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CAOR  
10-23  
(November 1954)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

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(Area)

FILE CODE: DL8  
Design and Construction

MASTER PLAN NARRATIVE

For

CABRILLO NATIONAL MONUMENT

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TO:

SCANNED 8/22/00

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### Master Plan for Cabrillo National Monument MISSION 66 Edition

#### \* Volume I

#### Master Plan Narrative

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November 1960

MASTER PLAN  
FOR THE PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT, CALIFORNIA

Chapter 5, Design Analysis  
NM-CAB-2012-A, General Development  
NM-CAB-3013-A, Headquarters

Prepared by: Laura E. Wilson, Date: Dec. 1960  
Landscape Architect

Drawing Approved: CONRAD L. WIETH ~~6/21/62~~ Date: 6/21/62

Dec. 1960  
Rev. March 1962  
Rev. May 1962

GENERAL CONSIDERATIONS. Cabrillo National Monument is located on Point Loma, a peninsula, small in size and rugged in topography, with a relatively small area suitable for development. The entire development, existing and proposed, is concentrated on this point utilizing all area suitable for development.

Historic Features: Ballast Point is a low-level point of land extending east from Point Loma where Cabrillo is thought to have landed in 1542. The southerly or ocean face of this point is proposed for acquisition by the most recent boundary status report. The principal historical structure in the area is the old lighthouse which was first lighted on November 15, 1855, and served until 1891. Because of the excessive height of its focal plane, which was 462 feet above sea level, it was replaced by a new lighthouse near the water's edge, the lights of which could more easily be seen beneath the clouds by ships at sea.

Scenic Features: The view from Cabrillo has been characterized as "one of the greatest seascapes of the world". The panoramic view from the Monument includes the ocean, San Diego Bay, and the city of San Diego.

Biology: Area is densely covered with coast chaparral growth. The only native Agave, Shawii, in the United States is found in Cabrillo.

It affords an excellent location for viewing the annual migration of the gray whales.

CIRCULATION. Due to heavy visitation during the summer and on week-ends and holidays during the remainder of the year, and the limited useable area because of the terrain, adequate parking is always apt to be a critical problem.

Existing: Entrance road, Catalina Boulevard, terminates in a double loop around and beyond the historic lighthouse, creating a confusing traffic pattern resembling a figure "8".

Present parking capacity is approximately 175 automobiles.

Proposed: The entrance road will be designed to terminate in a loop in front of the proposed Visitor Center. A slight realignment of the existing road at the proposed intersection of the road to the Visitor Center has been designed to make the road to the lighthouse a secondary route.

Obliteration of one side of the loop which now circles the lighthouse will simplify and improve the circulation in this area. This road will then terminate in the parking area loop.

Elimination of vehicular traffic from one side of the lighthouse will permit restoration of a sizable area between the lighthouse and the ocean cliff and allow for development of walks and seating areas.

A new parking area of approximately 350-420 car capacity is planned to go on the north slope of the ridge below the road to the Visitor Center. This will be stepped down the hill as much as safe driving grade will allow, to fit naturally with the land formation and to allow the cars to be partially hidden from the entrance road.

Preliminary proposals shown on earlier plans have been reconsidered and have evolved into the present parking concept shown on both NM-CAB-3013-A and NM-CAB-2012-A. The most prominent reason for alteration was the fill material obtained when the City of San Diego began construction on the new sewage treatment plant northwest of the Monument. A considerable amount of this fill was deposited along the route of the proposed parking area, hence creating the opportunity for gaining more parking area.

If it is found that this new parking area is of sufficient size to accommodate the traffic, the road to the lighthouse will be reduced to a walk and service drive, and all parking eliminated from lighthouse point.

An integrated walk system with trailside overlooks, seats, and orientation devices will connect the Visitor Center and the lighthouse.

#### VISITOR USE FACILITIES

##### Existing:

1. Historic lighthouse presently functions as visitor contact station and museum.
2. Comfort station west of lighthouse to be retained.

##### Proposed:

1. A Visitor Center with auditorium for approximately 250 persons is proposed on the knoll overlooking Ballast Point. This should be a structure so designed as to obtain the space required for the offices and interpretive facilities, and to gain a better view of the historic point.

## MANAGEMENT FACILITIES

### Existing:

1. The administrative offices are presently located in a small temporary Coast Guard building (to be removed), built in the hillside north of the lighthouse.
2. The maintenance facilities for the Monument are housed in a small garage building (to be removed), in a too-prominent location just north and adjacent to the lighthouse.

### Proposed:

1. The administrative offices are to be housed in the Visitor Center.
2. A small maintenance building and service yard to replace the existing garage building will be located away from the public, at the northwest corner of the existing Monument boundary and adjacent to the City of San Diego Sewage Disposal Plant. (See NM-CAB-2012-A)
3. Two employee residences have been proposed at the intersection of the road to Ballast Point. However, the need for these residences is not fully determined and, therefore, is subject to further study as noted on the drawing. (NM-CAB-2012-A)

## UTILITIES

### Existing:

1. Commercial power (underground).
2. Domestic water is now obtained from the City of San Diego.
3. Sewage is adequate only for existing development.
4. Natural gas available in vicinity for future requirements.
5. Telephone is a San Diego exchange.

MISCELLANEOUS. The boundary proposed is based on the latest boundary status report and is subject to further consideration. The location shown on the drawing is approximate. All proposed construction will be both within the existing and the proposed Monument boundary.

The construction of a major sewage treatment plant for the City of San Diego just north of the existing boundary

and an experimental saline water conversion plant to the south, both within the area previously proposed for expansion, have influenced the design of this Master Plan.

## *Cabrillo*

### THE MONUMENT

Extending from the coast of southern California at San Diego is a slightly curved peninsula of land known as Point Loma, the most southwesterly portion of land in the United States. Near the tip of the point, embracing 80.6 acres, is Cabrillo National Monument.

Point Loma has a rugged appearance. It is hilly, rising at its highest point in the monument to over 450 feet above the Pacific Ocean. On its westerly side at the base is a craggy coast of boulders and gnawed-out earth, a result of the turbulence of the not so pacific Pacific. The land extends back from the water, rising gently for about 500 yards, then abruptly begins a precipitous rise to heights ranging from 300 to near 500 feet. On the opposite side the land drops off sharply, forming one side of the channel leading into San Diego Bay.

The area embracing Point Loma shows a strong influence of the military. With the exception of monument land, the whole of Point Loma is controlled by either the Navy, the Army, or the Coast Guard. On monument land there are a number of concrete bunkers built as either gun emplacements or fire control stations for the defense of San Diego Harbor.

The view from the monument has been characterized as "one of the great seascapes of the world". Here can be seen a vast sweep of ocean, bays, islands, mountains, foothills, valleys, plains, and cities. This magnificent panorama is a prime reason for Cabrillo National Monument having the largest visitation of any National Monument in the country, and growing at a rate commensurate with the great increase in local population and the increase in popularity of southern California as a vacation-land.

THE MISSION

Cabrillo National Monument -

its mission is to convey to the visitor a sense of the heroic exploits of Juan Rodriguez Cabrillo, and those who followed him, in discovering and exploring the western coast of the United States so that he will have an understanding and appreciation of those events which led to the settling of this portion of the New World.

The National Park Service -

its mission at Cabrillo National Monument is to develop and so manage the area that the monument's mission will be fulfilled effectively and permanently.

Approved: E. T. Scowen  
Acting Director

8-1-60  
Date

October 1959

MASTER PLAN  
FOR THE PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

Chapter 1, Objectives and Policies  
Significant Resources  
Significant Values  
Preservation and Use Policies  
Guidelines

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Prepared by: Francis R. Holland, Jr. Date 10/26/59  
Historian

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Recommended: Donald M. Robinson Date 10/29/59  
Superintendent

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Concurred: Sanford Hill Date 5-11-60  
Chief, Western Office, Design and Construction

Concurred: Lawrence C. Merriam Date 4-11-60  
Regional Director, Region Four

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APPROVED: E. T. Seegam Date 8-1-60  
Acting Director

October 1959

MASTER PLAN  
FOR THE PRESERVATION AND USE OF  
CABRILLO NATIONAL MONUMENT

VOLUME I

Chapter 1. Objectives and Policies

Cabrillo National Monument  
contains historic and scenic  
resources of great national  
importance.

Cabrillo National Monument has two significant resources. The prime one, and the raison d'etre for the monument is the land's historic association with the discovery and exploration of the western coast of the present United States by Juan Rodriguez Cabrillo in 1542 and by his successor, Bartolome Ferrelo. The second resource is the magnificent panorama of land and sea that can be seen from the monument.

Cabrillo's landing in San Diego Bay, which he named San Miguel, marks the first contact of Europeans with this part of the New World. Seen in its broad perspective, Cabrillo's voyage is chiefly important as one of the great series of explorations by which Spain extended its dominions in the Americas and made known the continental character and general outlines of the New World. More locally, Cabrillo is honored as the effective discoverer of California, although earlier Spanish explorers on the Colorado River probably sighted, and possibly even set foot upon, the very southeastern fringes of the present State.

The commanding position of the monument on one of the highest hills of Point Loma, overlooking San Diego Harbor and a vast panorama of land and sea, inevitably links the area with the long train of historic events which have occurred in its vicinity. From places within the monument one can look down on Ballast Point, where Cabrillo probably landed in 1542 and where Sebastian Vizcaino, who applied the name San Diego to the bay, went ashore in 1602. On this same spot of land a fortification, Fort. Guijarros, existed during the Spanish and Mexican periods. After the American conquest of California, soldiers of the Mormon Battalion mined coal briefly on Point Loma, and in 1855 one of California's earliest lighthouses was placed in operation within the present monument boundaries. Later the United

States erected a series of military and naval installations on Point Loma to protect San Diego Bay, one of the Nation's most important fleet bases.

In addition to historic resources, Cabrillo National Monument has certain natural resources. Most important is the inspiring view which it commands--a scene which has been termed "one of the great seascapes of the world". Moreover, on the slopes of Point Loma grows the Agave shawii, a Mexican species of the agave or century plant which is not found elsewhere in the United States, except possibly in a few spots across San Diego Bay. The relatively undisturbed condition of the coast chaparral which covers the hillsides and the beds of kelp which lie in the water offshore are other features worthy of note.

The monument affords excellent opportunities for the observation of small sea life, shore birds, and marine animals, such as porpoises and sea lions. But most important, it is perhaps the best location in the Nation for observing the gray whales during their annual migrations to the lagoons of Lower California where they give birth to their young.

These resources have the capacity to stimulate and inspire visitors to a greater understanding and appreciation of not only early American history, but inspiring seascapes of the American shores.

The mission of Cabrillo National Monument will be accomplished to the same degree that significant physical resources identified above are transmuted into human values. The visitor may be motivated to visit Cabrillo National Monument for the view it affords. This is certainly inspiring and the visitor justifiably feels rewarded for his efforts. But this is not the mission of the monument. The monument was founded "to commemorate the discovery of California by Juan Rodriguez Cabrillo, on the 28th day of September, 1542 . . . ." It is therefore the job of the monument to enhance the visitor's experience by informing him of the events that transpired leading up to the heroic voyage, the probable landing at San Diego, and the subsequent voyage along the western coast, so that the visitor will see the event as one of those heroic epics of bravery and devotion to duty which are part of the inspiring heritage of history.

The monument, however, would be remiss if it did not take full advantage of all the resources here. The existence of the lighthouse presents an excellent opportunity to inculcate the visitor with the operation of a nineteenth century lighthouse and the life of its keepers. Furthermore, the botanical and zoological specimens, both land and sea variety, found on monument grounds can enrich the visitor's experience by an explanation of these specimens and how they fit into the orderly process of life.

The National Park Service is the agent responsible for the preservation of these resources, and for the improvement of their capacity to provide a high quality of visitor enjoyment and experience.

The Mission of the National Park Service is to provide the means and technical assistance for the monument staff to present the various interpretive themes to the visiting public.

By 1966 over 1,300,000 people will visit the monument annually. Since there is a naval installation on Point Loma above the monument and the only access is through the installation, monument visitation is limited to the hours between 9 a.m. and 5:30 p.m., when the gates are open. Therefore, there is no need in the foreseeable future to consider any visitor facilities other than rest rooms, Visitor Center, interpretive devices, and the necessary access roads and trails.

Present monument boundaries are not fully adequate for either the proper interpretation of the monument or the prevention of undesirable development. As indicated in the latest Boundary Status Report monument land should include the traditional site of Cabrillo's landing, Ballast Point, as well as land on the westerly slope of Point Loma to permit unhindered access to the tidepools by the visitor.

The Service must provide an adequate Visitor Center and museum. At the present time the lighthouse must serve three purposes: historic building, Visitor Center, and museum. It is inadequate for these purposes, due principally to its small size and its construction which prohibit proper traffic flow, thus causing frequent congestions. With the construction of a museum-visitor center, the visitor will better be served with adequate and proper interpretation of the significance of the area.

In order to properly preserve the historic building and flora and fauna of the area, as well as to have a meaningful interpretive program, considerable research should be undertaken in both the fields of human history and natural history. Research should be a continuing process so as to take immediate advantage of new material.

There are a number of subsidiary interpretive themes that in themselves are not enough to justify the existence of the monument, but nevertheless, they exist and visitors are interested. Most of these result from the monument's proximity to the channel into San Diego Bay and the activities that occur in it. It is up to the monument to provide the necessary information.

The interpretive method shall follow two courses: (1) self-guiding, and (2) personal guiding by members of the monument staff. Since a self-guiding system does not presently exist, it will be necessary to establish one pointing up both the historical and natural aspects of the area. Personal services by the staff will be given for organized groups and on a regularly scheduled basis for visitors who come in groups of two or three.

It would be impossible to restore Point Loma to a condition similar to that which existed at the time of early Spanish exploration and settling. Likewise, it would be impossible to take the visitor back in time, due mainly to the fact that modern developments in the surrounding territory would intrude on any attempt to create such an atmosphere. However, on monument grounds all modern structures which are not absolutely essential for management, interpretation, or maintenance shall be removed, and monument efforts should be directed toward encouraging the removal of objects on adjacent land which mar the landscape or hamper the view.

