

The Explorer

*Newsletter of Cabrillo National Monument
and the
Cabrillo National Monument Foundation*

VOL V, No. 8

Winter 1998-99



In Search of the Mysterious Lens

by Debbie Stetz

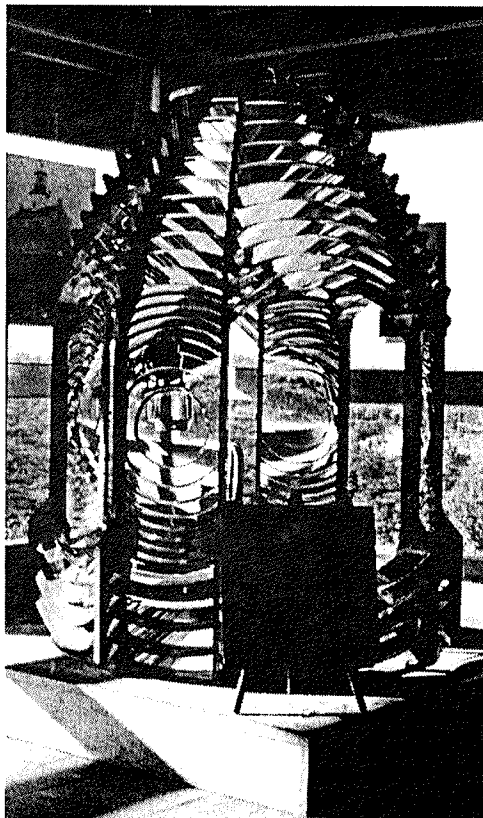
Whenever I accept a research project, I am consumed by the search for the facts and clues

that lead me closer to my elusive goal; the answer to my question; that "pot of gold" at the end of the rainbow. Rarely, though, are all the clues found in one place; usually they are scattered about in many different places. This makes the research project frustrating yet interesting, much like putting a puzzle together with each bit of information serving as a puzzle piece that must be carefully placed with others to form a coherent picture.

It could be the thrill of the chase or just being faced with the challenge, but the hunt through libraries and archives for hidden nuggets of information can be exciting. False starts and dead ends are common, but with persistence prizes may be found in almost any location, leading to that feeling of *Eureka, I've found it!* But this fall, I was faced with the "Mother Lode" of challenges—searching for the genealogy of a third-order Fresnel lens.

It has been a very interesting search

and I unwarily started with the idea of a restoration project. Some of you may remember this particular lens—it was on display in the Visitor Center for many



years until its removal in 1991. It was in dire need of repair and put into storage for its own protection. This year, money finally became available to fund this important restoration project, and the research challenge began.

The first thing to do was look for a lens restorer—not someone easily found in the Yellow Pages. I called Wayne Wheeler, president of the U.S. Lighthouse Society, who recommended Bob Bolen, an airlines retiree with an interest in lighthouse restoration. Bob has had quite a bit of experience with lighthouse lenses. Recently, as part of the preservation of the St. George Reef Lighthouse—a cut-stone tower sitting on a rock six miles offshore of Crescent City, California—Bob was successful in removing that light's first-order lens and restoring it for display in Crescent City.

I telephoned Bob and he came down to Cabrillo NM with Don and Carol Vestal, who were keepers of the Battery Point Lighthouse, also located at Crescent City. They were greatly enthused after inspection of our lens and we planned our course of action.

The Vestals, who now live in Oceanside, would serve as foremen of the project with Bob acting as consultant.

The lens is incomplete and in need of four large bulls-eye lenses and twenty-four prisms. The brass is in excellent shape but needs careful polishing. The base of the lens is missing, except for the brass door that opened to the lamp. The proposed plan would include hours of volunteer work in polishing the brass, recaulking loose prisms, and having duplicate lenses and prisms made for the missing pieces. Proper storage cases would also be necessary. As we moved forward with our plans, excitement filled the air!

It happened that while we were plotting our course, the local PBS television station was airing a program about U.S. lighthouses. As I watched the show, I jotted down the names of others involved in lens restoration projects. Over the next few days I talked to Cullen Chambers, director of the Tybee Island Historical Society, Georgia; Jim Dunlap, curator of the Ponce DeLeon Inlet Lighthouse, Florida; and Tom Laverty of the Twin Lights Historic Site, New Jersey, where he is in the process of restoring a first-order Fresnel lens. All were very helpful and encouraging, and sent what notes they had on lens restoration. Our collection of information was beginning to grow.

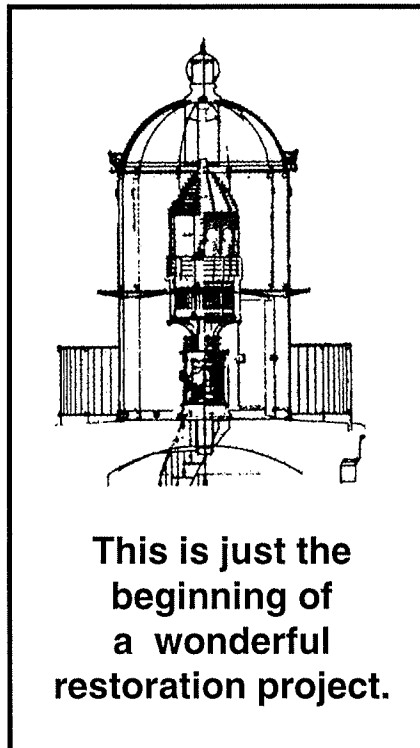
It's strange how fate works sometimes, because as we embarked on this project, another Cabrillo project involving metal restoration was well under way. Greg Byrne, an NPS metals specialist from Harpers Ferry, was scheduled to arrive in San Diego to work on this unrelated project. It just happened that Greg had also done considerable metal work on lighthouse lenses! This would definitely be a case of "killing two birds with one stone."

Greg was impressed with the condition of the brass in that it had not been ruined with polishing brushes, but he was concerned with the amount of work involved in recaulking the many prisms and lenses. He will produce a detailed report with recommendations on how to proceed with this restoration project, placing it on hold until we receive his report.

