interludes interrupted by harsher calls and trills. Each theme was repeated at least once. I was reminded of mockingbirds.

With binoculars in hand, I went to the edge of the parking lot, where I saw the bird high in a large bush. To my surprise, it was a California thrasher. I had seen them around the Info Station before, but had never heard one sing.

Delving into it later, I discovered that I should not have been surprised at the similarity of the calls I heard to those of a mockingbird. Thrashers and mockingbirds are members of the family Mimidae, a group noted for their vocalization. In fact the family name is Latin for "mimic." Now I have something else to listen for and to share with guests.

November 16: Connie Dallmann

The first gray whale sighting of the season that I am aware of was made by a visitor this morning. The whale was heading south, of course. My public walk group saw deer, otters, and pelicans, and was serenaded by a California thrasher.

November 18: Sharon Russell

On the beach opposite the big rock several dozen mostly-juvenile gulls running back and forth with the waves like sandpipers. Most were Heermann's. Plus a few Western and glaucouswinged. All enjoying their own small feeding frenzy.

November 29: Judd Perry

I was staffing Whalers Cabin, and noticed a great blue heron standing on Whale Rock. With the binoculars I could see that he had somehow caught a large rock fish. It must have been at least ten inches long, and three inches top to belly. The heron had

dumped it into an indentation in the rock, and was trying to figure out how to eat it. Nothing worked! He would pick it up and try to get the head going



down his throat, but the fish was just too large. After a while, the heron dejectedly turned his back on the fish and began sharpening his long sharp beak against the rock (I had never seen this behavior before). He was still there when I left after two hours, with his back to the fish as if saying: "I didn't want to eat you anyway." Lesson to be learned —moderation in all things.

December 7: Marty Renault

Except for the slant of the winter sun in the sky, this seemed like an early spring afternoon, with a warm sun, a balmy breeze, and new green shoots carpeting the sides of the path. As if to emphasize the point, the poppies between Moss Cove and Ixchenta



Thrasher by Stan Dryden. Pony by Paul Reps.



Point were blooming away, ignoring the constraints of the official December calendar and punctuating the landscape with their bright orange blossoms. Are they getting an early start, or did they never stop?

December 8: Paul Reps

This may be a first: we were visited yesterday afternoon by a couple from Pacific Grove who brought with them their service pony in the back of a small Honda SUV. She's a real sweet pony that helps her owner walk about and navigate our trails, and even goes out onto some of the view areas among the rock outcroppings. December 19: Stan Dryden

Went to Point Lobos to enjoy the beautiful day with no particular mission in mind. When I got to the Info Station the docent on duty was busy with some visitors, and a gentleman walked up. He told me that he was from Japan and asked where he could see an otter. He had been to Point Lobos and seen otters about ten years earlier, but had a strong desire to see more. Just having arrived. I didn't know where to send him, but not wanting to interrupt the other docent, I said, "Let's go!" Grabbed my scope out of the car and off we went out to Sea Lion Point, where we did not see any otters. Maybe in

Whalers Cove—but a call to the docent at Whalers Cabin dashed that hope. In desperation we went out on the Cypress Grove Trail, and when we got to the Headland Cove overlook there was an otter spinning in the water. The gentleman had trouble getting a good look at the moving animal after I had located it in the scope, but soon it settled in for a snooze, and the customer's expectation was finally met.

December 23: Carol Bloner

We were met at the entry kiosk with the news that the gray whales were streaming by. So we changed our intended route to walk the oceanfront trails, to catch the blows and the occasional sightings of backs and flukes. This natural scene never fails to engender awe in me. Met a couple from France who also were entranced by both the whales and the Reserve. As the

gentleman said, "What a perfect Christmas gift."

December 31: Rick Pettit

The winter waves slamming into the rocks at Weston Beach today were stupendous. Small clumps of visitors dotted the shoreline, just standing there, gazing, captivated, exhilarated.

January 1, 2012: Norma Davis

On my way with my scope over my shoulder to Sea Lion Point on New Year's Day morning, the first visitor I met said "Oh, I thought that was a bagpipe."

January 2: Sharon Hoffman

On today's trail walk, a visitor told me he saw an elephant seal on the rocks off Sea Lion Point. I thanked him for this heads up. I wonder if anyone else has seen one of these huge animals visiting Point Lobos recently?

January 6: Celie Placzek

High surf warnings continued today as the sea lions clutched together out on the rocks so as not to get knocked off. The rest were tossing about in the surf below. Back at the information station, there were no visitors waiting for my guided walk, so I went out on the trail and found a group of young adults who were here, some for the first time. the binoculars to witness this wonderful sight of the New Year.