The bookstore at Cabrillo National Monument is operated by the Cabrillo Historical Association. This organization cooperates in the furtherance of the aims of the monument and uses most of its proceeds to purchase equipment needed by the monument.

The monument cooperates with the Scripps Institute, the Fish and Wildlife Service, and the California Fish and Game Department in studying and conserving marine life. This has resulted in much new knowledge about the subjects, especially about the gray whale.

In carrying out the monument mission, broad service policies are interpreted and adapted to meet the specific local situation.

The items listed below bring into focus some applications of principles discussed above and call attention to certain other specific practices to be followed in this monument.

1. Continue the prohibition on fishing and skindiving from monument lands.
2. Acquire as soon as they become available land adjacent to the monument as outlined in the latest Boundary Status Report.
3. Develop as rapidly as possible an interpretive program using trailside exhibits and audio-visual equipment.
4. Restore the lighthouse to its condition during the 1855-1891 period and refurnish it with pieces of the period.
5. Erect a museum-visitor center as soon as funds become available.
6. The major interpretive theme will be the story of the exploits of Cabrillo and the early exploration of the western coast of the United States. The natural history of the area shall have an important but, of necessity, a subsidiary role to the main theme.
7. The story of the gray whale shall be emphasized during the migration period, December through February.
8. Construct a trail system to the tidepools on the western side of Point Loma and to various overlooks.
9. Continue existing agreements with the Cabrillo Historical Association and accept their donations, for they implement and facilitate the development of various monument programs.

October 1959

10. Continue cooperating with the Scripps Institute, the Fish and Wildlife Service, and California Fish and Game Department to further knowledge about marine life in the area.
11. Cabrillo National Monument will function within the framework of this approved Master Plan, and under published delegations of authority as a Group A organization as defined in the Administrative Manual.

MASTER PLAN  
FOR THE PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

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Chapter 2, Visitor Use Brief  
A. Historical Theme  
B. Natural History

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Prepared by: Francis R. Holland, Jr. Date 11/28/60  
Historian

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Recommended: Donald M. Robinson Date 11/28/60  
Superintendent

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Concurred: \_\_\_\_\_ Date \_\_\_\_\_  
Chief, Western Office, Design and Construction

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APPROVED (SGN) LAWRENCE C. MEARS Date DEC 16 1960  
Regional Director, Region Four

November 1960

## VOLUME I

### Chapter 2. The Visitor Use Brief

The present pattern of use is not suited to the future development of the monument; principally because it has evolved into one which is adapted to the present main resource--the magnificent view.

The visitor enters the monument over the only road available and finds parking space in the 175-car parking lot or on the road which encircles the lighthouse. From here he can journey to the lighthouse, or watch the activity on the ocean and in the channel into San Diego Bay, or during the gray whale migration season, visit the temporary whale lookout. However, the construction of a visitor center-museum will change this pattern and more properly emphasize the salient theme of the monument, putting in proper perspective the various sub-themes.

Ideally, the way to inculcate the visitor with the significance of the historic event which occurred here would be to create an atmosphere at the monument which would give him an affinity with Cabrillo by presenting the scene as it was when that explorer first landed on the shores of the present United States. But, as mentioned in Chapter 1, such scenic restoration would be impossible. The only recourse, then, is to create in the visitor an appreciation of the exploit and daring of voyaging to unknown and uncharted lands.

Unlike the principal historical theme, the sub-theme centering around the lighthouse lends itself to the retention of the historic setting. If the structure were properly furnished, the visitor could become aware of the importance of the light to nineteenth century shipping.

The future extent of the natural history of the monument is not known at the present time, since impending developments on the west side of Point Loma may destroy or radically change the ecology of the tidepool area. But it would not be advisable at the present time to ignore the tidepools for long-range planning of this general resource.

With these things in mind we can now go on to lay out a desirable visitor use pattern based on future development. Two themes which would ordinarily be considered separately--human history and natural history--should be treated as a complement one to the other, since the average visitor to the monument, whatever his initial attraction to the area, will, in most cases, view and want elucidation on both.

#### A. The Historical Theme

Since the historic scene cannot be re-created, it will be necessary to use other devices to give the visitor an appreciation and understanding of the historical significance of the area. This can be done best with a museum and an adequate trailside exhibit system.

Upon entering the monument the visitor may park his car in a 420-car parking lot which will be southeast of the present monument entrance sign. A short walk will take him to the Ballast Point Overlook where there will be a visitor center-museum, built to accommodate 700 persons per hour. From here he will be able to view the areas associated with Cabrillo, such as Ballast Point, the Bay, and Baja California; here the visitor will see objects and replicas connected with Cabrillo and the Indians he encountered; here models, dioramas, and paintings will give an impression of the historic scene; here the visitor will be told the story of Cabrillo, Vizcaino, and the early settlement of San Diego; here the visitor will look down on the site of the Spanish Fort Guijarros and the subsequent Fort Rosecrans, see that area where the nineteenth century whale butchering took place, and view the site of the hide warehouses which Richard Henry Dana described in his classic book, Two Years Before the Mast. In a 350 seating capacity auditorium the visitor will be informed of these events as well as be told of the significance of the lighthouse.

After this his visit will be completed by a walk to the lighthouse which he will find furnished in period.

Proposed boundary changes, which will incorporate into the monument portions of the land known as Fort Rosecrans and Ballast Point, will alter somewhat visitor use of the monument. From the visitor center-museum, or either the lighthouse, the visitor will journey to this area where he can stand on the probable site of Cabrillo's landing, the site of Vizcaino's landing, and later Portola's, the site of the whaling stations, and visit the old coastal defense installation, Fort Rosecrans. He will be able to go into the fort and see the restored powder magazines and other rooms. Signs and trailside exhibits will explain to him the operation and significance of this fortification.

#### B. Natural History

The visitor whose prime interest is the migration of the California Gray Whale will likewise go first to the visitor center where he will be told the story of this unusual mammal. He will gain a deeper

understanding of the whales by hearing of their origin, life, and place in the natural order of things, and his horizon will be broadened with an explanation of the commercial potentialities of that species called the whale. From here he will visit the whale lookout where he may view the gray whales in their natural habitat as they pass the monument, and see displays telling further their story.

The whale lookout during other seasons of the year will be available to inform the visitor of other interesting aspects of the monument's natural history. During the spring the blooming coast chaparral will be emphasized. At other times the oceanography which created the principal shoreline features will be treated. This place is also a good platform from which Channel Islands National Monument could be advertised with exhibits displaying that monument's outstanding features. But during other than the whale season, the principal displays will concern the small marine life found in the tidepools. From here scheduled nature walks to the tidepools will begin.

As a further aid to the visitor in his gaining an appreciation of the significance of the monument, there will be a self-guiding trailside exhibit system pointing out the monument's features.

The visitor will have an additional opportunity to extend his understanding of the scene and time through free and for sale literature available in the visitor center.

The visitor will be drawn initially to the monument by either the history or natural history features. Once here, moreover, he will come in contact with both. By participating in a well-rounded and meaningful interpretive program on both themes his experience will be richer and fuller.

MASTER PLAN  
FOR THE PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

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Chapter 3, Park Organization Brief  
A. Park Organization, General  
B. Office of the Superintendent  
C. Recapitulation

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Prepared by: Francis R. Holland, Jr. Date July 1961  
Historian

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Recommended: Donald M. Robinson, Date July 1961  
Superintendent

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Concurred: \_\_\_\_\_ Date \_\_\_\_\_  
Chief, Western Office, Design and Construction

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APPROVED: (SGN) LAWRENCE G. MEDRIANT Date 10/23/61  
Regional Director, Region Four

July 1961

VOLUME I

Chapter 3. Park Organization Brief

A. Park Organization, General.

Cabrillo National Monument functions within the framework of this approved Master Plan and under delegations of authority, as defined in the paragraph on specialized assistance, in the National Park Service Administrative Manual, Organization Volume, Part 7.

As a Group A area all activities center in the Office of the Superintendent. But, to assist the Superintendent in carrying out the mission of the monument, there are personnel on the monument staff who are responsible for certain activities of the monument, and are expected to function with a modicum of supervision and guidance from the Superintendent. The activities of the monument break down into five phases: administration, interpretation, protection, maintenance, and the Cabrillo Historical Association.

B. Office of the Superintendent.

Function: Direct all operations in the monument to accomplish the monument mission in the best way possible.

Task: Plan, direct, supervise, coordinate, and evaluate all activities performed by the monument staff as follows:

- Training
- Personnel Management
- Fiscal Management
- Property Management
- Operation and Maintenance of Facilities
- Public Services
- Minor Construction Work

In most of the above categories the Superintendent is the only responsible officer, and therefore, at times, participates directly in their execution.

To the degree defined in, and in accordance with procedures described in the Administrative Manual, the Superintendent participates in the long range management and development planning, with preparation of the Master Plan Narrative, and in the programming and supervision of

construction projects. He provides liaison with boards, commissions, or other governmental agencies, of which the following are most important:

Headquarters, Eleventh Naval District  
Navy Electronics Laboratory  
Board of Supervisors, County of San Diego  
City Council, City of San Diego  
Board of Directors, Cabrillo Historical Association  
Other local, regional, and state commissions and citizens groups

The Superintendent also is in charge of Channel Islands National Monument. For his duties and responsibilities there, see the Master Plan for that area.

Organization and Operation: The monument superintendent is the officer responsible for all activities within the monument. Until such time as the visitor center is built, his office will be in an old converted radio shack northwest of the lighthouse.

(1) Administration

Of the five phases of monument activity, administration is the one in which the Superintendent will most actively participate. It will be necessary for him to perform some of the tasks, but under his supervision the burden of the work will be carried out by the following positions:

| <u>Permanent Staff:</u>      | <u>Existing</u> | <u>Long Range</u> |
|------------------------------|-----------------|-------------------|
| Administrative Assistant     | 1               | 1                 |
| Clerk-Typist                 | 0               | 1                 |
| Total Permanent              | 1               | 2                 |
| <u>Seasonal Staff:</u>       | None            | None              |
| <u>Facilities Required:</u>  | <u>Existing</u> | <u>Proposed</u>   |
| Office Rooms (Includ. Supt.) | 2 (oblit.)      | 2 (in V.C.)       |
| File Room                    | 1 (oblit.)      | 1 (in V.C.)       |
| Storage Room                 | 0               | 1 (in V.C.)       |
| Total                        | 3               | 4                 |

The function of administrative personnel will be to perform the common administrative services, in accordance with established policies, procedures, and standards for and in the interests of the efficient operation of the entire monument organization.

Assigned Tasks:

Perform procedures related to hiring and the separation of personnel, and maintain local personnel records.

Maintain records of funds allocated to the monument. The Superintendent will have financial accountability for all funds allotted to the monument.

Effect the procurement of supplies and materials for the monument.

Effect the acquisition and disposal, and maintain records of accountability for all equipment and property.

Consolidate and prepare the monument's budget estimates for submission.

Maintain mails and files.

Maintain time and payroll records.

(2) Interpretation

Under the general supervision of the Superintendent, the monument Historian will direct and coordinate the activities of the interpretive staff. Due to the heavy year-round visitation to the monument, expansion under MISSION 66, and the diverse character of the interpretive program, the following interpretive staff will be needed:

| <u>Permanent Staff:</u> | <u>Existing</u> | <u>Long Range</u> |
|-------------------------|-----------------|-------------------|
| Historian               | 1               | 1                 |
| Tour Leader             | 0               | 3                 |
| Total Permanent         | 1               | 4                 |
| <u>Seasonal Staff:</u>  |                 |                   |
| Ranger-Naturalist       | 1               | 1                 |

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Facilities Required:

Presently, interpretive offices are in the basement of the old lighthouse. This room also serves as the library and workshop, and to some extent as a storage room for museum items. The bulk of the museum items, however, is stored in a building at Fort Rosecrans. In the proposed visitor center it will be necessary to have one large room which will serve as the office for the interpretive staff and will also contain the monument library. Another room will be needed to store museum items and study collections, and to serve as a workshop.

The function of the interpretive staff will be to determine, assemble, and present the facts about the monument and its resources so as to guide the protecting of monument resources, and to enrich visitor experience.

Assigned Tasks:

Train personnel in the procedures and skills utilized in interpretation. Inform other monument personnel on the resources of the monument.

Plan, supervise, coordinate, and perform research in the fields of history concerning Spanish explorations and colonization, and the west coast of the United States as it related to the commercial and military activities and aids to navigation on Point Loma.

Prepare and publish technical and popular publications.

Preserve historical and archaeological materials, and maintain records and study collections.

Plan and operate monument interpretive program. When MISSION 66 is complete at the monument the interpretive program will include a museum with an attached auditorium, a historic house, self-guiding trails, audio-visual programs, and wayside and trailside exhibits.

Maintain monument library.

Maintain relationships with educational and historical organizations concerned with monument knowledge and interpretation.

(3) Protection

Under the general supervision of the Superintendent, the ranger staff will see to the protection of monument resources and facilities, and to the welfare of monument visitors.

The Superintendent of this area is also Superintendent of Channel Islands National Monument, and he has on his staff two rangers, one of whom is the Superintendent's representative at Channel Islands. There is only one ranger, then, assigned to Cabrillo. Although some of the Channel Islands' ranger's work is performed at this monument, Cabrillo has need of two fulltime rangers. The proposed ranger staff is as follows:

| <u>Permanent Staff:</u>     | <u>Existing</u> | <u>Long Range</u> |
|-----------------------------|-----------------|-------------------|
| Ranger                      | 1               | 2                 |
| <u>Seasonal Staff:</u>      |                 |                   |
| Ranger                      | 1               | 1                 |
| <u>Facilities Required:</u> | <u>Existing</u> | <u>Proposed</u>   |
| Office in Visitor Center    | 0               | 1                 |
| Storage Room                | 0               | 1                 |

Cabrillo National Monument has a heavy year-round use and the duties of the ranger staff fluctuate little throughout the year.

Assigned Tasks:

Supervise and regulate public use of the monument and monument facilities, and influence the safe and proper use of the monument.