In the meantime, I decided to embark

on a history of this lens. Our "prize clue" was the brass door. Etched into the brass is the following inscription: "H-L 330, Point Loma Lighthouse, California, 3rd Order Multifocal apparatus, Henri Lapaute, Engineer, Paris, 1889." Next to that is written, "Paris Exhibition, 1889, 2 great prizes, 1 gold medal, 1 bronze medal." Wow! Not only do we have a beautiful lens, but a gold-medal-winning lens from the 1889 Paris Exhibition!

Next came a record search in our museum collection. A folder labeled "Accession #58" revealed a cache of letters about our lens dating back to 1951. Apparently, since the mid-1930s visitors to Cabrillo NM had reported that the lens



at the Chicago Harbor lighthouse had "Point Loma Light No. 330" written on it. This sparked the curiosity of Don Robinson, the superintendent at that time, who began correspondence in 1962 with the Commandant of the 9th Coast Guard District. That lens in the Chicago Harbor lighthouse was declared surplus and scheduled to be replaced with an automated light. Robinson was anxious to receive the surplus lens, which was to be scrapped, and began the long process of acquiring it. By 1968, Superintendent Tom Tucker had taken over the project

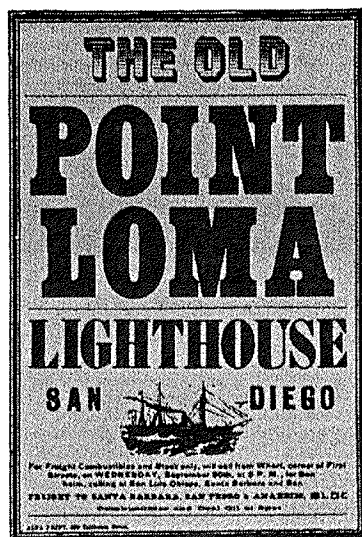
and was successful in having the partial lens shipped to Cabrillo National Monument.

Ross Holland, Cabrillo NM historian at the time, determined that that lens was built in 1889 by Henri Lapaute in Paris, and intended for installation in the new Point Loma Lighthouse (the present Coast Guard lighthouse near the tidepools) which was scheduled to open in 1891. The lens was never delivered to San Diego, but instead was exhibited with other lenses at the Paris Exhibition where it won its coveted medals. From there the lens was shipped to Chicago for the 1893 World's Columbian Exposition, which celebrated the 400th anniversary of Christopher Columbus's landing in America, winning more medals.

Apparently the lens was highly admired, and instead of shipping it to San Diego, the lens was installed in the Chicago Harbor lighthouse. This is where the mystery begins: It is uncertain when it was installed there. I called the Coast Guard Historian's office and talked to Gail Fuller about this. Unfortunately she did not have the records to answer this question, but suggested a search of National Archive records in Washington, D.C. (I hope to land that assignment one day). Then I called the Chicago Historical Society; they were very helpful, conducting a short search and suggesting qualified researchers to do a more thorough search.

After calling a few of the recommended researchers, I decided to enlist Chicagoan Betsy Gurlacz. She was very excited about the project, and by coincidence would be in San Diego Christmas week to visit relatives. *Eureka!* This would give her an opportunity to see the lens and give us a chance to meet and talk in person, instead of playing telephone tag. We are hoping that Betsy will be able to find photographs of the lens while it was installed in the Chicago Harbor lighthouse, enabling us to determine what the metal base looked like so that it can be reproduced. She will also look for the date of the lens's installation. Betsy will search records at the Chicago Historical Society and Coast Guard records at the Chicago National Archives.

While all of this was unfolding, I decided on another angle of attack.



Wouldn't it be interesting to know something about Henri Lapaute, the master builder of many of these Fresnel lenses? Information about him has been extremely difficult to find. I have only located a few sentences, including a statement that his business in Paris, "Letourneau & Lapaute," monopolized the construction of Fresnel lenses in the latter half of the 1800s. After a search on the Internet, I decided to write a letter to the Musée de la Marine in Paris, France. This museum houses an enormous artifact and bibliographic collection relating to maritime topics, including aids to navigation. I sent a letter to them December 1st and am anxiously waiting for a reply. Again, it is strange how fate works because after that letter was written I met a couple in the Visitor Center and told them the story of the lens. It just happened to be that this couple, Jean-Pierre and Claire Bourbon, live in Paris and, being intrigued by the story, have generously offered to help. Claire is a student of architectural history and plans to visit the museum to follow up on the letter. Let us hope she is successful and will be able to send us a "pot of gold" of information!

This is just the beginning of a wonderful restoration project, as well as the first in a series of articles that will keep you informed about the process. It is amazing how it has all unfolded, especially with the generosity of so many people. If you have any questions or comments about this project, or would like to help in some way, please call me at (619) 523-4574.

Superintendent's Corner

by Terry DiMattio

The theme for this issue of *The Explorer* is the Old Point Loma Lighthouse - past, present and future. There are several interesting articles about its past and present that I know you will enjoy reading. I would like to share with you a vision of its future.

Many of you know that my career with the National Park Service began at the Old Point Loma Lighthouse. As a Volunteer-In-Parks 28 years ago, I stood there on Saturday afternoons dressed as the light keeper. On the bench beside me sat the fifth-order lens from the Ballast Point Lighthouse, the polished brass door from the Point Loma Lighthouse, and a few other lighthouse odds and ends. The backdrop for my talks was the jade plants and twisted junipers that graced the front of the picturesque lighthouse. In the yard around me were geraniums, iceplant, and more jade plants and twisted junipers. Today, the iceplant, jade plants, and twisted junipers are gone. They have been replaced with native plants. The Old Point Loma Lighthouse looks more like the historic photographs taken in the 1880s. Still, it is not quite what it should be.

In the General Management Plan for Cabrillo NM, the National Park Service has described what we would like the scene at the lighthouse to look like. Using historic photographs, sketches and descriptions from the late 19th century, we would like to reestablish a more accurate setting for this well-known and beloved building. We believe that restoring the grounds around the lighthouse would complement what has been done on the inside. The NPS has gone to great lengths and expense to research, acquire and place appropriate furniture, articles of clothing and every-

day household items that give our visitors the feeling that the lighthouse is being lived in and the keepers just stepped out. We would like the grounds to be as accurately restored as the inside of the lighthouse. If the grounds more accurately show what it was like here in the 1880s, our visitors will have a better understanding and appreciation of what life was like atop this windy, isolated peninsula at the entrance to San Diego Bay. They will also learn how the environment affected the lives of the keepers and how they adapted to it.