January 10: Lynne McCammon

The otter spotters arrived in

full force to begin the new year count. There was one drawback: the ocean was very turbulent. As the waves crashed onto the rocks the water was very white and frothy. The poor otters needed Dramamine. This situation makes our furry friends seek calmer waters. Several times we would feel the mist from crashing waves, and we needed lens paper

to wipe our binoculars and scopes. Even though we had a few obstacles to conquer, we were pleased with the outcome. We counted 40 adults and 7 pups. The



Water by Celie Placzek.



After talking with them about Point Lobos, I gave the group four throw-away cameras and said: go make pictures of what you want to remember from your visit today—be it curious, beautiful, confusing or even amusing. After two hours, they returned the little yellow Kodak cameras reporting that they had had a ball. It was a great way to get them to get them focused and involved with their surroundings. And for me, a wonderful way to see Point Lobos through their eyes.

January 7: Paul Reps

On the 7th and 8th I took a scope and several pair of binoculars out to Sea Lion Point. The total number of whale blows sighted exceeded 200, and several visitors were treated to whale tail "fluke up" sightings. Several whales were so close to shore that many visitors did not need Carmel Meadows residents have spotted a large raft of approximately 20-30 otters at the end of Ribera Road. We hope these otters will return to the Point when the ocean is calmer.

January 11: Celie Placzek

Yesterday Janet Beaty, a fellow docent/photographer, and I stood perched like two birds above the cove south of Weston, the one that I call Lizard Rock Cove. There we directed our cameras down into the water, watching reflected sunlight dance across the water in ripples of orange and purple and yellow. It was mesmerizing. It was enchanting. Soon other folks with cameras and tripods circled around us. Word had gotten out that this was one heck of a place to be at sunset. Once the light left the water, we turned our attention to the sun slowly slipping down toward the horizon and the steel gray Pacific Ocean. There in the sky, we watched feathered clouds appear





above the fog bank. The colors we had seen earlier in the water were now up in the sky. How can life get any better than this!

January 11: Ed Clifton

While out on the Granite Point Trail. I encountered a visitor near the eastern end of Whalers Cove who was intently peering with her binoculars at the small rock islands just off the base of Coal Chute Point. I asked her what was so interesting, and she said a sea otter and her pup had just hauled out onto one of the rocks. She offered the use of her binoculars, but, for once, I had the right camera gear in hand, and hastened up the trail to photograph the occasion. When I got to a good viewing site, I noticed a harbor seal in the nearby water eyeing the rock with the otters. Before long it joined them on the rock, offering a great photo opportunity. I could imagine that the seal was carrying her first pup and was hoping to gain some maternal insight from the otter, but this might be a bit fanciful. Everyone was probably just catching a few z's.

January 13: Dave Evans

Quite a show today for young and slightly less young alike. I was privileged to assist on a school walk for a group of fabulous eight-year-olds from Soquel. After enjoying closeup views of barking sea lions, rafting otters in Headland Cove, lazing harbor seals, and a few inhabitants of a tidepool or two, we were treated to pod after pod of grey whales on their journey south to Baja. And most of the pods that passed were little more than a hundred yards or so from Sea Lion Rocks. The kids must have screamed with joy at every single whale blow they spotted, and were probably heard all the way to the top of Whalers Knoll. Someone said they heard me as well, but I'm sure that's not correct ...

January 26: Carol Bloner

Saw my first zygadene lily of the year today on bay side of Cypress Grove loop. Seeing this in January is equivalent to seeing my first gray whale heading south in December. The wildflower season has begun!

The Forgotten Shores of Peace

As waves splash east of tidepools. Pebble shores sit in the wind of a carmel valley. Citizen scholars wade in the dust of a sun fresh out the cannery. Thus the vision of two rowers lost in words yet seen. In minutes the sun will set, The moment published forever in a roadside mist yet read. Headlights shine in the sediment of rocks newly chalked with prehistoric footprints. Visions sit under the high tide, In the hills lay houses sprinkled with tracks of light. Some will have their dreams answered by sweet chapters on Thursdays yet to come. Others will walk on the forgotten shores of peace.

Matt Rosenstein California Literature Student Santa Monica High School

MEMORIAL & TRIBUTE GIFTS

November 15, 2011 through February 15 2012

MEMORIAL GIFTS

Nancy Spear in memory of Claire Reordan Edward Kocher in memory of Nancy Kocher Kathy Higuchi in

memory of Walter Moy Nancy London in memory of Nancy Swan Mary Barbara Schultz in memory of Nancy Swan The Book Group of Marin in memory of Nancy Swan

TRIBUTE GIFTS

Roxanna Benjamin in honor of Johnny Bertos Joseph Baird in honor of Steve and Sona Dennis Kukulan Family with love in honor of his mother Jean Reilly 91 and a long time lover of Point Lobos Vivian and Robert Weber in honor of Lee Beard Lesley Fuller in honor of **Rick and Lucie Estberg**

SISTER ANNA VOSS **MEMORIAL FUND**

Anonymous Phyllis and Wayne Kelly Alexanne Mills Mary Gale Wayne Cipperly Terry and Daniel Tellup Fred and Carolyn Brown Ed and Ann Clifton Katherine Knabke Celie Placzek Kathy and Bob Petty Marty and Dennis Renault

Paula and Bryon Runyon Stan and Rita Summers

Corporate and Business Support

First Shot Productions Chapter Media **Oxford Studios** The Boeing Company Adobe Systems Inc.