Keep all records concerning visitor statistics.

Inspect and make recommendations to improve safe working conditions.

Plan and carry out measures for the prevention and control of damage to monument land, buildings, and vegetation by fire, erosion, disease, or other causes.

Maintain automatic weather station.

Perform rescues or render other services in the interests of the welfare of monument visitors.

Plan and execute measures involving wildlife management.

Secure conformance to monument regulations, and take initial action in the case of violations thereof.

Maintain good relations with, and when necessary, secure the cooperation of Department of Defense Security Guard and Fire Department on Point Loma.

Advise the Superintendent and other monument personnel on matters pertaining to protection of monument resources and regulation of monument use.

(4) Maintenance

Under the general supervision of the Superintendent, the maintenance foreman will direct and coordinate the work of the maintenance staff.

Present developments taking place at the monument under MISSION 66 cause a fluctuation in work with the result that WAE laborers have to be utilized. Once, however, MISSION 66 has completed its work at Cabrillo there will be little variation in the work-load over the year; consequently, seasonal positions will no longer be necessary. At the same time, MISSION 66 developments when completed, will make a larger maintenance staff mandatory. With these thoughts in mind, the following maintenance staff is required:

| <u>Permanent Staff:</u> | <u>Existing</u> | <u>Long Range</u> |
|-------------------------|-----------------|-------------------|
| Foreman                 | 0               | 1                 |
| Gardener                | 0               | 1                 |
| Maintenanceman          | 1               | 1                 |
| Janitor                 | 0               | 1                 |
| Laborer                 | 1               | 3                 |
| Total Permanent         | 2               | 7                 |
| <u>Seasonal Staff:</u>  |                 |                   |
| Laborer                 | 2               | 0                 |

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| <u>Facilities Required:</u> | <u>Existing</u> | <u>Proposed</u> |
|-----------------------------|-----------------|-----------------|
| Utility Area                | 0               | 1               |
| Office in Utility Area      | 0               | 1               |
| Maintenance Shop            | 0               | 1               |
| Vehicle Garage (for two)    | 1 (oblit.)      | 1               |
| Storeroom in Visitor Center | 0               | 1               |

The Maintenance staff will operate and maintain the physical plant in a manner contributing to the efficient functioning of the monument staff, to the welfare of the visitors, and to the preservation of monument resources.

Assigned Tasks:

Operate utility systems, building equipment, and other facilities of the physical plant.

Maintain parking area, buildings, grounds, equipment, trails, and utility systems (except telephone and electric systems maintained by local public utility companies).

Perform minor construction work.

(5) Cabrillo Historical Association

Under the general supervision of the Superintendent, who acts as the Executive Secretary, the Cabrillo Historical Association maintains a bookstore at the monument and the sales proceeds are used to further the mission of the monument. Their bookstore is presently in the old lighthouse and when the new visitor center is constructed the bookstore will be moved there. Although monument personnel participate in the activities of the Association as members and have some job or office in it, most of the actual running of the bookstore is performed by one fulltime and one parttime employee of the Association. It is necessary, however, at times for Park Service employees to man the bookstore (such as during vacations, lunch hours, etc.). It is anticipated that moving the bookstore to the proposed visitor center will have little effect upon the operation of the bookstore or the Association and that the same number of persons will continue to be employed by the Association. The space the Association will require in the visitor center will consist of room for the bookstore and one office in which records can be kept and some merchandise stored.

| <u>Permanent Staff:</u>     | <u>Existing</u> | <u>Long Range</u> |
|-----------------------------|-----------------|-------------------|
| Sales Clerk                 | 1               | 2                 |
| <u>Seasonal Staff:</u>      |                 |                   |
| Sales Clerk                 | 1               | 0                 |
| <u>Facilities Required:</u> | <u>Existing</u> | <u>Proposed</u>   |
| Salesroom                   | 1               | 1                 |
| Office (Storeroom)          | 0               | 1                 |

C. Recapitulation.

Summary of National Park Service Staff

|                 | <u>Total<br/>Existing</u> | <u>Total<br/>Long Range</u> |
|-----------------|---------------------------|-----------------------------|
| Superintendent  | 1                         | 1                           |
| Administration  | 1                         | 2                           |
| Interpretation  |                           |                             |
| Permanent       | 1                         | 4                           |
| Seasonal        | 1                         | 1                           |
| Protection      |                           |                             |
| Permanent       | 1                         | 2                           |
| Seasonal        | 1                         | 1                           |
| Maintenance     |                           |                             |
| Permanent       | 2                         | 7                           |
| Seasonal        | 2                         | 0                           |
| Total Permanent | 6                         | 16                          |
| Total Seasonal  | 4                         | 2                           |
| Grand Total     | 10                        | 18                          |

MASTER PLAN  
FOR PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

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Volume III, General Park Information  
Section A. Park Origin

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Prepared by: Francis R. Holland, Jr. Date July 1961  
Historian

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

A. Park Origin and Land Status

Cabrillo National Monument was established by Presidential Proclamation Number 1255 dated October 14, 1913. One-half acre of land surrounding an old abandoned lighthouse situated near the end of Point Loma was set aside "to commemorate the discovery of California by Juan Rodriguez Cabrillo . . . ." (Recent research indicates Cabrillo was not the first European to reach the present state of California). The monument, within the Fort Rosecrans Military Reservation, was placed under the control of the War Department. The proclamation establishing the monument also gave permission to the Order of Panama to erect an heroic statue 150 feet high of Juan Rodriguez Cabrillo. The organization became defunct before any tangible action was taken on the statue, and in 1926 the permission was rescinded by Presidential Proclamation. The rescinding proclamation at the same time gave the Native Sons of the Golden West the right to erect a memorial on monument land. This project, too, resulted in nothing.

During the 20 years the monument was under the control of the War Department little was done to maintain the place, and the monument's centerpiece, the lighthouse, fell into disrepair. The monument was simply a place where tourists to San Diego could come to climb an old abandoned lighthouse to obtain a magnificent view of land and sea. The building was not cared for and probably not a single visitor was aware that the monument had been set aside to commemorate Juan Rodriguez Cabrillo.

Some old photographs show the building with large faded letters painted on the outside walls announcing postcards for sale inside. One visitor to the lighthouse in 1924 said that the walls surrounding the spiral stairs to the tower were plastered completely with calling cards of people who had visited the monument. This method of registering has since been supplanted with the visitors' register book.

From time to time commanding officers of Fort Rosecrans would have pangs of conscience and make some effort to maintain the old place. Some encouraged their men to spend off-duty hours repairing the structure. Also, the Army at times apparently encouraged military families to occupy the place as a residence. Evidently permission was given to some to sell souvenirs and postcards. In 1931 the Army obtained a small amount of money to effect a few repairs and give the structure a coat of paint. But by 1933 the building was again in a sad condition.

In 1933, the monument, along with many others, was transferred from the jurisdiction of the War Department to that of the Department of the Interior. It was now the job of the National Park Service to administer the monument. Responsibility for protection and maintenance of the area was given to Sequoia National Park. Plans were immediately laid to repair the lighthouse and improve the grounds. By the end of 1935 the lighthouse had been completely restored to its original condition, the grounds had been landscaped, restrooms built, and a memorial plaque to Cabrillo installed.

The concession at the monument was let, and the concessioner was also appointed Custodian of the area. In 1942, because the monument was located within a military reservation, it was closed to the public and was not reopened until 1947. At that time the concession was relet to the former concessioner, but a full time Custodian was also appointed. The monument, however, remained under the administrative supervision of Sequoia. In 1957 the monument was taken from the control of Sequoia and a Superintendent was appointed.

Until 1959, the monument retained its original size of one-half acre. On February 2, 1959, Presidential amendment to the original proclamation expanded the monument by 80.1 acres. This addition permitted the National Park Service to go ahead with its proposed MISSION 66 development of the area.

MASTER PLAN  
FOR PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

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Volume III, General Park Information  
Section B. Vicinity Data

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Prepared by: Francis R. Holland, Jr. Date July 1961  
Historian

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

B. Vicinity Data

Cabrillo National Monument is located just outside the city limits of San Diego, a large metropolitan area. There are a number of state, county and city areas within the greater San Diego area, but none near the monument. A large number of motels, hotels, and restaurants are within a short distance of the monument.

The monument is located on Point Loma, all of which at one time was a military reservation. For that reason Point Loma is generously sprinkled with military installations and remnants of military occupation. In recent years the military has been gradually releasing Point Loma for other uses. Most of the land, however, is still under their jurisdiction.

A good portion of the land is used by the Navy for experimental work and is under the supervision of the Navy Electronics Laboratory. The old Fort Rosecrans installation is now given over mostly to military reserve training components. Just north of monument boundaries is Fort Rosecrans National Cemetery. On the ocean side of Point Loma below the national cemetery is an Atlas Missile stationary testing site.

Two current developments on Point Loma abut monument land on the ocean side. On the north side a primary sewage treatment plant, which will serve the San Diego metropolitan area, is under construction. To the south a salt water conversion plant, under auspices of the Department of the Interior, will soon be erected.

San Diego is served by numerous airline, railroad and bus lines. Most of the towns in the Los Angeles metropolitan area are near enough to the monument to make day-use from them possible.

Point Loma is a slightly curved arm protruding out from the mainland embracing San Diego Harbor on the west. It is a high ridge of land standing majestically above the surrounding lowland. In many places it is over 400 feet above sea level. Point Loma slopes gently upward for several hundred yards back from the ocean. It then rises abruptly to heights of 350 feet to 400 feet above sea level. On the harbor side of Point Loma the land falls off more sharply. There is a road running along the crest of Point Loma. From the road there are occasional draws sloping to the harbor and to the ocean. The crest following the road is generally undulating, but there are knolls separated from the crest by little valleys several hundred feet wide. Point Loma can be aptly termed hilly. Monument land extends from sea level on the ocean side to a height of 420 feet, the site of the old lighthouse.

MASTER PLAN  
FOR PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

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Volume III, General Park Information  
Section C. Public Use Data

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Prepared by: Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

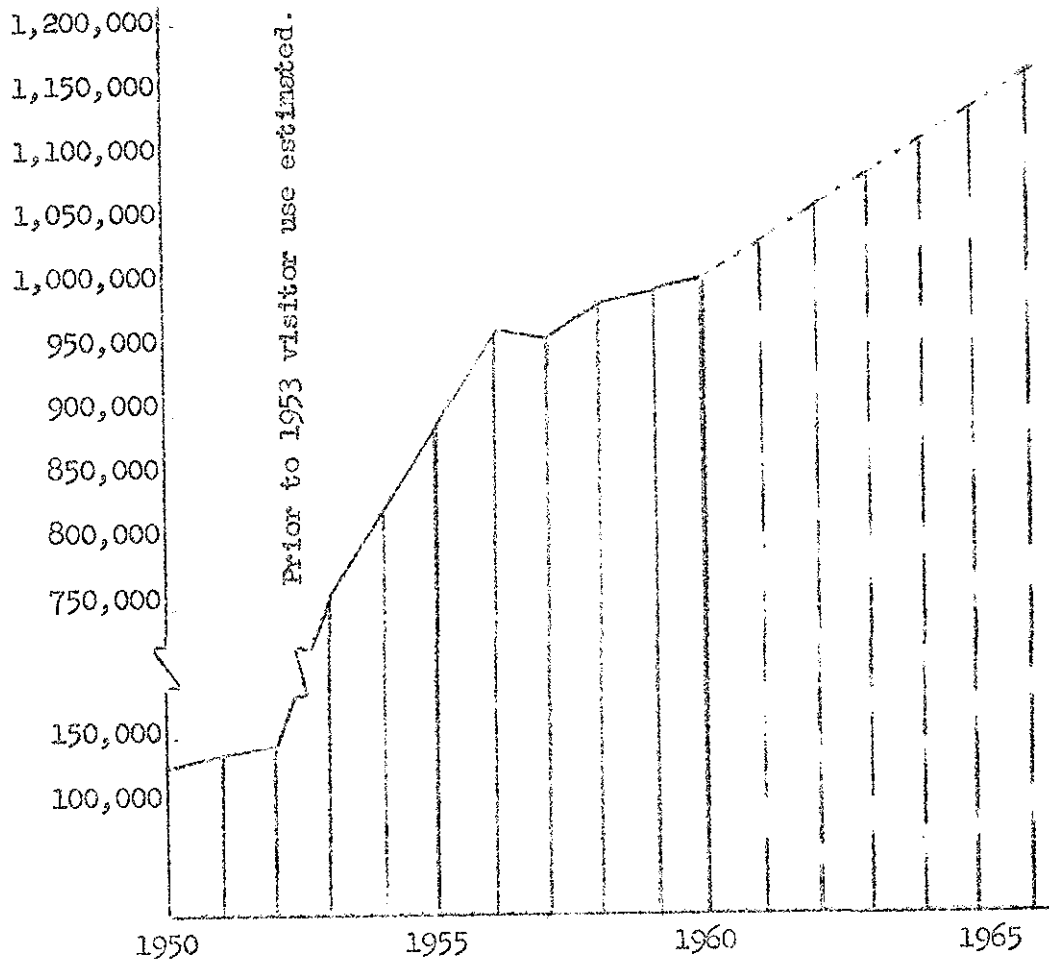


TABLE 1 - TOTAL ANNUAL NUMBER OF VISITORS

Remarks:

The large increase for the year 1953 is due to a more accurate count by means of an automatic car counter. Prior to this, visitor use was estimated.