So, what is the National Park Service proposing to do? We would like to:

- Remove the old asphalt parking area and re-establish the historic ground contours.
- Inside the rock wall to the east, construct a 10-foot wide, colored concrete walkway with red brick edge to match the walkway leading up from the visitor center, and create new pathways to the lighthouse.
- On the west, or ocean, side of the lighthouse, we would like to build a similar walkway and a road so that

disabled visitors can drive there and park in the spaces provided, and emergency and maintenance vehicles can gain access as well.

- In the recontoured area southeast of the lighthouse, we would outline the location of the outbuildings—the barn, oil shed, and outhouse; mark the site of the second cistern, and rebuild the assistant keeper's quarters. On the back of the quarters we would build an accessible restroom. In the rebuilt assistant keepers quarters, we would present educational programs for school children, recount the history of the Old Point Loma Lighthouse,

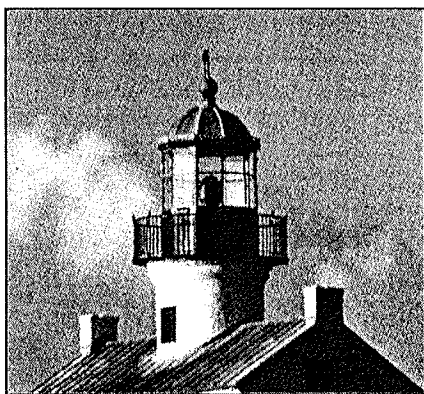


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and display the third-order rotating lens that used to be on display in the visitor center, and the fifth-order fixed lens from Ballast Point. Having these lenses on display will also allow us to demonstrate how the prisms and bulls eyes of a Fresnel lens captured and refracted the light from the lamp and focused it into beams that could be seen by mariners many miles at sea.

- In the yard of the lighthouse, we would rebuild the concrete catchbasin that collected rainwater for the cisterns, reinstall the flag pole and picket fence, and replant the area with appropriate native vegetation.

Establishing a more appropriate historic context within which to tell the story of the Old Point Loma Lighthouse has been the dream of Cabrillo NM's superintendents for many years. I remember reading about it in the 1976 Master Plan. Twenty years later we articulated this vision in our current GMP and included conceptual sketches to show how it might look. We recently put this project on our list of proposed projects to be paid for with entrance fees we collect as part of the Recreation Fee Demonstration Program. If it is approved, and if it passes the reviews that would ensure that it is a worthwhile and wise expenditure of funds, it would be a dream come true for me. More important, however, it would enable us to accurately tell the story of what life was like for lighthouse keeper Robert Israel and his wife María to the tens of millions of people who will visit Cabrillo NM in the decades to come.



What Were They Thinking?

A Partial Defense of Those Who Chose the Location For The Old Point Loma Lighthouse.

by George Herring

Why did they build the Old Point Loma Lighthouse on a point so high that it couldn't be seen in cloudy conditions? Maybe because they didn't build it to be seen in rainy conditions.

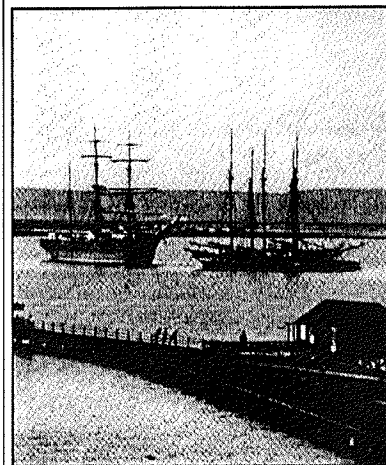
Huh? Lighthouses are built to protect ships from rocks and other navigational hazards, and to guide ships through a narrow harbor channel—right? Not necessarily.

The site for the Old Point Loma Lighthouse was selected in a time of rapid change. The year was 1851, just five years after the United States had forced a war upon Mexico in order to take possession of what is now the Southwestern U.S. The prize of this conflict, which officially ended in 1848, was California.

What made California the prize? Trade. U.S. merchants dreamed of a two-ocean economy to connect American trade ships sailing from Pacific ports to the East Coast by railroad. They wanted to trade with Asia and the West Coast of the Americas. In essence, U.S. merchants still dreamed the dreams of Cabrillo: to establish a new and better trade route to Asia with a convenient colony (state) situated along the route.

The gold rush of 1849 accelerated the process as ships in ever-larger numbers began plying the coast with passengers and products to trade up and down the Americas. Not long after, in 1853, Commodore Perry and the U.S. Navy forced Japan to open its ports for trade with American ships.

In the midst of all this, the U.S. Coast



In the 1850s San Diego's boosters imagined the port would grow into a major commercial facility. That hope did not materialize. For every ship with a commercial cargo arriving at San Diego in 1990, thirty went to the Port of San Pedro. Why? Because any cargo unloaded in San Diego and intended for an eastern market has to be transported by rail. The Cuyamaca Mountains were too much of a challenge for railroad engineers, who instead chose east-west routes through the passes near San Bernardino—routes more conducive to building railroads to Los Angeles than to San Diego.

Survey was selecting the site for the Old Point Loma Lighthouse. It is easy to imagine that they believed San Diego harbor could become a major commercial harbor, and soon. Ships destined to use this port would arrive after crossing vast distances without a navigational beacon—a roadside sign—to tell them where they were.

The Pacific Ocean is 8000 miles wide! Even the best navigator at that time could not assume that his ship was exactly where he imagined it to be. What a relief

it would be to refer to your charts, then look up to see a light high on the horizon where you hoped it would be—ample warning that land was near, and that the port you sought was indeed there.

Ships sailing north along the coast of Baja California sailed a poorly charted route. The last navigation light one was likely to see was at San Blas, north of Puerto Vallarta. To play it safe, if you kept far offshore en route to, say, San Francisco, how would you know you had reached the coast of the U.S.? After its construction, the Old Point Loma Lighthouse would have told you.