Foundations

North Face Foundation The Ford Foundation Jewish Community **Federation Endowment** Fund-Turbow Family Fund

Whalers Cabin Museum Fund

G. David and Rosemary Adamson Vanessa Arnold Lloyd and Gay Austin Susan Badger Frederick D. Baker Doreen Bannerman **Richard Beidleman** David Bernhisel Antoinette Blum Karen Bowler Kiril P. Boyadjieff Harold Brown Larry and Tamera Brown Gene and Barbara Bullock-Wilson John and Janet Bush Gregor and Diane Cailliet **Rosemary Carriel** Stuart Causey Darlene Ceremello and Jessea Greenman Keith and Lynn Chase Terry and Zeo Coddington

Lisa and Eric Cook Ralph and Joanne Cristofano MacGregor Curtis and Betty Cureton Marianne Gawain Davis Bill and Barbara Deasy **Diane Diggins** John Dotson Ken and Joyce Esaki Alan and Billie Feuerwerker California State Parks Foundation Ronald and Eileen Frank John and Joyce Franzman Roy Garrison Alex and Eva Glazer Anne-Marie Halloran Ellen Hampton **Blair Hankins Dolores Harris** Linda and Norman Harris Klaus and Katarina Hedbabny Ken and Anne Helms David Hibbard Sharon Hoffman **Iennifer Host** G. E. Huenerfauth Terry Kosaka Gary Kurns Dave Kwinter Alan Lacy William Landreth **Jack Larsen** Frank Laurich Ron Lema Jeff Lemons and Deborah Eve Schwartz Murphey Francis P. and Mary Anne Lloyd Jerry Loomis Alexey Lopukhin Stefeni Luman

John and Lois Douglas C. MacIntosh Deborah Macdonald Carolyn Swan Mack Marsha Malis Ph.D. **Carol Marguart** Tina Martin **Cindy Mattos** Marjorie McCarthy Jane Meyerhoff Susan Miller Harriet Mitteldorf Elsie Mogck Patricia Muller Kaye Murdock **Christine Margaret** Murphy Marie and Donald Murphy Farley and Laurie Neumann Zeese Papanikolas **Claudine Perkins** Judd and Sharon Perry Lawrence and **Constance** Pettinger Noelle and Erelle Plat Phyllis and Parker Pollock Don and Ann Rathjen Theresa Reichert Anna Rhein Arthur Roberts Don and Wendy Roberts Marc Rosen Sharon Russell John and Linda Sanders **Charles Schmuck** Monterey Peninsula Volunteer Services Mary R Sharman Sandra Silvestri Alice I. Smith

Point Lobos Foundation



Route 1, Box 221789 Carmel, CA 93922 831-625-1470 NON-PROFIT ORGANIZATION US POSTAGE PAID PERMIT NO. 35 CARMEL CALIFORNIA

Importance of the Keystone

In nature, all living things are in some way connected. Within each community each species depends on one or more of the others for survival. And at the core of individual ecosystems is a creature, or in some cases a plant, known as a keystone species.

This species operates much like a true key stone, which is the stone at the top of an arch that supports the other stones and keeps the whole arch from falling down. When a keystone species is taken out of its environment, the whole system could collapse.

In California's Monterey Bay National Marine Sanctuary the sea otter is a keystone species in the kelp forest ecosystem. Kelp forests provide food and shelter for large numbers of fish and shellfish. Kelp also protect coastlines from damaging wave action. One of the sea otter's favorite delicacies is the sea urchin who in turn loves kelp.

When present in healthy numbers, sea otters keep sea urchin populations in check. But when sea otters decline, urchin numbers explode and grab onto kelp like flies on honey. The urchins chew off the anchors that keep the kelp in place, causing them to die and float away, setting off a chain reaction that depletes the food supply for other marine animals causing their numbers to decline.

By the early 20th century when sea otters were nearly hunted out of existence for their fur, kelp beds disappeared and so did the marine life that depended on kelp. Years later, conservationists moved some remaining otters from Big Sur to Central California. Gradually, their numbers grew, sea urchin numbers declined, and the kelp began to grow again. As the underwater forests



grew, other species reappeared.

Protecting keystone species, like sea otters, is a priority for conservationists. Often, the extent of the keystone functions of a species aren't known until the species has been removed from its environment and the ecosystem changes. Rather than wait until it may be too late for the system's health and survival, scientists make every effort to keep an ecosystem working as nature had intended.

Reprinted with permission of the National Atmospheric and Oceanic Administration.