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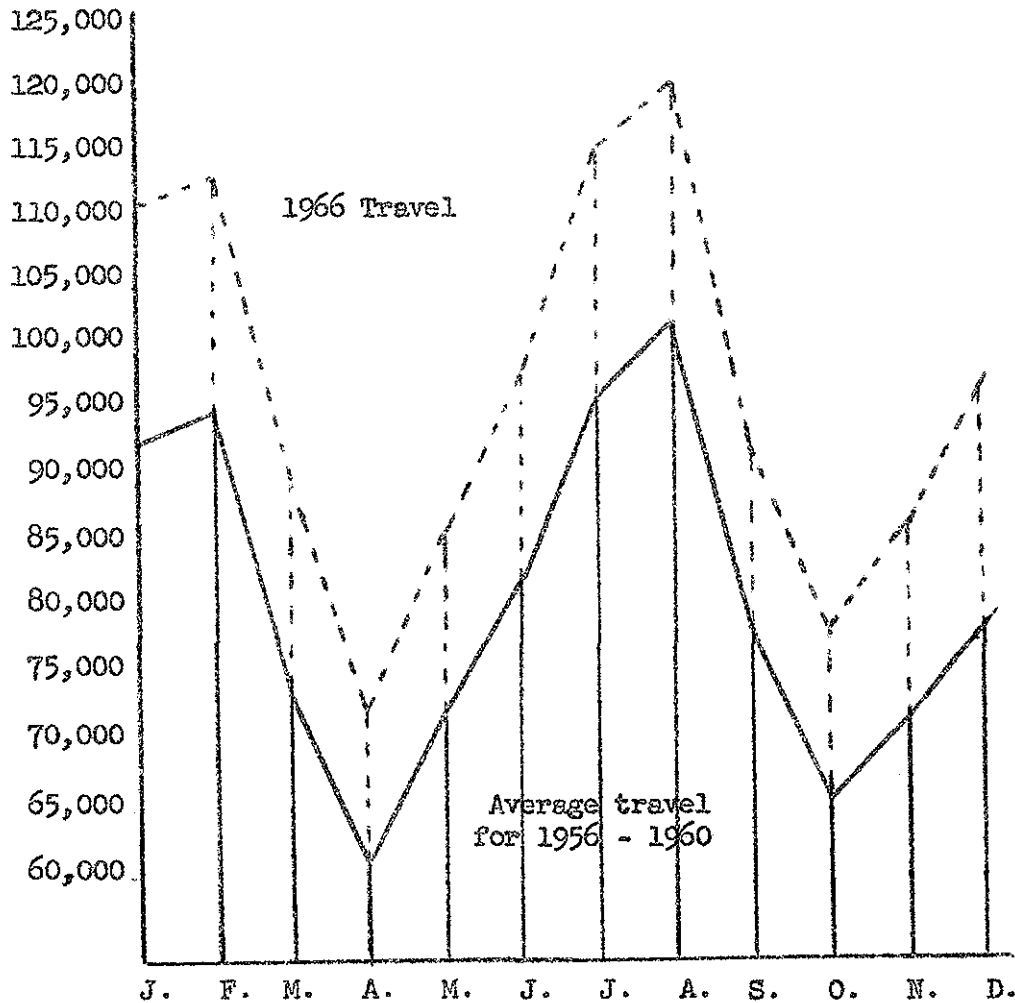


TABLE 3 - PARK VISITORS BY MONTHS

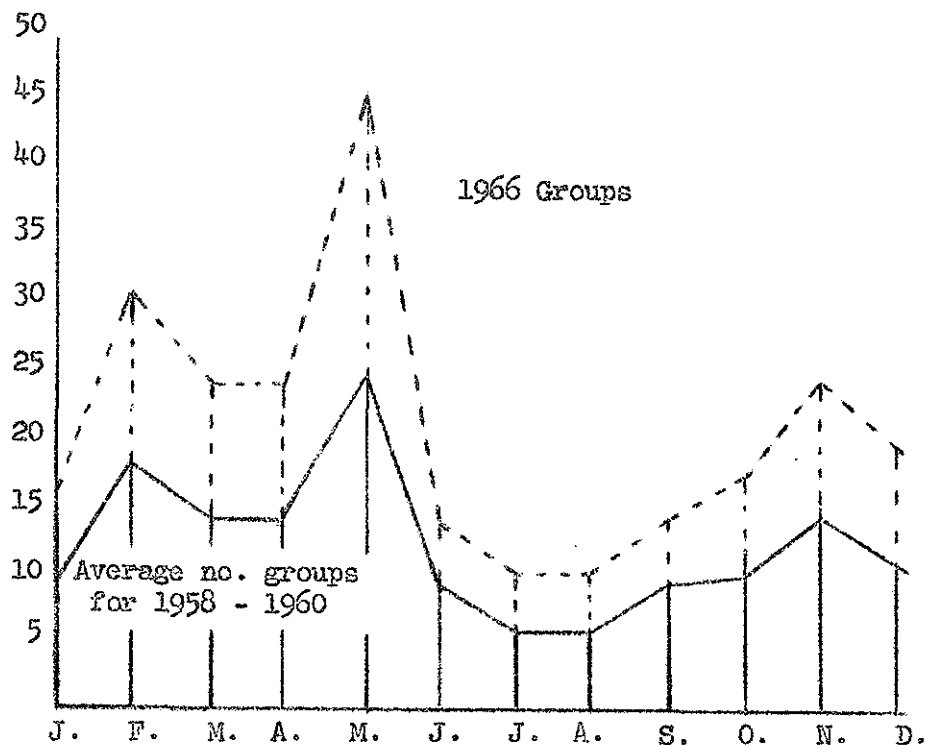


TABLE 6 - SPECIAL GROUPS

Remarks:

This table illustrates the monthly use by groups which include school classes and other young adult organizations that vary in size from twenty to sixty-five members. It is felt that the use of the area by groups will increase approximately one-third. With the addition of a museum-visitor center under MISSION 66, it is possible a higher use may result.

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Tables 2, 4, and 5.

Not applicable.

Table 7, Duration of Stay

The duration of stay per visitor ranges from 15 to 30 minutes except during the seasonal migration of the California Gray Whale, December to February, when the length of stay tends to be a little longer. With the proposed development under MISSION 66, it is expected that the average duration of stay of each visitor will be extended for approximately 30 minutes. The visitor will take time to peruse the exhibits in the proposed museum-visitor center and many will pause to attend the audio-visual program in the attached auditorium. The construction of a wayside exhibit interpreting the natural features of the monument and the nature trail will induce some, mainly local people, to take advantage of these features.

There is no overnight use since the monument is within a military reservation, which is open during daylight hours only.

Table 8. Not applicable.

Table 9, Other.

Visitation to the monument is composed mainly of individuals and small family groups with a liberal sprinkling of school and scout groups. Visitors come primarily for the view and to climb to the tower of the lighthouse. The average visitor has something less than a casual interest in early Spanish explorations. During the gray whale migration season, however, a prime motivation for visiting the monument is to view the passing cetaceans.

It has been observed in recent months that an interest in early Spanish explorations can be aroused in many visitors. Those who take the time to attend the talk on Cabrillo, which was given under somewhat adverse circumstances and with a minimum of visual aids, enjoy themselves and depart with a knowledge and appreciation of this significant subject. Consequently, the proposed museum-visitor center will serve a real purpose and be more effective, since it will reach a greater number, in making the visitors aware of this chapter of history, which, after all, is the monument's reason for being.

Being located in a large metropolitan section, this area has a large repeat visitation. This segment returns not for the historical

features of the area, but simply to get away from the nerve-wrecking experiences encountered in urban living, and to contemplate the view. With a well designed and interesting museum, some of these people will have their interest channeled into an understanding of this portion of their country's history. Also, due to this repeat visitation, it will be necessary to have a program of exhibit changing so there will be something fresh to attract their attention.

MASTER PLAN  
FOR PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

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Volume III, General Park Information  
Section D. Natural History and Historical Background

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Prepared by: Francis R. Holland, Jr. Date July 1961  
Historian

Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

1. Natural History

The monument has an outstanding panoramic view of the Pacific Ocean, the City of San Diego, and San Diego Bay, and this view has been termed one of the finest in the world.

Another interesting aspect of the monument is the unexcelled vantage point from which visitors may watch the migration of the California Gray Whale. The migration of the gray whale is one of the most remarkable natural history events in the world today. The majority of the whales journey southward just off the shore of Southern California and Lower California during the months of January and February. Although a few early migrants may pass San Diego in early December, they are not abundant until Christmas. An occasional straggler can be sighted in March.

Only 20 years ago this species was so rare that little hope was held that it would recover. Today the species appears out of danger, thanks to international cooperation among the whaling nations which stopped the slaughter of this truly unique whale. It is not at all unusual now to see between 50 and 75 whales a day during the peak of the migration.

Cabrillo National Monument is considered the finest location to watch the migration. Here individual whales can be watched for at least one hour, as they hove into view from the north and at last recede to the southeast along the Silver Strand. The first and only public observatory for whales was established at the monument in 1951.

Man continues to puzzle over the mysteries of how these animals are able to migrate over such a precise course and how they are able to maintain such a timetable. Whereas other migrating animals pass broadly through an area, the California Gray Whales, at least on the final part of the route, pass along just outside the surf zone, virtually single file. It is hard to realize that three months earlier these whales started off from their summer quarters along the shores of Siberia and Kamchatka enroute to their winter quarters in the lagoons and harbors along the outer coast of Lower California. Between these two areas lie 6,000 miles of seemingly trackless ocean. With the advent of spring the whales must be on their way back again to their summer feeding grounds.

In the lagoons of Lower, or Baja, California the huge animals will mate and bear their young. The gestation period is slightly less

then a year, and the females give birth only once every two years. While in the lagoons the baby whale does not play with the other youngsters, but rather sticks closely to its mother. The mother is constantly vigilant to see that no harm comes to the infant, and during this period will have nothing to do with the male. About a month and a half after birth the trek northward begins. The baby continues to remain close to the mother, confining his activities to cavorting around her.

Another phase of the natural history of the monument centers around the 1,000 yard strip on the Pacific Ocean. Here tidepools are found which contain small marine life. The tidepools presently are severely depleted and will probably be damaged further by the waste products of the sewage disposal plant and salt water conversion plant. Until a definite status of the tidepools is reached and a trail built to them, if warranted, there is little necessity for interpreting them. However, they should not be overlooked as a potential resource of the monument.

In the spring and summer months, the coast chaparral blooms profusely and provides an unending array of wild flowers through which a self-guiding nature trail is planned under MISSION 66. The chaparral is scattered about Point Loma, but the most concentrated and best variety of it occurs on the western slopes of the Point.

Wildlife in the area includes lagomorphs, hares, rodents, and shore and land birds. Populations are kept in control by preying birds, food supply, and limited nesting areas. Except possibly for the shore birds, the wildlife of the area cannot be considered as a potential resource of the monument.

The following is a list of native shrubs and flowers identified as growing on monument lands.

|         | <u>Standardized Plant Names</u> | <u>Common Names</u> |
|---------|---------------------------------|---------------------|
| Shrubs: | <u>Acacia longifolia</u>        |                     |
|         | <u>Adenostoma fasciculatum</u>  | chamise             |
|         | <u>Anthemis fuscata</u>         |                     |
|         | <u>Cassia spp.</u>              |                     |
|         | <u>Ceanothus verrucosus</u>     | coast white lilac   |
|         | <u>Eriogonum parvifolium</u>    |                     |
|         | <u>Euphorbia misera</u>         | cliff spurge        |
|         | <u>Quercus dumosa</u>           | scrub oak           |
|         | <u>Rhus integrifolia</u>        | lemonade berry      |

|        |                                      |                        |
|--------|--------------------------------------|------------------------|
|        | <u>Rhus laurina</u>                  | laural sumac           |
|        | <u>Ricinus communis</u>              | castor bean            |
|        | <u>Salvia mellifera</u>              | black sage             |
|        | <u>Xylococcus bicolor</u>            | coast manzanita        |
| Cacti: | <u>Agave shawii</u>                  | century plant          |
|        | <u>Bergera cactus emoryii</u>        | yellow button cactus   |
|        | <u>Opuntia spp.</u>                  |                        |
| Forbs: | <u>Antirrhinum nuttallianum</u>      | nuttal snapdragon      |
|        | <u>Artemisia californica</u>         | California sagebrush   |
|        | <u>Baccharis sarothroides</u>        | chaparral broom        |
|        | <u>Castilleja foliolosa</u>          | wooly painted cup      |
|        | <u>Carethrogyne filaginifolia</u>    | sand aster             |
|        | <u>Cucumaris spp.</u>                | cucumber vine          |
|        | <u>Euphorbia polycarpa</u>           | fairy mats             |
|        | <u>Foeniculum vulgare</u>            | sweet fennel           |
|        | <u>Haplopappus squarrosus</u>        | sawtoothed golden bush |
|        | <u>Helianthus gracilentus</u>        | common sunflower       |
|        | <u>Hemizonia fasciculata</u>         | golden tarweed         |
|        | <u>Lentospermum spp.</u>             |                        |
|        | <u>Mesembryanthemum crystallinum</u> | ice plant              |
|        | <u>Mimulus puniceus</u>              | monkey flower          |

The following is a list of the exotic trees, shrubs, and flowers identified as growing on monument lands.

|         | <u>Standardized Plant Names</u> | <u>Common Names</u> |
|---------|---------------------------------|---------------------|
| Trees:  | <u>Cupressus macrocarpa</u>     | Monterey cypress    |
|         | <u>Eucalyptus spp.</u>          |                     |
|         | <u>Pinus halepensis</u>         | aleppo pine         |
|         | <u>Pinus torreyana</u>          | torrey pine         |
| Forbs:  | <u>Mesembryanthemum spp.</u>    |                     |
| Shrubs: | <u>Carrissa tutes</u>           |                     |
|         | <u>Melaleuca nesophila</u>      |                     |
|         | <u>Metrosideros tomentosa</u>   |                     |
|         | <u>Pittosporum crassifolium</u> |                     |

There are no plant or tree diseases existing.

## 2. History

Out of one man's disasters and misfortunes, other men may have their destinies shaped and their lives charted. An insignificant soldier named Juan Rodriguez Cabrillo emerged from the defeat of Panfilo de Narvaez at the hands of Cortes in 1520 to rise to a position of wealth and importance in Guatemala. Twenty years later this same Cabrillo, who was now admiral of a fleet headed by one of the most famous of the conquistadores in the New World, was to begin a journey which was to give him a prominent place in the history of the New World--a journey which had been directly triggered by Narvaez's final and greatest disaster.