The site of the lighthouse was never well situated for guiding ships into port, or for warning them of any navigational hazards while approaching the port. But the site high on the horizon was well situated to tell a ship how to get to the entrance of San Diego Bay, or to tell it where it was as it passed by.

By the time the building was completed in 1854, however, three years had passed and the technology of lighthouse lenses used in the U.S. had changed radically. In 1851 the lighthouse system used parabolic reflectors behind oil lamps, a system that was something like putting a shiny metal bowl over one side of a light bulb: some extra light was directed toward the horizon, but most of it still sprayed ineffectually up and down from the source.

By 1855, the year the lighthouse was first illuminated, the Fresnel lens had been accepted for use in the United States. The Fresnel technology magnified and focused light horizontally in a narrow beam 360 degrees around the source. This system was more efficient when applied at sea level, especially in rain and fog. Unfortunately, the Old Point Loma Lighthouse location is 462 feet above sea level, which meant that the light was thrown out over the heads of the captains! In clear conditions this did not cause great concern; it could still be seen, but in hazy conditions it could be difficult to see far out to sea; it failed altogether in cloudy conditions. Because of the site of the lighthouse, it never could have functioned well as a harbor light, but with the Fresnel technology it didn't serve well for ocean going vessels, either.

By 1890 the need for a separate harbor

light was great enough for the Lighthouse Establishment to build the Ballast Point Lighthouse (it was demolished in 1961). And, in 1891, the Pelican Point (New Point Loma) Lighthouse at the tip of Point Loma replaced the Old Point Loma Lighthouse. Built closer to the water, the Fresnel lens at this location has served as both a coastal navigation light and harbor entrance beacon ever since.

The Abandoned Lighthouse



Christmas at the Lighthouse, 1880s Style *by Mary Beth Vygrala*

The Point Loma Garden Club has been decorating the Old Point Loma Lighthouse every Christmas season since 1970. After researching the Victorian era and the local customs of San Diego residents, the club came up with a style of Christmas decoration popular in the 1880s.

A Christmas tree, probably a Douglas fir, would have been obtained in Julian or on Mt. Palomar; it would have required a two-day trip to the mountains. The average cost of a tree was between 75 cents and three dollars. Boughs of the local



toyon (California holly) would have been used to decorate the windows, mantles, and tabletops. Poinsettias (native to Mexico) were grown in the San Diego area but the flowers would have been single and smaller in the 1880s than they are today. Various handmade items were used to decorate the tree: crocheted snowflakes, gilded walnuts, dried red peppers, and gingerbread cookie men. A crocheted angel was placed on top of the

tree. Blown glass ornaments, which were made in Germany, were very popular in the Victorian era, but at a cost of two to three dollars per ornament they would have been too expensive for the Israel family who occupied the lighthouse at that time. That was an era when a chair might be purchased for 50 cents!

Packages wrapped in newspaper or white butcher paper and tied with string or colored yarn were placed under the

tree. A doll sitting under the tree would be waiting for the Israel's niece, Emma, to discover. Pomander balls made of citrus fruit studded with cloves and rolled in spices would have been placed around the rooms for decoration and to freshen the air.

Popcorn strings and dried red peppers adorn the doorways of the Lighthouse today as they might have in 1887.

I have the privilege of working with members of the garden club to decorate the lighthouse early each December and to take down the decorations at the end of the first week of January. I invite you to visit the lighthouse and step back in time to a Victorian Christmas.

The Lighthouse Garden

Burpee's Seeds and so much more!

by Emily Troxell

In 1869, Keeper John Jenkins had an extensive garden. A publication of the day noted that "neatness and order prevailed in the little enclosure. Beside the walls of the house, some tomatoes were just ripening while well grown potato vines and other garden vegetables luxuriated in the genial sun and wooing breezes."

One of Assistant Lightkeeper Maria Israel's activities was tending the garden. The productivity of the garden varied widely from year to year. Water was always a problem at Point Loma and lack of adequate rainfall may account for the garden's poor years. In 1884 *The San Diego Union* reported: "Robert Israel left on our table an immense head of lettuce as large as an ordinary cabbage, raised by Mrs. Israel in a little garden which she cultivates at the lighthouse. This specimen of lettuce convinces us that almost anything will grow if properly cultivated."

But growing a kitchen garden during the years the lighthouse operated would have been different in many respects from growing a garden today. While seed saving was probably practiced to some extent, it was not the major source of plant material. This practice was particularly important for gardeners before the middle 1800s. Many species crossbred when several similar species bloom at the same time. To prevent this, seeds were usually saved from the first plants of the species to bloom.

By the middle of the 19th century, seed catalogues were in common use. The variety of seeds available made a much greater variety of garden plants possible. In 1888 the *Burpee Farm Annual* advertised, along with other entries, 46 beans, 19 cabbages, 21 cucumbers, 24 herbs and 19 squashes. Who could resist such a selection?

The list of herbs included in catalogues becomes shorter after the middle of the 19th century. Commercial advertising persuaded Americans to switch from garden herbs to patent medicines, costing

them millions without necessarily bringing better health. Within a single generation after the Civil War, sales of patent medicines rose from three million to 75 million dollars.

Controlling pests was a constant problem. Nineteenth-century gardeners used a variety of home remedies including lime, soot, wood ashes, lye, tar, turpentine, salt, urine, soapsuds, sulfur, and leaves from such trees as wormwood, elder and black walnut. When none of these worked, gardeners resorted to their fingers to get the job done.

Birds were the major natural control of bugs, but they exacted their toll from the garden as well: while some birds were bug-eaters only, others were also interested in the fruits of the gardener's labors. Gardeners planted more than their families needed to provide for the bird's needs.

In today's historic garden at the lighthouse, we have tried to keep the choices of plants and methods of gardening as authentic as possible. Yes, they did have chicken wire and so we feel free to use it today. It was used to keep such plant predators as ground squirrels and rabbits out of the garden. Smaller pests, such as snails, slugs, and caterpillars, were probably removed by hand. We have planted marigolds to test a theory that some plants can help control animal traffic. They are growing well, and will probably be a permanent part of the garden. And yes, the rabbits stay away from these bright yellow blooms.