In the late 1520's when Narvaez stepped ashore near Tampa Bay in Florida, little did he and his men realize that the expedition would end in such utter failure, and that the failure would result in a flurry of activity which revealed to the European World a considerable portion of the land now known as the United States.

Ponce de Leon, seeking the fabled fountain of youth, discovered Florida, gave it its name, and lost his life attempting to colonize it. Ayllon came later and established a colony in Carolina which did not survive long. Then Panfilo de Narvaez came to seek the rumored treasures of this land. As he marched over the land each mirage of wealth on the horizon disappeared with arriving at its supposed location. Disappointment, shortage of supplies, and Indian hostility finally caused the disillusioned Narvaez to hasten to leave the inhospitable land. Lacking ships, he constructed horse-hide boats in which he and his men sailed along the Gulf of Mexico hoping to reach the land recently conquered by Cortes. The attempt was abortive, and the five frail craft were wrecked by a storm on the Texas coast. Out of this grand expedition four men survived, the most important one being Alvar Nunez Cabeza de Vaca. He left an account of the wanderings, hardships, and travails of the four survivors. At first Vaca and his companions served as slaves, but in time became known as Children of the Sun and were revered medicine men effecting "miraculous" cures. Their wanderings carried them into west Texas and New Mexico. Everywhere they heard tales of fabulous cities of wealth to the north. Heading south they passed through Northern Mexico, pausing, among other places, in the Valley of the Hearts which was later to be an important base for the Coronado expedition. With a large retinue of worshipful natives following, the quartet continued southward and met a group of Spanish slave catchers. They were then conducted to Culiacan,

the northern outpost of New Spain, where after eight years of privations, hardships, and wandering, they were back among their own people.

Much had happened in New Spain during the long absence of this peripatetic quartet. When Narvaez's expedition had left Cuba, Cortes had conquered the Aztecs and, solidifying his control over New Spain, was branching out north, south, and west to expand the domain, continually seeking new discoveries. But by 1536, when they arrived in Mexico City, Cabeza de Vaca and his companions found that the power in this rich land lay not in the hands of its conqueror. Antonio de Mendoza, whom the Crown the previous year had appointed Viceroy, was the ruler of New Spain. Cortes had coveted the position of Viceroy, but had received the title of Marquis, and been appointed Captain General of New Spain, and was given permission to explore the South Sea; each nothing more than a sop to his ambition. There was little doubt that Mendoza was in the ascendancy, and that Cortes's star was waning.

Cortes was disappointed at not being appointed Viceroy, but nevertheless continued efforts directed toward gaining further knowledge of the New World. When he had been the power in Mexico, Cortes had sent an expedition to Guatemala under Pedro de Alvarado to conquer that land and one to Honduras led by Cristobal de Olid for the same purpose. Expeditions north and west were sent out and by the early 1530's the territory as far north as Aguascalientes and San Luis Potosi had been explored, and settlements had been made at Panuco, Queretaro, and Colima.

Meanwhile, Nuño de Guzman, who had treated Cortes shabbily on his return from the Honduras expedition to punish the rebellious Olid, was setting himself up as a rival to Cortes. Guzman heard from the natives about seven rich cities to the north. His vain and ruthless attempt to find them resulted in the town Culiacan in Sinaloa being established and the territory of Nueva Galicia, with Guzman as governor, being marked off. Thus New Spain's settlements were pushed further north.

During this period Cortes had not been idle. His construction of ships on the west coast of New Spain to explore the South Sea and the land to the north had been interrupted several times. First there had been the Honduras expedition against Olid; then when the ships were assembled, they received orders to dispatch an expedition to the Spice Islands to relieve Loaísa. They were

further delayed when in 1528 Cortes returned to Spain to personally push his ambitions. On his return various other hindrances arose to impede the construction of the exploring fleet. But by 1532 two vessels had been outfitted, and he immediately dispatched them north. This expedition ended disastrously, but it did reach Rio del Fuerte. The following year Cortes sent out two more ships. Some of the men, after passing through two mutinies and imprisonment at the hands of Guzman, returned and brought news to Cortes of a bay on an island where pearls could be found. In reality they had been to La Paz in Baja California.

After two such unfortunate experiences Cortes decided to lead personally the next expedition which was to attempt to establish a colony at the bay on this newly discovered "island." The colonists met continued adversity, and in 1536 Cortes withdrew them.

Thus was the situation in 1536 when Cabeza de Vaca and his companions returned to civilization. Cortes, the old master of New Spain, was on the decline. Nuno de Guzman, the slave trader, was vying with Cortes in seeking the secrets of the Northern Mystery. Antonio de Mendoza, the newly appointed Viceroy, was clearly in the ascendancy, and was wisely and discreetly playing one of his rivals against the other.

Cabeza de Vaca was conducted from Culiacan to the capital of New Spain where he met the Viceroy. Mendoza listened with considerable interest to the tales Vaca told of what he had seen and what he had heard from the Indians. Vaca reported, among other things, that the Indians grew corn and beans, had emeralds and turquoises, and that he had seen numerous signs of gold, copper, and other metals. This report aroused the interest of Mendoza, but Mendoza was a cautious man and the situation in New Spain was still fluid. He didn't want to move until he had firmer control over the land, and until he had confirmation of what Vaca reported.

The harrowing experiences he had just passed through had not dampened the adventurous spirit of Cabeza de Vaca for he returned to Spain in 1537 and applied to the Crown for a license to conquer Florida. But it could not be granted as this privilege had already been bestowed upon Hernando de Soto. Vaca was offered the positions of governor and captain general of Paraguay which he accepted.

The Northern Mystery had been pierced several times by way of Florida. Not one of the endeavors had ended auspiciously; no treasures had been withdrawn from the land. But Florida continued to exercise a

strange fascination on the Spaniards. All Spain had been awed and thrilled by the wealth of Mexico and Peru. If there were two such places, surely there was a third, and without a doubt it lay to the north.

The stories Cabeza de Vaca brought back with him confirmed what the Spaniards felt all along, and De Soto had no problem recruiting an army. With his fleet De Soto sailed to Cuba. From there in May 1539, he crossed over to Florida, landing at Tampa Bay. De Soto was the first of this new group, which had been given impetus by the tales of Cabeza de Vaca, to attempt to discover the secrets of the Northern Mystery, and his was to be the last to return to Spanish civilization, arriving in Mexico in September 1543.

De Soto's wanderings took him and his men first north into the present North Carolina, then into Tennessee, southward to Alabama, and westward into Mississippi, Arkansas, Oklahoma, and Texas, continually lured onward by native stories of great and wealthy kingdoms just over the horizon. No wealth was found, for the Spaniards thought in terms of gold, silver, and pearls, and overlooked the real wealth of that land--rich soil, sleek furbearing animals, heavily wooded forests, and rich deposits of coal and iron ore.

By 1542 De Soto's men had had enough of this land. No treasures had been found, and the Indians had not been particularly hospitable. Men and supplies were dwindling, and DeSoto resolved to return to Cuba for re-outfitting to continue his explorations westward. But before he could carry this through, De Soto died, three years and three days after grandly departing Cuba for Florida. He was buried in the Mississippi River to keep the Indians from learning that their feared adversary was dead.

The survivors of the expedition then attempted to march overland to Mexico. While they were in Texas, winter approached, and these men had no desire to be caught in this unfruitful land during the snows; so they retraced their steps to a village near the confluence of the Arkansas and Mississippi Rivers. Here they built ships which were floated off the stocks by the floods of 1543. In July they began their journey down the Mississippi to the Gulf. Two months later the ships arrived in New Spain--a year after Coronado had returned and five months after the end of the Cabrillo expedition.

As the fabled wealth of the Northern Mystery had eluded De Soto in the east, so had it eluded the western explorers.

Mendoza had been slow to move and capitalize on the tales of riches to the north which Cabeza de Vaca brought back. He was by nature a conservative man who moved carefully and deliberately. He was no doubt intrigued by the tales, but he wanted them confirmed by another. In the meanwhile one of Mendoza's rivals, Nuno de Guzman, was eliminated when in 1538 he was sent back to Spain in chains to answer for his brutal rule of Nueva Galicia, especially for his slaving activities.

Fray Marcos de Niza was asked by Mendoza to lead a small expedition northward. With him went another friar, a number of Indians, and Stephen, a Negro who had survived the Narvaez disaster and had been on the long trek with Vaca to Mexico. The mission of the party was general exploration, noting the people and the natural features of the land. In particular, they were to inquire into those things Vaca had reported. Departing in March 1539, they traveled northward, hearing often tales of wealth further on. Thus had all previous explorers been lured deeper into the Northern Mystery. Stephen, the Negro, was in the van sending back the news he heard which was invariably good. Early in the journey they heard of Seven Cities, the first of which was named Cibola. Hurrying onward Fray Marcos soon learned of the death of the Negro at Cibola. Fray Marcos cautiously advanced on the city to view it from a nearby promontory and was impressed. Two Indian companions told him this city was the lesser of the Seven and, that the other were larger and richer. After erecting a cross and claiming the land in Mendoza's name, he scurried back to Spanish civilization to tell of the wonders he had seen and the tales of wealth he had heard, and, most important, the discovery of the Seven Cities of which the Spaniards had heard for nearly ten years.

New Spain was electrified. The friar's own vivid imagination tended to exaggerate what he had actually viewed, and as the stories circulated they were embellished. The friar's report overcame Mendoza's natural caution, and the mobilization of an army under Francisco Vasquez de Coronado was pushed. Raising the force was not difficult. As men in Spain flocked to the banner of De Soto, the population in New Spain did the same to Coronado's, for visions of adventure and wealth danced in their heads.

Meanwhile Cortes was protesting this activity to the northward for he considered it his prerogative since he had a contract with Charles V to this effect. From the time of his abortive attempt to colonize La Paz, Cortes had made no tangible effort to explore

northward other than to have several ships constructed on the west coast of New Spain. This failure to send out expeditions, Cortes reported in 1538, was due to a shortage of pilots which he was planning to resolve by sending to Spain for some.

Obviously Cortes remedied the shortage, because the next year he sent out Francisco de Ulloa with three ships which, as far as California is concerned, was Cortes's most important. Ulloa journeyed up the Gulf of California, losing a ship along the way, and reached the head of the Gulf. Here he saw the Colorado River, but made no effort to cross the shoals. He then passed down the east coast of Baja California, rounded the tip, and sailed up the west coast to about the Cedros Islands. The most important result of this expedition was the establishing of Baja California as a peninsula, a fact soon lost sight of by map makers.

This expedition was Cortes's last, and it did not slow up Mendoza's plans for penetration of the north. Cortes sailed to Spain in 1540 to push his claims at court; he did not return to the land he had conquered. Thus Mendoza's second rival in New Spain left the field of contest.

Cortes's departure, if at all, left only a temporary void in exploration northward by way of the sea. One of his former lieutenants was soon to appear on the scene and in cooperation with the Viceroy was to take up the slack which had been left by Cortes.

Cortes had been motivated by rumors of an island to the north, inhabited only by women, which was rich in pearls and gold. This opinion was the forerunner of others which moved the Spaniards to seek knowledge of the mysterious North. Cortes was also motivated by the universal belief in the Straits of Anian which ran from ocean to ocean and was a short cut to the Orient.

Mendoza, too, believed in the mythical straits, but before he was to take any action in locating them, he was to seek the fabled riches to the north which Cabeza de Vaca had spoken of and which Friar Marcos had confirmed.

The Viceroy would liked to have personally led the expedition but matters in Mexico needed his attention. To go in his stead he chose Francisco Vasquez de Coronado, a gentleman who had risen rapidly since his arrival in the New World with Mendoza. Coronado had married into wealth and had executed well several assignments

given him by the Viceroy. He had just been appointed governor of Nueva Galicia.

The place of assembly and embarkation for the expedition was Compostela in Coronado's own province. It was a grand army, well equipped and full of enthusiasm for the adventure which lay ahead. The expedition departed in February 1540, and marched northward. At Corazones, Cabeza de Vaca's Valley of the Hearts, a garrison was left under Melchior Diaz, part of which was instructed to explore westward and attempt to contact the supply ships under the command of Hernando de Alarcon.

If one were to think of Mendoza wielding a trident to probe the Northern Mystery, Hernando de Alarcon would be considered the middle prong, flanked by Coronado and Cabrillo. Alarcon's area of the Northern Mystery to penetrate was the Gulf of California. His principal mission was to carry supplies to Coronado's army, but he was also to "report on the secret of the gulf."

Alarcon sailed up the Gulf of California in two vessels, acquiring a third along the way, and stopping occasionally in an effort to locate Coronado's army. Having failed to make the desired contact, he continued on to the head of the gulf. Ulloa the previous year had reached this point. Alarcon knew he had, and this information may have been an important factor in his decision to cross the dangerous shoals at the head of the gulf. Alarcon wanted to be a discoverer. Following a tortuous watery path, twisting this way and that, and at one point running aground, Alarcon slowly made his way across the shoals and anchored his ships at the mouth of the Colorado River. From this point he took small boats and with the aid of Indians pulling on the bank, slowly ascended the river, eventually reaching a point between the present city of Yuma and the confluence of the Gila and Colorado Rivers. Here he left a cross and letters telling of his efforts to locate Coronado. Several months later Melchior Diaz discovered the cross.

Diaz had traveled from the Valley of the Hearts, apparently over the Camino del Diablo as Bolton indicates, to a place on the Colorado River north of the Gila, arriving there in December 1540. He journeyed downstream to Alarcon's cross, then retraced his steps and crossed the river at a place about five days' march above Yuma, probably near the present town of Blythe. Thus was Diaz the first recorded European to set foot in the present state of California. Alarcon had seen the state and may have gone ashore on its banks.

He went ashore a number of times, but there is no indication on which side of the river. It is known, however, that his cross was placed on the east side of the Colorado River.