We know the Israels would have had an abundance of manure available for their garden. So we have used chicken manure as the primary fertilizer and the plants have flourished this past year.

Our garden is divided into five plots;



four are used all year. During the summer a fifth plot is added. The year-round herb plots contain a permanent planting. Rosemary and several sages have been included for culinary purposes. Bunches of lavender would add a pleasing aroma to closets and other storage areas. Lemon grass, mint, catnip, and chamomile provided a foundation for teas. Tansy was used to control household pests and aloe was used in first aid for burns and abrasions.

Two plots are planted with strawberries, nasturtiums, chives, green onions, and tomatoes. This winter we will grow several varieties of lettuce and broccoli. Next summer we plan to plant corn in the seasonal plot.

So, how does our garden grow? With many fingers pulling weeds, lots of chicken wire, and chicken manure promoting growth, it grows well!

Send Out the Light! The second-grade education program.

by Emily Troxell

"Send out the light" is designed to give second grade students a chance to examine the job of a lighthouse keeper. But to do this, it is necessary to see what life was like in 1880. How would it be different from today? In the final analysis, children are impressed that two factors have significantly altered our lives: In 1880, they did not have electricity, and they did not have indoor plumbing, or for that matter, an on-site source of water.

If children develop a list of electrically powered tools and appliances, they will include such things as TVs, computers, light bulbs, refrigerator/freezers, microwaves, telephones, and radios. As they explore each item, it becomes evident that each invention has added convenience and variety to life over the years. The refrigerator/freezer made the greatest impact of all. First and foremost, food spoilage was reduced. New foods, such as ice cream and waffles are now common. While these foods add variety to our diet, convenience and improvement in their nutritive value are prime considerations today. The use of electric light bulbs instead of oil lamps

affords adequate and safe lighting. Telephones encourage communication, and allow a quick exchange of information. The entertainment industry has blossomed and changed direction with the advent of the TV, and now the computer; what did they do for entertainment in the 1880s?

The existence of indoor plumbing and a constant water supply changed people's

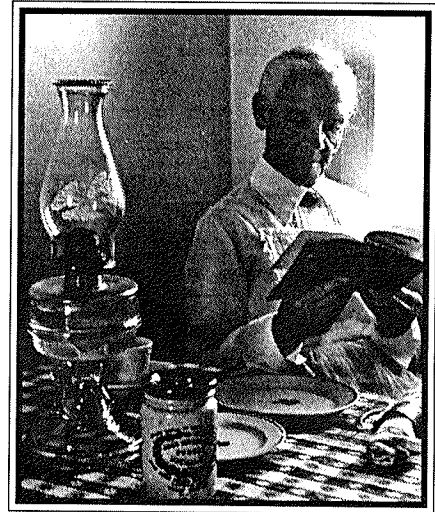
practice concerning cleanliness. As children look at the potty chair and the chamber pots found in the bedrooms, it becomes evident that there were no facilities like our current "bathroom". Often, they will then search for the bathtub or shower. Most children express disgust concerning the use of an outhouse, and the chamber pot is beyond acceptance. How would people take a bath or wash their hair? Bathing becomes a huge chore when water has to be heated on the stove, carried to the tub, and then emptied after use. For most children, indoor plumbing is a must.

Children went to school in 1880 much as children do today. Today's students are curious to see what the children of that day read, how they learned their letters, and how they did their math. While many of the educational practices were similar, they had to be done without the teaching tools of today.

The clothing of the period always brings a few giggles. Boys' everyday clothing was similar to what might be worn today: A white shirt, 501 Levi's, leather shoes, suspenders and a dark hat would have been the

common day wear. Girls would wear a shift with a pinafore for everyday. But for mothers, the dresses were much different. The bustled dress would be necessary for special occasions.

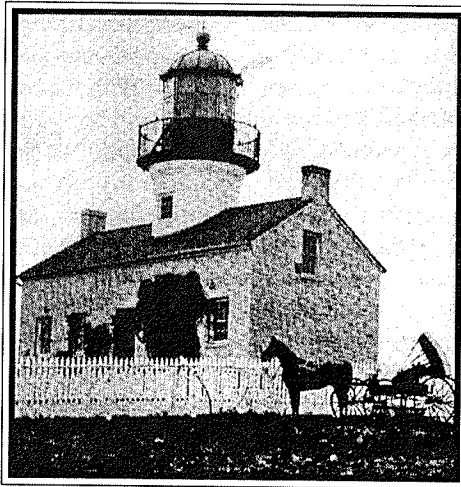
When the children look at kitchen tools, they recognize many tools found in their own kitchens such as the hand-powered eggbeater and a potato masher. Work was done by hand, not



Costumed interpretation at the Old Point Loma Lighthouse, 1979
CNM photography collection

electricity. Often, the children do not recognize the flatirons on the kitchen stove.

And finally, the students explore the job of a lighthouse keeper. What was it like to live and work in the same place? What was it like to stay up at night to tend the light? What was it like to live a long distance from your neighbor without any modern means of communication? Life was different, but yet comfortable for the keepers and their families. And besides, these people did not know what it would be like to have the variety of tools and facilities that we have available today. Thus, they could not miss them.



Photograph of Old Point Loma Lighthouse in the 1880s.
San Diego Historical Society photograph collection

Fire: the rejuvenating force

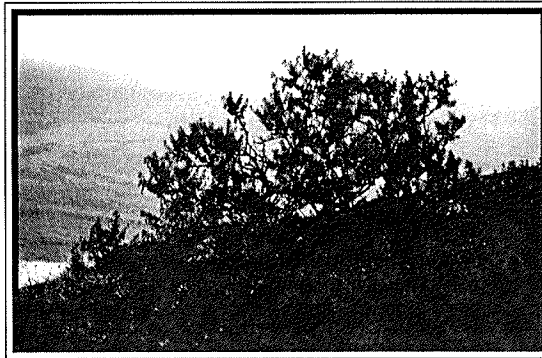
by Carol Knipper

Fire is one of the basic forces in nature. Its immediate devastation of an area can overshadow its value to the natural ecosystem. Only in the long view can we sense that fire has been fundamental to the proliferation and longevity of plant species and their dependent wildlife. Without fire, certain plant communities often lose their youthful seedlings, unable to compete with mature plants for water and space. Even the seeds, progenitors of a plant community, are locked within their skins waiting for the heat or smoke or chemical condition that fire brings to trigger plant growth and rejuvenation of an ecosystem. Like an artist's canvas that has been painted over, a new type of plant community will cover a fire-suppressed landscape, but this one is not created from all of Nature's elements—one important force is missing, one primary color absent from the artist's palette.