Meanwhile Coronado was still seeking the wealth of the north. He and his army reached the town Fray Marcos had viewed from the hill-top and found not the riches of which the friar had spoken. Disappointed, and incensed at the friar, Coronado was lured further northward by Indians who spoke of great splendor and wealth at Quivira, in the present state of Kansas. Here, too, they found no riches, and with disappointment in April 1542, Coronado turned southward toward Mexico. His expedition was momentous, although Coronado would not have viewed it as such since he failed to find riches. He and his men were the first Europeans to travel over a vast section of the present United States. Not only was the land explored through which the main body passed, but also several side expeditions, such as the one under Cardenas which discovered the Grand Canyon, revealed to the European World the character of this section of the Northern Mystery. The records of Coronado's expedition are the first written account we have of this vast land and its Indian inhabitants, and these records have been utilized extensively by historians, archaeologists, anthropologists, and ethnologists in seeking to understand our past.

About the time Coronado arrived in New Galicia from his search for the fabulous Seven Cities of Cibola, another expedition was leaving Navidad, Mexico to penetrate the western side of the Northern Mystery. It consisted of two vessels under the command of Juan Rodriguez Cabrillo.

Juan Rodriguez Cabrillo sits upon the pages of history as an enigma. His life can be traced only as far back as 1520 and from there on it is at best sketchy. Even his name raises a question, and his nationality cannot be proved with absolute certainty. That he was Portuguese, however, there is little doubt.

The name Cabrillo (the Spanish form), or Cabrilho (the Portuguese), is unknown in Portugal as a family name. It has been suggested that possibly he came from one of the several towns in Portugal named Cabril and that he used this as a basis for Cabrillo which he attached to his name to distinguish himself from the numerous other Juan Rodriguezes in the New World. That this is true is borne out to some extent by the fact that he signed at least one document simply "Juan Rodz."

Cabrillo first appears upon the pages of history in 1520 when he came with Narvaez from Cuba to arrest Cortes. In 1519 Cortes had been dispatched by the Governor of Cuba to conquer Mexico. With audacity, daring, and the skillful playing of one group against another, he was succeeding in his task. But in so doing he angered the governor of Cuba. The governor then gave to Panfilo de Narvaez an army larger than Cortes's, charging him to arrest and return Cortes to Cuba. Narvaez journeyed to Mexico, landed at Veracruz, marched out, met Cortes in battle, and was defeated. A generous and judicious application of promises and gold by Cortes permitted his victory over the numerically superior army. After the battle, most of Narvaez's men, including Juan Rodriguez Cabrillo, joined Cortes's army.

Cabrillo was not an important individual at this time; at best he was possibly a corporal of crossbowmen. Later, according to the manuscript of Bernal Diaz del Castillo's history, he assisted in building the ships Cortes used in the conquest of Mexico. But this is a momentary glimpse, and the only one we have of Cabrillo during this period.

After the defeat and subjugation of the Aztecs, Cortes sent one of his chief lieutenants, Pedro de Alvarado, to Guatemala to conquer that territory. With Alvarado went Juan Rodriguez Cabrillo.

The conquest of Guatemala followed a bloody course, and Cabrillo served valiantly. Afterwards he was given several encomiendas, or estates, as reward for his services.

The period that followed the conquest was one of comparative tranquility for Cabrillo. He returned to Spain where he married Beatriz Sanchez de Ortega, the sister of a fellow conquistadore. He settled down, had several children, and developed his business interests in Guatemala, which included mining, shipping, and farming.

In the meantime, the restless and ambitious Alvarado was attempting to gather further wealth and glory. During the early 1530's Alvarado heard of the success and wealth Pizarro was garnering in the conquest of Peru and decided that the shortest road to fortune and fame lay in the direction of that country. The results of Alvarado's expedition there were not auspicious, and he turned his ambitions northward.

In 1539 Alvarado received from the Spanish Crown a license to explore the South Sea (Pacific Ocean) with the prime purpose of

locating the Spice Islands. To accomplish this purpose, Alvarado had need of Cabrillo, who had a reputation as a "person very skilled in matters of the sea." Alvarado asked Cabrillo to be his second-in-command of the northern expedition with the title of almirante, or admiral. Cabrillo assented and was given the task of raising the fleet necessary for the expedition. At Iztapa in Guatemala Cabrillo gathered together 12 or 13 vessels. When the fleet was collected Alvarado and Cabrillo sailed north along the coast, eventually arriving at Navidad in Mexico.

At Tiripitio Alvarado went into conference with Viceroy Mendoza. The license Alvarado had received from the Crown stated that Mendoza was to receive a one-third interest in the expedition. This arrangement, of course, did not especially please Alvarado, but there was little he could do about it. He did hope, however, to receive some recompense for this share. As a result of the conference, Mendoza received a one-half interest in the expedition, but in return, Alvarado received a half interest in the expeditions Mendoza was sending out.

After the conference and before he could depart northward, Alvarado was called upon to help suppress a native uprising--the well known Mixton War. Alvarado responded with alacrity, went out, met the Indians in battle and was disastrously defeated. During the retreat he was crushed by his secretary's horse which toppled on him in a panicky effort to climb a rocky incline.

With the death of Alvarado the fleet fell into the hands of Mendoza. In November 1542 several of these ships were given to Villalobos for use in an expedition to the Philippines. Bollenos probably used several more for his exploring expedition up the west coast of Baja California. Bollenos's expedition did not reach as far north as the Cedros Islands.

In 1542 Mendoza gave two ships--the San Salvador and the Victoria--to Cabrillo and ordered him to explore to the north. Cabrillo's exact instructions are not known. It seems apparent from the evidence that one specific objective was to locate the mythical Straits of Anian. These straits, theoretically, extended from the east coast of the New World to the west coast and were a short cut to Cathay and Cipango (China and Japan). Spain was anxious to find them first.

On June 27, 1542 Cabrillo and his two ships departed Navidad and beat their way up the coast of Mexico, stopping first at Cape Corrientes. They continued northward, then cut across to Baja California at Cape Pulmo. Rounding the tip of Baja California, they sailed up the west coast. Cabrillo paused often along this coast to gather food, water, and wood, look around to see what the land was like, talk to the Indians, and to name several places. He reached the Cedros Islands, spent a few days there, and then proceeded onward. On August 21 the ships arrived at what is now the Bay of San Quentin. Here Cabrillo went ashore and for the first time claimed land for Spain. This act indicates the northern extent of previous Spanish explorations on the west coast, especially that of Ulloa who had journeyed along this shore in 1539. Cabrillo named this place Port Possession and spent a week there.

Proceeding northward slowly, stopping often, the ships on September 27 passed three islands "completely denuded of soil." These islands are just 18 miles off the tip of Point Loma and are known today as Los Coronados Islands. Cabrillo named them the Desert Islands. The next day, Thursday, he sailed into what is now the Bay of San Diego and anchored just outside the harbor. On the following day he sailed into the harbor. Cabrillo named this port San Miguel after St. Michael whose feast day is September 29. The harbor was described as being "closed and very good" since Cabrillo's ships rode out a storm here and "did not feel it at all." This was the first of many storms the expedition encountered on the trip. Cabrillo talked to the Indians in this port and described them as being "comely and large" and going about "covered with skins of animals." At first the Indians weren't too friendly--they wounded three of Cabrillo's men when they went ashore to fish. He captured some boys and gave them presents, and thus he lured other Indians to him.

The Indians Cabrillo met in this harbor were ancestors of those which came to be called Diegueno; their name deriving from the Mission San Diego de Alcalá. The Dieguenos were of Yuman stock and their boundaries coincided roughly with those of San Diego County. Generally, the men went about naked and the women wore only small aprons, one in front and one behind, made of agave fibre or willow bark. During cold weather the men wore about their shoulders robes made of rabbit skins. During warm weather the Dieguenos slept out-of-doors, but for the winter they built small elliptical huts of poles which were thatched with brush.

These Indians killed rabbits, woodrats, gophers, and ground squirrels for food. Other animals, such as deer, bears, and mountain lions were occasionally taken for the same purpose. A staple in their diet was a mush made from acorns. Those along the coast also ate fish, mollusks, and seaweed.

Their principal weapons were bows and arrows and clubs. For hunting they also had flat, curved throwing sticks. The main industry of the women was the manufacture of pottery and basketry. They excelled in basketry and examples they left compare favorably with any produced by other aboriginal cultures in North America.

The Dieguenos had localized, patrilineal clans, and marriage had to be exogamous. The hereditary clan chiefs presided at ceremonies and acted as official hosts on important occasions.

The Indians in San Diego told Cabrillo, by signs, that there were other men like him roaming about in the interior. This story was not new to Cabrillo, nor was it the last time he heard it. The Indians at San Quentin first mentioned other Spaniards who were inland. All along the coast to just south of Point Conception the aborigines told Cabrillo of the men like him who had beards, cross-bows, lances, wore armor, and rode horses; even on one of the Channel Islands Cabrillo heard about these men. No doubt the Indians were referring to Alarcon or Diaz, but it seems apparent Cabrillo did not know who these men were. Cabrillo and Alvarado had met Alarcon on his return from the head of the gulf, and Cabrillo had departed Navidad after Coronado was well on his way back to Mexico City. He must then have thought that another expedition had been sent out, because at one point he dispatched letters by Indian runners to these Spaniards, and at another time he at least contemplated sending two of his crewmen to join the men of whom the Indians spoke.

It is fairly easy to identify the places Cabrillo visited from Navidad to his San Miguel. From here northward, however, considerable difficulty is encountered, due to the meager description of the ports and the imperfect 16th century navigational equipment. Several historians have worked on Cabrillo's route, but the two who have worked more diligently and successfully are Herbert E. Bolton and Henry R. Wagner. In a number of places these two fine historians disagree on location. Both qualify their locations with such words as "probably" and "most likely." It would seem to this writer that Wagner was more accurate since he worked at

a later time than Bolton when more evidence, such as early maps, had been uncovered. Also, Wagner's reasons for specific identifications seem more plausible. For these reasons the places named hereafter where Cabrillo stopped follow Wagner. This identification, however, is not to be taken as definitive. There is still considerable doubt on several places, and maybe sometime in the future other evidence will turn up which will permit the historian to define Cabrillo's route exactly.

After six days in the port of San Miguel, Cabrillo departed. He passed two islands, the present islands of Santa Catalina and San Clemente, which he named San Salvador and Victoria in honor of his ships. He stopped at one of the islands, but which one cannot be ascertained. He then sailed over to the coast apparently at what is now San Pedro. He names this place Bahia de Los Fumos (Bay of Smokes) "on account of the many smokes they saw there." These "smokes" were probably Indian fires.

The next day the two ships sailed out of the bay and continued up the coast for six leagues, where they anchored overnight. On October 10 they arrived at Mugu Lagoon. Here, the summary log says, "we saw on the land a pueblo of Indians close to the sea, the houses being large like those of New Spain." A number of Indians came out in canoes to greet them, and Cabrillo named the town Pueblo de Las Canoas. The ships remained here until the following Friday, the 13th, and then moved slowly up the coast until five days later when "they drew near to a headland which forms a cape like a galley, and named it Cape Galera" (Point Conception). Along this coast they had stopped often, and at each place they were visited by local Indians who pointed out to them and named the various towns. Between Mugu Lagoon and Point Conception Cabrillo noted more than three dozen towns, and he described the coast as being "very thickly settled."

The ships then made an effort to round Cape Galera, but were unable to do so because of adverse northwest winds; so they came about and discovered, the best evidence indicates, the northernmost of the Channel Islands, the present island of San Miguel, which Cabrillo named La Posesion. On going ashore on this island Cabrillo slipped and broke a limb. Eye witnesses to the event said it was his leg; the summary log says that it was his arm. All agreed, however, that the injury was on the right side of the body.

They spent a week here and on October 25 departed. Again they encountered contrary winds and with considerable difficulty slowly beat their way up the coast. By November 1 they were only a few miles north of Cape Galera. On that day heavy winds forced them to turn back and seek shelter under the cape.

On November 6 they once again started north. The winds were light, and it wasn't until the 10th that they actually rounded the Cape. Shortly thereafter the winds improved, and the two ships skimmed northward with a bone in their teeth. The night of the 11th they encountered a gale which was so severe that "they could not carry a palm of sail, and were forced to scud with a small foresail, with much labor, the whole night." "The storm was as severe as any there could be in Spain," says the summary log. The flagship lost sight of the escort vessel, and "they greatly feared she might be lost." For two days the flagship prowled along the coast anxiously searching for the Victoria. Meanwhile, the San Salvador passed San Francisco Bay, which was not seen, and reached Cabrillo's most northerly point, either the vicinity of Fort Ross or Point Reyes. On the 15th the escort vessel was finally sighted, and the men on the flagship "heartily thanked God, for they had thought her lost." The men of the Victoria were probably even more overjoyed at having survived the storm. They had suffered much, since their ship was smaller than the flagship and had no decking.

After reuniting, the two ships continued down the coast and on November 23 arrived at the island Cabrillo had named Posesion, where Cabrillo decided to spend the winter.

On this island on January 3, 1543, Juan Rodriguez Cabrillo died as a result of the limb broken the previous October. Gangrene probably had developed. Cabrillo was a man of duty, and before he died he admonished his chief pilot, Bartolome Ferrelo, to continue the voyage and "to discover as much as possible of all that coast." Although it is not indicated in the summary log, Ferrelo and his men probably buried Cabrillo on the island; and to honor their captain, Ferrelo changed the name of it to Isla de Juan Rodriguez.

Sixteen days later Ferrelo left the island with the two ships and moved to the mainland to obtain food for the northern voyage. On February 14 they anchored at "San Sebastian Island" (apparently Santa Cruz) "in order to make sail to run out to sea . . . ." On the 18th they departed on a long tack to the southwest "because they were told . . . there were some other islands" in that

direction. The two ships reportedly traveled 100 leagues to the southwest before coming about to the north. By the 25th they had attained their previous most northerly point and were pushing onward into uncharted waters. During this whole northern trip the winds were vile. Most of the time the ships headed in a general northerly direction, but on occasion the winds forced them to come about and run to the south. At one point the storm became so severe that the men considered "themselves lost [and] commended themselves to our Senora de Guadalupe and made their vows." They came out of this crisis in one piece, but a few days later the sea rose so high "that it set them [to] wildly crying out that if the Lord and His Blessed Mother did not miraculously save them they could not escape." Again they survived, but to find that all they had to eat was "some damaged biscuits."