You can't help wonder what Nature's original work looked like. Created as it was without the human perception of beauty and need for safety and provisions. We can guess that it was thriving and its shifting appearance reflected the wanton abandon of Nature's forces, like a madman with a brush and palate allowing shapes and color to emerge on an unconfined canvas. But humans are on the landscape and we have alternately vilified wildfire as dangerous and a waste of our desirable resources, and depended on it—shepherding it along with our human evolution from sustenance to industrialization. It has only been fairly recently that we have looked at the value of fire as an ecological process, integral to a vibrant natural ecosystem. It is that role of fire as a primary element and its unique blending with weather, topography, and vegetation that we are trying to understand so that we can appreciate and preserve the natural work

of the landscape before us.

"Live, adapt, or die" is the mantra for any species. For those in a fire's path, the outcome is certain. Their form will be changed to ash and their chemicals and



other nutrients, once confined in a recognizable form, will be dispersed across the landscape and absorbed. Plants, of course, can not escape fire and so must adapt to it. Where the topography creates circumstances for weather patterns that both desiccate the land and generate thunderstorms that ignite it with lightning, a certain plant community—chaparral—thrives in a phoenix-like relationship to devastating fires.

Chaparral dominates the western landscape with its unique ability to thrive on these dry weather conditions and fire. Chaparral is identifiable by the abundance of scrubby brush and trees, plants with small, leathery leaves and summer dormancy (Sagebrush, Chamise, Ceanothus, etc.). Add to this the marine conditions of Point Loma and these plant species and subspecies come to comprise a community redefined as "coastal sage scrub." It is this coastal sage scrub plant community, now threatened with extinction in San Diego County, that Cabrillo's natural resource managers hope to understand to maintain its health.

Humans have suppressed fires on Point Loma in the past hundred years or so. Has that made a difference in the native ecosystem? Even a novice

naturalist would answer "Yes." We know that chaparral is fire dependent, so if we remove that element something will be thrown out of adjustment. Experienced fire scientists can tell you the benefits of a rejuvenated area after a burn, especially in sagebrush country. But is that true on Point Loma? Point Loma is unique. We have nearly no fire history that we can report. We have checked lightning data with the weather service and this land mass has rarely experienced a direct lightning strike among the nearly 4,000 hits within this longitude and latitude reviewed in the past twelve years. There have only been a couple of recorded man-caused fires and those were swiftly suppressed; their remnant fire scars have indicated relatively small burns, contained within the steep ravines on the Point. So, what are we to assume about the role of fire in coastal sage scrub at this location? What will we discover if we burn during fireless years?

How might the native vegetation be altered? How would the species composition change if there were a major fire? Would certain plant species benefit from prescribed burning? If we are to manage for the long-term health of this singular resource we must try to answer these questions.

With the help and experience of San Diego State University researchers, and National Park Service fire specialists, we hope to reveal the role of fire on Point Loma. By first identifying the species and abundance of seeds on the ground and then stimulating seed germination and opening up the brushy canopy by setting small contained fires we can see how fire, smoke, and released nutrients encourage or alter plant-community dynamics.

Fire is one of the basic forces of nature, often a bold, blackening, yet renewing, stroke across the landscape altering the natural scenery and influencing vegetation and wildlife. We must be willing to consider its importance here (within constraints) and not deny our local ecosystem the power of this rejuvenating force.

The birds of Cabrillo National Monument

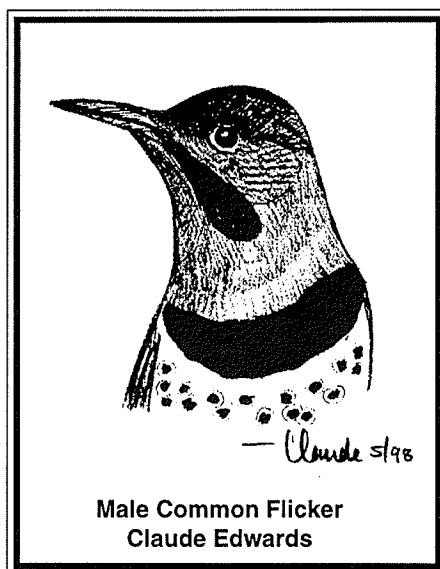
San Diego's Christmas Bird Count, Point Loma team

*by Cabrillo NM Volunteer
and Bird Walk Leader
Claude G. Edwards*



One of the most anticipated birding activities of the year is the annual Christmas Bird Count (CBC). Thousands of people participate in the counts every winter. CBCs are conducted across North America—from the Arctic Circle, through Canada, the United States, and in a number of places in the American tropics. The popularity of this organized bird census has spread to other regions and countries as well. The vast majority of CBC participants are average, everyday folks, satisfying a deep desire for joining in on one or more bird counts even if it means getting up before sunrise and braving the rigors of winter weather.

San Diego County is blessed with many habitats and geographic regions. We also boast generally mild winter weather that complements the potential for finding and identifying many different species of birds. Seven CBCs are currently conducted in San Diego County: four on the coastal lowlands, two in the mountains, and one in the desert. Each CBC is conducted in a circle 15 miles in diameter, which can include major geographic features, cities and towns, and favorite birding areas. The San Diego CBC is the oldest and most productive of the counts, begun in 1954



Male Common Flicker
Claude Edwards

and averaging between 175 and 190 species of birds observed on count day.

One of the 25 or so birding teams, or "territories," in the San Diego CBC is the one on Point Loma, which includes Cabrillo National Monument. Although the Point Loma territory is small in area, two sub-teams are selected to cover it on count day. Each team consists of two or three people who agree to meet at the Catalina Boulevard Navy gate at 4:00AM. One team is responsible for the southern end of Fort Rosecrans National Cemetery and the other covers the monument. The reason for such an early start is to ensure that at least someone in the entire count area will record a great horned owl, and we normally do.

Sunrise occurs at 6:30 and the "real birding" begins. At 9:00 the teams have covered their respective areas and they meet at the Visitor Center before heading down to the Pacific shoreline and slopes. The Point Loma team members are usually finished by noon. Most of their birding time is on foot. By and large, active duty National Park Service rangers do not accompany the bird counters.

Habitats that are visited during the course of the bird count vary according to the areas covered. The cemetery team has three main habitats to check: manicured grass lawn with tombstones, non-native trees and shrubs, and a fringe of native brushland vegetation outside of the fences. The monument team visits native habitats such as chaparral and

maritime succulent scrub, as well as "altered and enhanced" plantings, hedges, and structures associated with the monument. Both teams survey visible areas of coastal waters, and on the Pacific side, more native brushland, pockets of grassland, and picturesque rocky shoreline and ledges.

During the past two CBCs, in 1996 and 1997, the Point Loma team found 42 and 58 species of birds respectively, which seems to be within the range I consider to be "average."

Don't miss



Whale Watch Weekend

January 23 and 24, 1999

10am—4:30pm

***Call (619) 557-5450
for details***

The Explorer

is published quarterly
by Cabrillo National Monument,
funded by
Cabrillo National Monument
Foundation.

Staff:

Jim Nauman, Editor
John Golda
George Herring
Debbie Stetz
Emily Troxell
Mary Beth Vygrala
Samantha Weber

1800 Cabrillo Memorial Drive
San Diego, CA 92106

printed on recycled paper

What I Did With My Summer Vacation

by John Golda

When we are young, life seems so simple. Life's major issues are very black and white, and flip phrases easily sum up one's world view. My favorite had always been, "Things will be different when I'm in charge." They tell me that with age and maturity, one learns to see the many sides of a single issue. When Edmond Roberts announced that he was on his way to Alaska, I found that, as "Acting Chief of Interpretation," I would get my chance at being "in charge." I must thank Edmond for giving me the opportunity to learn as much as I did over the summer. And as God is my witness, I will get back at him.

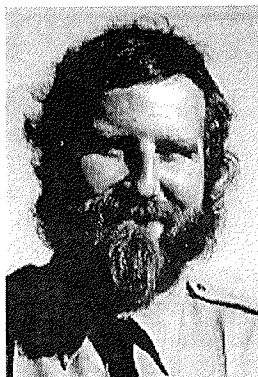
In retrospect, Edmond must have provided some sort of training and preparation for my tenure as Acting Chief. I remember sitting in his office as he imparted his words of wisdom. But for the life of me, all I can remember him saying is, "I wish I had time to show you what is going on, but, oh well, you'll figure it out. 'Bye!'" With that, Edmond was gone and I sat in a large (comfortably spacious, in fact) and quiet office. The duties seemed easy enough: preparing work schedules, filling out time cards, and signing the occasional request for money. When I hit a problem, our patron saints of administration, Terry Petrovich-Joyce or Anna Stits, were there to explain what needed to be done. It appeared that Edmond's job was easier than I thought. And besides, everyone said that the new Chief would be here within three or four months, at most. How much could go wrong?

I was lucky. We have a pretty good staff at Cabrillo. They are professionals and know their jobs (I would say this even if I wasn't sure there was a chance they might read what I say here), so I figured it would just be a matter of putting my feet up and waiting for my new boss to arrive. The first sign that I had woefully misread the situation came when Superintendent DiMattio walked into my

new office and said, "With Edmond gone, I'd like you to coordinate the new Coast Defense Exhibit. You'll need to work with the staff and the specialists at Harpers Ferry Center (where our ideas for exhibits are brought to life) to make sure everything is where it needs to be, when it needs to be there." Being the dutiful employee, I said "Sure," while all that ran through my mind was, "Whaa?!"

With every day it seemed that Harpers Ferry needed something new. And, of course, they needed it right away. While all this happened, time cards still needed to be done and schedules had to be written up. And then there was what I became a ranger for—working with the public and giving programs for visitors and school kids. I found that there was surprisingly little time to enjoy a big office, let alone put my feet up. Everyday I came to work anticipating the day when the new Chief of Interpretation would arrive. The process seemed incredibly slow, but the word finally came down that a new Chief was on his way. I have known Karl Pierce for a number of years and look forward to working with him. As much as I looked forward to working with Karl, I was even more ecstatic over weaseling out of those duties I inherited with Edmond's departure.

The Coast Defense exhibit is about to go into production, Karl is sitting at the "big desk," and life is beginning to resume a smooth, reassuring pace. I owe a great debt to everyone in the park; they helped in what might have been very trying circumstances. For myself, I have learned quite a bit about supervision and management. I have found there are far more shades of gray than I ever imagined. Looking back, I would do it all again. Despite that, I look forward to seeing Edmond Roberts more than he will ever realize.



Cabrillo People

by Emily Troxell

Two new people are now part of the Cabrillo Family.

Karl Pierce has joined the staff as Chief of Interpretation.

Karl is one of those rare human beings born and raised in California—born in Berkeley and raised in Richmond. His family felt that visiting national park sites was a good way to spend vacations, so he has had a chance to experience first hand how philosophies change within the provisions of the Organic Act. During his early years, he visited Yosemite and witnessed the nightly firefall that today is an unthinkable activity. He was exposed to the best of the best: Yellowstone, Crater Lake, Death Valley, Olympic, Grand Tetons etc. The Grand Canyon was especially impressive. Imagine a child's view of this great gaping maw where it is almost impossible to see to the bottom. Scouting further enhanced his camping experience. Here, brotherhood and wonder meshed to refine a respect for our natural environment.

As a teenager, Karl pondered his life and decided to pursue pre-veterinary studies at U.C. Davis. After considerable thought, he changed his major to Wildlife and Fisheries Biology with wildlife emphasis. This major provided a foundation for the future. During his senior year, Professor Walter Howard suggested forcefully that a season with the National Park Service would be useful. Karl accepted a seasonal appointment at Yosemite where he was assigned to the valley Visitor Center under Dennis Vasquez. It turned out to be a magical season—one that instilled in him wonder and a dedication to the National Park Service.