Before the storms forced them to turn back, the ships had reached the area of southern Oregon. In that latitude, however, they did not sight land; the winds had forced them too far to seaward and had also reduced visibility. They did see birds and fresh logs which had been brought down from the interior by some of the northern rivers, and this evidence indicated to them that land was not far distant.

As they ran down the coast they sought a port to shelter them from the storms. Finding none, Ferrello decided to return to Juan Rodriguez Island. Here the heavy seas prohibited their entering the port and forced them to find a haven under a neighboring island. As they had neared their wintering place, on the night of March 5, the Victoria once again disappeared. The crew of the San Salvador "suspected that the sea had devoured her."

The winds finally abated, and on March 8 the flagship headed south looking for the Victoria. Ferrello stopped occasionally at previously visited ports to seek news of her, but the Indians could tell him nothing. The San Salvador returned to the port Cabrillo had named San Miguel (San Diego) and waited six days. But the wait was in vain. On the 17th the flagship once again moved southward. The San Salvador paused every so often to wait a day or two for the escort vessel, but it didn't appear. The flagship reached the Cedros Islands and waited two days. Finally the Victoria hove into sight. There was much rejoicing among the men, and on April 2 the two ships set sail for Navidad, arriving there April 14, 1543.

The voyage had been long, dangerous and arduous; one the participants could speak of with pride and boast of to their grandchildren. The

ships these men sailed in were small; the large one probably did not exceed 100 feet from stern to bowsprit. The ships had been constructed in the New World and were not as finished nor as well built as those fashioned in Spain. Only one of them was even partially decked. Anyone who has been to sea cannot help but have empathy with these men as the sea arose and the waves came crashing over the side dousing everything, men, food, and clothing. One suffers with them in their discomfort.

These men sailed into waters where no European had been before; they did not know what lay ahead. It must be kept in mind that these men were ordinary humans with ordinary fears. They did not always stand cool in the fray as we tend to think of explorers and adventurers, and they could become frightened. One time while entering the harbor at Juan Rodriguez Island, which had a narrow channel, the ship came near foundering, and the men became so frightened that they swore to "Our Lady" that if they were permitted to get through safely that on their return to Mexico they would all go to church stark naked. The fact that both ships returned, with the apparent loss of only two lives, indicates that the men were able to conquer some of their fears, enough at least to bring the ships safely through. That the ships returned is a fine tribute to the skill of these peerless mariners who had sailed along the western coast during the season of the year when storms are most prevalent.

It should be remembered that the navigational equipment used can generously be termed primitive, and due to it Cabrillo and Ferrello were consistently off from one totwo degrees in latitude.

Nothing was done about the new land that Cabrillo had discovered until some 60 years later, in 1602, when Sebastian Vizcaino was sent north to look for possible settlement sites and to try to find the mythical Straits of Anian. Before he left Mexico Vizcaino was given instructions not to change the names of any places given by previous explorers. Since Cabrillo was consistently off in latitude, Vizcaino used this inaccuracy as an excuse and said he was unable to identify the various places Cabrillo discovered. He proceeded to give them his own names. When he reached the fine harbor Cabrillo had named San Miguel, Vizcaino named it San Diego. That name has remained, as have many of Vizcaino's along the west coast. Unfortunately, practically everyone of Cabrillo's has faded away.

The veil of mystery shielding the land to the north had been penetrated and rolled back by De Soto in the east, Coronado in the middle, and Cabrillo in the west. But for a number of years the Spaniards made no real effort to take advantage of the new land revealed to them, probably because it contained not the immediate wealth Mexico had produced.

It was a neglected land. On the west coast no effort was even made to extend knowledge of it until 1587. The only purpose the shore served was as a mark for the Manila Galleon to turn southward. It is doubtful that many of the galleons even saw the shoreline since the southward turn was made several hundred leagues before reaching the coast.

The first attempt after Cabrillo to gain further knowledge of the west coast was made in 1587 when the Viceroy of New Spain ordered Francisco Gali to make a thorough reconnaissance of the coast from as high a latitude as possible. Gali, as commander of a Manila galleon, had reported sailing along the coast from  $37^{\circ} 30'$  southward and gave a brief description of what he saw. The voyage of reconnaissance was to begin at Manila since he was also instructed to locate several islands, two of which were latter day Cibolas, Rico de Oro and Rico Plata. Gali, however, died before beginning the journey and command was turned over to Pedro de Unamuno.

Unamuno shortly began the trip but soon met misfortune in Macao and lost his two vessels. Purchasing a smaller ship, he left Macao on July 12, 1587. On October 18 the ship arrived at a port in  $35\frac{1}{2}^{\circ}$  which Unamuno named San Lucas, and which has tentatively been identified as Morro Bay. He did considerable exploring of the area and had a fight with the natives. He recommended this port as a fine stop-over for ships in distress, since it had plenty of fish for food and trees for masts. Departing San Lucas on October 21, he sailed southward but did not see the shore because of "thick weather," and made no landing. He arrived at Acapulco on November 22, 1587. His voyage was soon forgotten. In the instructions given to Sebastian Rodriguez Cermeno less than ten years later, no mention was made of Unamuno or his voyage.

Luis de Velasco, appointed Viceroy of New Spain in 1589, became concerned immediately with the Philippine trade. Especially was he worried about the sketchy knowledge of the coast of Alta California because there were no known ports where ships of the trade could put into in case of sickness, shortage of supplies, or

need of repairs. Upon receiving royal permission the Viceroy appointed Cermeno, a Portuguese, to undertake the expedition. On July 5, 1595, Cermeno left Manila and sailed east sighting the California coast just short of 42° latitude in early November. Passing down the coast he arrived at Drake's Bay on November 6. At this place, which Cermeno named San Francisco, he and his men spent a month and two days, not because they were entranced with the place, but because it took them that long to outfit a launch to replace their vessel which had been shipwrecked. Remains of this wreck were to be uncovered 355 years later by archaeologists digging in former Indian sites in Drake's Bay. In the launch they continued their reconnaissance of the coast. Monterey Bay, which Cermeno named San Pedro, was passed. They stopped at a bay, probably that of San Luis Obispo, where the Indians knew the word "Christian" and "Mexico," an echo no doubt of some previous expedition along the coast, but which one cannot be ascertained the least degree. Continuing down the coast they stopped by the islands of Santa Rosa and Santa Cruz. From these islands they journeyed down the coast noting its character, apparently missing San Diego Bay entirely, and stopping next at San Martin Island in Baja California. They continued sailing down the coast, noting its configuration and stopping occasionally, and ended the expedition in late December on arrival at the port of Chacale, north of Cape Corrientes.

The trip had been arduous. The expedition had been shipwrecked and had to continue the journey in a small launch which obviously could carry little food. On several occasions Cermeno bartered with the Indians for food, obtaining such unaccustomed items as acorn mush, and "some cakes made of a root like the sweet potato" which made all hands "very sick." The fish the men were able to catch sustained them several times. One large "dead fish with two mortal wounds" lasted the 70 voyagers for eight days.

The voyage had been fraught with hardships but it added important details to the general framework of knowledge of the western coast given originally by Cabrillo's voyage.

Seven years later more detail was added to knowledge of the coast when Sebastian Vizcaino was dispatched north to explore it. One of the prime purposes of this voyage was to locate a good harbor which could be used as a stop-over by ships of the Philippine trade. Evidently Cermeno's report was not considered satisfactory.

Vizcaino was a merchant who thought of himself as a colonizer and explorer. He had come to Mexico about 1585 and immediately became

interested in the China trade. Between 1586 and 1589 he made at least one trip to Manila because he was on the Santa Ana when it was captured and burned by the English pirate, Thomas Cavendish, off the coast of Baja California in 1587. In the 1590's he made several attempts to explore the Gulf of California, and to establish a colony on the peninsula, hoping to harvest pearls. All efforts were unsuccessful. Then in 1602 he received permission to explore the outer coast of California.

The purpose of Vizcaino's voyage was not only to search for good ports for ships of the Philippine trade, but also to look for the Straits of Anian, a myth which continued to exercise influence on Spanish thinking from the time of Cortes.

On May 5, 1602 Vizcaino and his three vessels departed Acapulco. With him as chief pilot was Francisco de Bolanos who had been on the Cermeno expedition. A month and three days after leaving Acapulco the expedition arrived at San Lucas in Baja California; it had taken them five days of slow tacking against strong westerly winds to cross the Gulf of California to Baja California. Stormy weather kept them here until July 5. Once again headwinds impeded their journey, and it took them 13 days to tack the little over 88 miles to Santa Marina Bay. They did not enter but sailed further north to Magdalena Bay. The winds had separated the vessels but they were reunited here. Leaving this bay on the 27th of July, they continued their journey slowly northward and on August 30 arrived at the Cedros Islands. Their trip had been slowed by the winds and by the voyage's purpose of seeking suitable harbors. From here the voyage continued slowly northward. The winds were less contrary, but the expedition stopped more often to obtain water and to look around. On November 9 they discovered "three farallones . . . a little more than two leagues from the mainland, and a very large bay." The islands were Los Coronados and the bay that of San Diego. Passing over the kelp "as if it were a green meadow," the ships entered the harbor on November 10. Vizcaino gave the port its present name and said it "must be the best to be found in all the South Sea." Ten days were spent in this port during which time Vizcaino met the Indians, held mass, had the vessels scoured, and collected food, wood, and water.

From here they passed up the coast and to the Channel Islands. On Santa Catalina a party went ashore. The Spaniards noted the Indians on this island and were impressed with the women whom they termed

modest, but they considered the men thieves who would take anything unguarded.

Departing the island on December 1, Vizcaino decided to speed up the journey because winter was rapidly approaching. They sailed through Santa Barbara Channel, greeted occasionally by Indians in canoes. As Cabrillo had, they noted the great number of Indians along the coast of the mainland. Apparently in the vicinity of Point Conception the little fleet was struck by a southeaster which did not abate until the ships were in the vicinity of Monterey Bay. They arrived at Monterey on the evening of December 16. All were enthralled by the bay and the surrounding land, feeling that it would be a good way station for the Manila Galleon, since the surrounding land possessed abundant game for food, a fertile soil, good trees, and peaceable Indians.

Much sickness had plagued the seamen, and food and medical supplies were critically short. Because of this unhappy situation Vizcaino decided to send one of the ships back with the sick and reports of the voyage to date. Vizcaino revealed his secret orders to explore the Gulf of California on the return voyage; so, the returning vessel was also instructed to secure supplies in Acapulco for this phase of the expedition. On December 29 the ship was dispatched southward.

Several days later, on the sixtieth anniversary of the death of Cabrillo, the two remaining vessels left the bay to continue the journey northward. They passed Drake's Bay and noted it as the site where Cerameno had lost his ship. Vizcaino had no intention of entering the bay, but "an exceedingly strong northwest wind" forced him to seek shelter in the bay where they remained until the next morning when an offshore wind permitted the ship to skirt the coast. This storm also separated the two vessels and the flagship did not see the smaller ship until both had returned to Mexico.

The flagship sailed to Cape Mendocino where stormy weather influenced the decision to turn back. An even more impressive reason for heading southward was the sickness among the men and the shortage of food. Scurvy had decimated the crew for the "mouths of all were sore, and their gums were swollen larger than their teeth, so that they could hardly drink water . . . ." Moreover, there was no food "to give them except rotten jerked beef, gruel, biscuits, and beans and chick-peas spoiled by weevils." The urgency of returning was so great that the flagship did not even pause to wait for the other ship to appear. A stop at the Cedros Islands to obtain water proved

the men so weak that only 12 quarts were taken aboard. Proceeding southward, the rounded Baja California and headed for the nearest port which was Mazatlan where, after much difficulty, they secured food and fruitlike agaves which cured their sore mouths in less than a week.

Meanwhile, the small ship had been forced further northward by the storm and reached Cape Blanco, more than a degree above the northernmost point of the Flagship. They came about and headed home stopping at several previously visited ports including that of San Diego.

In some respects this expedition was more arduous than Cabrillo's. The expedition was better outfitted and the ships were probably better constructed. Also these men were sailing along a coast about which something was known, because there had been at least four previous reports of the coast from which Vizcaino could obtain knowledge. He had some idea of what lay ahead. But like Cabrillo's, Vizcaino's expedition eventually suffered from a shortage of food, and the crew was afflicted dreadfully with scurvy. Whereas apparently only two men died on the Cabrillo expedition, a great number died on Vizcaino's. The small ship, for example, returned with only six men, the remainder having died of sickness and the cold weather.

In one respect only was Vizcaino's voyage more significant than Cabrillo's. It is the first detailed account we have of the western coast of the United States and its aboriginal inhabitants. Also, it has left a greater imprint in the annals of early Spanish explorations, for the names Vizcaino gave to various places quickly supplanted Cabrillo's on the maps of the New World, and many have remained to the present day.

Upon his return to Mexico Vizcaino agitated for the establishment of a way station for the Manila Galleon at Monterey and San Diego, but his efforts were for naught. Failure to be heeded was due in part to a change in viceroys, which occurred shortly after Vizcaino's return. The new viceroy was opposed to the idea, arguing that by the time the Manila Galleon reached the vicinity of the California coast, it was on the last leg of its journey and just a short time from New Spain. Also, about this time the fabled Rico de Oro and Rico de Plata Islands loomed large in Spanish thought. These islands, supposedly located near Japan, were more logical locations for way stations, many contended, since they were about midway on the eastward route from the Philippines to New Spain. Vizcaino had failed

to win his point, and he led an expedition which sought the Gold and Silver Islands.