After his first seasonal appointment ended, he went on to Santa Rosa Junior College for law enforcement training and was awarded the Director's Award for the

61st class. Returning to Yosemite for a second season, he was sent to firefighters' school and then White Wolf where the assignment was to provide "naked" interpretation (No AV or props—just you and the People). This provided a real growing experience.

The next challenge was the Peace Corps. Karl served in Honduras, where he was involved in the development of a new national park—the most diverse habitat preserve in that country. Today it is a thriving facility.

Upon his return, Karl returned to the NPS at Santa Monica Mountains Recreation Area. Here, under the tutelage of Costa Dillon, he further developed his philosophy of interpretation. Costa, as we at Cabrillo know, is an inspirational manager and he challenged Karl to venture into new fields. This park, with its many-faceted facility and extensive programs, provided a model of operation against which Karl can and does judge the activities of other sites.

Karl's next assignment was at the NPS Western Regional Office where he was an Equal Employment Opportunity Specialist under Becky Mills. This appointment coincided with the time the park service was going through the first

throes of reorganization. It became clear that taking a position elsewhere was wise. So when the job of Site Supervisor for Interpretation at the Presidio in San Francisco became available, Karl applied and was accepted. Here, under Rich Weideman, Karl honed his skills as an administrator. He found that he enjoyed the budget process and the juggling of numbers. He also got a taste of personnel management. This unique site also provided an opportunity to work with outside partners, and undertake community outreach.

Karl brings another skill to our division: He speaks fluent Spanish. His maternal grandfather, a native of Columbia, gave him a foundation for the language.

In his spare time, Karl keeps busy with reading and traveling. But a special love is working with teens and singing gospel music. His latest leisure activity is learning to play the steel drums (pans).

You can see that Karl comes to us with a vast amount of information and a broad, diverse background to provide leadership to our Division of Interpretation. Welcome!

Another new person has landed in our

midst. **Rob (Robert) LeVeille** will spend his time in the "box" collecting fees, and helping with law enforcement. Rob lives in Encinitas with his wife and two daughters, ages 11 years and 3 months. His wife works for Bridgestone Marketing as a Vice President of Sales and Marketing; she is fortunate to be able to work from their home. This means that she is available to care for their infant daughter. The family likes to spend time in or near the water; they enjoy surfing and diving. They own a boat that they use for sports fishing.

Rob spent four years in the Coast Guard and then went on to work for NOAA. He attended Arizona State University, where he earned his degree in anthropology. He moved to southern California where he worked for Brian Smith, representing a cultural resource management firm that provides archaeological services. He is also associated with the USCG Port Security 311 out of Long Beach.

Rob, we know that you will be an asset to the resource management team, and we look forward to working with you here at Cabrillo National Monument.

From the new Chief of Interpretation

Karl Pierce



reetings to all of the readers of *The Explorer*. I am very pleased and honored to be here at Cabrillo National Monument as the new Chief of Interpretation. I look forward to working with each member of the Cabrillo National Monument Team (National Park Service staff, interns, volunteers, and the Cabrillo National Monument Foundation Board of Directors, staff and members, as well as the myriad of friends, supporters and neighbors of the monument) as we move forward into the new millennium. We will continue to build upon the dynamic programmatic foundation inherited from my predecessor, Edmond

Roberts. I wish to thank Edmond, too, for his years of dedication, hard work and leadership to the Interpretation program.

This fall has already seen the 35th Annual Cabrillo Festival and the open house for the anniversary of the first lighting of the Old Point Loma Lighthouse, where visitors toured the lighthouse and were treated to costumed interpretation. Hundreds of school children have participated in education programs, and we continue to be actively involved with our partnership school, Euclid Elementary. The Interpretation Team continues to give visitors glimpses of the past during interpretive Lighthouse talks, demonstrations of historic weapons

and other implements, and other interpretive programs. Films and exhibits about Pacific Gray Whales, Juan Rodríguez Cabrillo, and life in the intertidal zone (the tide pools) continue to liven the Visitor Center Complex.

Upcoming events to look for are Whale Watch Weekend, on January 23 and 24, 1999, when the monument will once again host two days of educational activities, speakers, and exhibits and, of course, Pacific Gray Whales. The Coastal Defense exhibit will be installed late this winter in the former Army Radio Room near the lighthouse. Everyone is invited

continued on next page

to learn about the role that Point Loma has played in the defense of the Pacific Coast.

Future directions of the Division of Interpretation will be to continue to provide a high level of quality interpretation for school groups and the public, and to expand into new areas, such as costumed interpretation, where possible. We will continue to expand our outreach efforts to broaden and diversify the body of the monument's constituents, supporters, visitors, employees, interns, and volunteers. In this light, we will continue to look for ways to make all of our interpretive programs, services, and facilities universally accessible, and to reach, and gain full participation by, populations that we have not yet fully reached. We will continue to ask and help everyone answer the "So what...?" question, so that everyone who comes in contact with Cabrillo National Monument will leave with it as a part of their being.

This is the 40th issue of *The Explorer*. For the past ten years we have tried to keep the many friends of Cabrillo National Monument informed about the park. The publication has afforded the superintendent the opportunity to tell readers about Cabrillo's projects, activities, and plans for the future, but most of the articles have been written by the park's rangers. The research necessary for preparation of their stories has served to broaden their knowledge of the park's interpretive themes, giving them new material to incorporate into their daily programs for our visitors. Space in nearly every issue has been devoted to the monument's

management of its natural resources and to the research and monitoring programs supporting the management.

With the Spring 1999 edition, **Debbie Stetz**, interpretive ranger and park historian, will assume the editorship of *The Explorer*. Debbie has authored many articles in these pages and will bring a fresh approach to the publication. The former editor, Jim Nauman—a Cabrillo volunteer—will continue to be responsible for layout and production.

We are looking forward to another decade of keeping our friends informed about the many activities of this small but dynamic park — one of the treasures of San Diego and the National Park Service.



Photo of Debbie Stetz
by Mary Beth Vygrala

The Explorer



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