For 166 years after the voyage of Vizcaino the western coast to the north of New Spain served only as a landmark for the eastbound Manila galleons. In order to obtain proper ocean currents and winds to carry the galleons east, it was necessary for the vessels to sail northward from the Philippines to the vicinity of the fortieth parallel; thence, eastward to the vicinity of the California coast, and then southward to Mexico. The whole voyage took four to six months and was generally punctuated with storms. Scurvy was common, and there was generally never enough food for the complete journey. Living conditions aboard ship at best were appalling for passengers and seamen alike. Before sighting the coast of California, senas or signs of land, would be seen; that is, seals, kelp, and large bunches of matted grass called balsas would appear in the water. After such a long and arduous journey there is little wonder that the senas would signal a period of great rejoicing. In a ceremony, akin to that found in the U. S. Navy at the time the equator is crossed, seamen would sit in mock judgment on their superiors. The captain of the galleon might be brought before the court on some outlandish charge and be sentenced to death. The sentence would be commuted on payment of money, candy, or wine.

Sometimes the order to turn southward came at the sighting of the senas; at other times the signal did not come until land was actually seen. In any event the only useful purpose the land now known as the western coast of the United States served the European world was as a landmark.

The settlement of the west coast, or Alta California, was not to come about with simply jumping from Sinaloa or some other province in New Spain to this land; it came about with a gradual movement up the peninsula of Baja California.

During the latter part of the 16th century and most of the 17th, Baja California was looked upon primarily as pearl hunting grounds. Vizcaino was one among many who led expeditions to this peninsula to harvest pearls. Toward the end of the 17th century the Council of the Indies began to think in terms of colonizing the Californias if for no other reason than to christianize the Indians. Prior to this there had been several attempts by private individuals at colonization, but each effort resulted in failure and pointed up the fact that private means were inadequate for such a venture,

and that the greater financial resources of the state would be needed if colonization were to be successful. The first government financed effort was in 1683 with Isidro Atondo y Antillon as leader. But the attempt failed after two years and expenditure of a vast sum of money.

A Jesuit priest, Father Francisco Kino, who had been with Atondo was filled with enthusiasm for Baja California and the missionary possibilities there. He infected his colleagues in Mexico with his enthusiasm, and they eventually secured a license from the Spanish officials to attempt colonization. The license stipulated, however, that the Jesuits had to finance the endeavor themselves. As a result the Pious Fund of the Californias was established which became the principal financial support for the Missions of Baja California and later for the ones of Alta California.

When the expedition was finally undertaken it was led by Father Juan Maria Salvatierra; Father Kino was by now involved in activities in Pimeria Alta and could not go. Father Salvatierra took the little expedition to a place named Loreto and here established the first mission. He was not only the religious ruler of Baja California but also the civil governor, and under him and his successors, principally Father Juan de Ugarte, the mission movement spread over the peninsula. By the time of their expulsion in 1768, the Jesuits had established 23 missions in Baja California, of which 14 had proven successful, and had explored and charted the peninsula to within 100 miles of the present Mexico-United States border. It was the Jesuits, during their tenure in Baja California, who established to everyone's satisfaction that the Californias were not an island. The expeditions of Ulloa and Alarcon in 1539-1540 had had little effect upon map makers.

In 1767 the Jesuits in Baja California were affected by the general Spanish decree expelling them from all their dominions, and were told to leave the peninsula. At the same time the government of the province was taken from the ecclesiastics and given to the military. The governor appointed at this time was Captain Gaspar de Portola. The missions were turned over to the Franciscans, and in 1768 they arrived in Baja California with Junipero Serra as their leader.

The gradual movement of the missions would have resulted eventually in the settlement of Alta California, but the occupancy of the land

was impelled forward at a faster rate by the arrival in New Spain of the visitador general, Jose de Galvez. Galvez's visita lasted six years, from 1765 to 1771, and during this period he devoted considerable time to the movement northward of the frontier in the Californias.

In order to facilitate northward expansion Galvez proposed, and had approved a plan whereby a new territory embracing Nueva Vizcaya, Sinaloa, Sonora and the Californias was to be established. It was to be called a comandancia-general, and a port at San Blas would be the base for supplies to the frontier. Alta California played an important part in Galvez's plans, and, no doubt influenced by Vizcaino's report, Galvez envisioned the occupation and colonization of Monterey and San Diego.

In 1768 Galvez visited Baja California and pushed the plans for the expedition to Alta California. Gaspar de Portola was appointed commander of the expedition and Father Serra was named president of the missions to be founded in Alta California. The expedition was sent out in four parts, two being sent by sea and two going by land. In April of 1768 the two ships arrived in the port of San Diego and the next month the first overland party arrived. On the first of July the last group, which had with it Portola and Serra, reached San Diego. It was a sad looking group which greeted Portola. All but two seamen on one of the ships had died and only eight crewmen of the other ship were well enough by July to man their vessel. Many of the soldiers who had made the overland march were ill. When, two weeks after his arrival, Portola decided to push on to Monterey, he could must just 63 men.

The first trip to Monterey was abortive, and the little expedition sustaining themselves on one mule a day, returned to San Diego to find that the remainder of the expedition was alive, although they had experienced much sickness and difficulties with the Indians. More hardships were later encountered and the propitious arrival of a supply ship from San Blas probably saved the colony from abandonment.

Portola made another journey to Monterey in the spring of the following year and arrived there May 24, 1770. The next month the town was officially established. With this founding Portola had completed his assigned task. He turned over the reins of government to his lieutenant, Pedro Fages, and departed for Mexico.

The settlements in Alta California were on a firm footing. This permanent colony was the most significant event in the history of the west coast since its discovery and exploration by Juan Rodriguez Cabrillo in 1542. The occupation brought to its natural conclusion the train of events which had its inception with Cabrillo 227 years previously.

Thus San Diego was settled. With its growth came the feeling that it needed protecting, and what better place for a fortification than at the entrance into San Diego harbor. Stung by a remark the English explorer, Vancouver, made concerning the defenseless position of San Diego, the local officials laid plans for the construction of a circular fort at the tip of Ballast Point. But on advice of an engineer it was decided to construct an adobe fortification with two wings mounting ten guns at the hilt of the point. The installation was named Fort Guijarros, deriving the appellation from its location at Punta de los Guijarros (Cobblestones). It wasn't until later that the point was given its present name of Ballast Point by the Yankee traders.

Fort Guijarros was not a very active fortification, having fired only several ineffective shots in anger during its period of existence. This action occurred in 1803 when a ship, the Lelia Byrd, which was suspected of contraband dealings was fired upon when attempting to leave San Diego Bay. In time the fort fell into disuse and in 1840 was abandoned.

Thirty-two years later coastal defenses were begun once again on Point Loma and at the site of the former fortification. In 1872 plans were laid to construct earthen seacoast batteries for 15 guns, and the following year work was begun. Considerable progress was made until 1875, when work was suspended for 15 years due to Congress's failure to appropriate money for seacoast defenses. Work was resumed on two emplacements in 1897, and a third was completed the following year. In 1899 the installation was officially designated Fort Rosecrans in honor of Major General William S. Rosecrans of Civil War fame. In the same year four more batteries were constructed. One, Battery Fetterman, was erected directly on the site of old Fort Guijarros.

During World War I the post was active not only as a defense fortification but also as a training area for overseas-bound troops. After the war the fort was affected by the cutback in the armed forces and in 1922 was put on a caretaker status.

With World War II looming on the horizon it was deemed wise to reactivate and expand the coastal defense installations. Shore batteries were built on the ocean side of Point Loma, fire control and searchlight bunkers were dotted about the Point, and antiaircraft batteries were installed. All this work was completed between 1941 and 1943. With the end of the war the installations were abandoned and the guns scrapped, and Fort Rosecrans resumed its caretaker status. Presently the old fortification is used as headquarters for Army Reserve components in the vicinity.

Ballast Point also played a role in the commercial activities of the west coast, and as a result obtained its name. Yankee traders out of Boston came to the Point to pick up the flat, circular stones which cover its shores. They used the stones as ballast in their ships for their long voyage back to Boston; hence the name Ballast Point. In Boston harbor the stones were dumped. Years later the harbor was dredged and the stones which the Boston traders had picked up in California were used to pave many of the cobblestone streets of that city.

The most prominent business the traders engaged in was the hide trade which had been developed by an English firm in 1822. In time the Yankee traders came and eventually a triangular trade developed. New England manufactured goods were brought to the west coast where they were traded for hides. The hides were transported to China and traded for silk goods and porcelain. The Chinese products were then brought back to Boston and sold to buy goods for the next trip to California.

In time San Diego became a center for the hide droghers. Large barnlike structures were erected at La Playa just north of Ballast Point where hides were cured and stored. This area became known as "Hide Park." The best known person who participated in this trade was Richard Henry Dana who was on the coast from 1835 to 1837. He described this activity in his classic book, Two Years Before the Mast. Dana was a crew member of the ship Pilgrim which was the collecting ship for the larger Alert. The Pilgrim would sail up and down the west coast obtaining hides from the missions and private individuals for trade goods. The hides would be brought back to the hidehouses in San Diego for curing and storage, and would later be loaded onto the Alert.

More than 20 years after Dana's departure another industry developed at Ballast Point, which time has given many romantic aspects, but

which in reality resulted in the worst sort of exploitation of a natural resource. By the time of the years just preceding the Civil War, the west coast had become a scene of activity for New England whaling vessels. The center of the activity was San Francisco. An occasional whaler would sail into San Diego for outfitting or repair. The increasing consciousness of the potentialities of the fine San Diego harbor caused the local newspaper to agitate for the local leaders to seek means of luring more whaling ships to San Diego. The effort was evidently in vain, but it apparently encouraged the establishment of a shore-whaling establishment at Ballast Point in 1858-1859. The business proved profitable, and in a few years a second company appeared there.

The prey of these shore-whalers was the California Gray Whale which from December to March swam past Point Loma on their way from their summer feeding grounds in the Bering Sea to the lagoons of Baja California where they mated and bore their young. During the migration season crews from each company would row their boats out to the kelp beds just off Point Loma and there await for a whale to pass. To kill the whales the whalers used a bomb gun; that is, a gun that fired a harpoon onto which a bomb was attached. The bomb would explode after sinking itself into the blubber of the whale. The harpooner would aim for a vital spot, usually the lungs. If his aim were accurate, the harpoon would enter the lungs and the bomb would explode, killing the whale almost instantly. More often than not the harpoon would not strike a vital point, and the exploding bomb would only wound the whale. Then most likely the whale would escape to die elsewhere. If the whale were killed, there was a high probability that he would sink before the whalers could lash the hulk to their boat. Thus whales which had been killed or wounded but not retrieved by the whalers would wash up on a beach, such as at Coronado, and decompose, emitting a powerful stench highly offensive to the nostrils. It was estimated in the 19th century that of the number of whales harpooned by San Diego whalers, only one-third were retrieved and towed back to the trying-out works at Ballast Point.

Once the dead whale was towed back to Ballast Point, it was cut up into huge chunks which were tossed in large cauldrons and tried-out; that is, the meat and blubber were cooked until all of the oil was extracted from it. The process was the same method one used to render lard from hog fat. When it was felt that all the oil had been extracted, the chunks were removed from the cauldron, squeezed,

and then thrown into the fire to act as fuel for the trying-out pot. When the cauldron was full the oil was allowed to cool, and then poured into large wooden barrels.

The whaling companies operated on Ballast Point until 1873 when the impending construction of Fort Rosecrans forced them to move across the harbor to North Island. Toward the end of their tenure at Ballast Point, they began to realize that the gray whales were decreasing in number, and to offset the decline they opened branch operations in Baja California. But this proved only a stop-gap measure because the whales were becoming so few in number that shore whaling out of San Diego soon proved unprofitable. It is hard to tell when all shore whaling activities finally ceased in San Diego, but in view of the rapid decline of the gray whale it can be assumed that for all practical purposes it ended in about the mid-1870's. Remnants of it may have lingered into the 1880's.

Shore whaling operations such as at San Diego and the activities of whaling ships in the lagoons of Baja California made such inroads into the gray whale population that by 1900 the animal was thought extinct. However, the gray whale was rediscovered in 1920, and in 1935 the International Whaling Commission forbade its being taken. Since then the gray whale population has grown, and once again the whale passes Point Loma each year on its journey to the lagoons of Baja California.

With the increased shipping along the west coast and the growing importance of San Diego Harbor, it became apparent to local leaders shortly after the acquisition of California by the United States that aids to navigation were an important need of San Diego. Their concern resulted in a survey being made in 1851 by the federal government and the selection of a spot on Point Loma as the site of a lighthouse. Actual construction wasn't begun until 1854, and on November 15, 1855, a match was touched to the wick in the tower light. Each night for 36 years the flame, magnified many times by the fine fresnel lens, guided shipping along the west coast and into San Diego Harbor.

The site selected for the lighthouse was on one of the highest hills of Point Loma. Perched 462 feet above sea level the light was designed to be seen for about 25 miles. Occasionally it was seen at greater distance; one ship reported sighting the light 45 miles at sea.

The light was of the third order and for 34 years it was simply a fixed white light. In 1869 it was changed to flashing red and white, and the following year to simply a flashing white light.

The structure on which the light sat was a story and a half building with four rooms and a basement, and, according to one inhabitant, was simply, but comfortably, furnished. At first the lighthouse keeper, his assistant, and their families lived in the building. But this apparently proved unsatisfactory since a storage building near the lighthouse was later converted into living quarters for the assistant and his family.

From the time of its construction the lighthouse proved a rather popular place. Tourists would drive out in buggies to view the magnificent sea and landscape, and local people would come for picnics and to view the whalers harpooning their victims.

The operation of the lighthouse was simple. There was no modern day equipment such as the foghorn. Since there was none, the last keeper, on foggy days when a ship appeared dangerously close to the shore, fired a shotgun as a makeshift foghorn. The keeper's prime concern was seeing that there was enough oil in the lamp and that the wick was trimmed, and later when the light became a flashing one, that the clockwork system was functioning properly. Each morning the lantern and lenses had to be cleaned of accumulated smoke and grease.

Supplies were normally obtained from district headquarters located in San Francisco, and were brought down periodically by the supply ship.

For 36 years the leisurely life continued at the lighthouse. The pay was not exceptional, but the life wasn't hard. Opportunities often arose to augment the keeper's income. At one time arrangements were made with the harbor pilots to signal on the approach of a vessel needing a pilot. Reportedly at another time a similar arrangement was made with the whalers at Ballast Point to signal when whales were spotted. Both services, of course, received proper remuneration.

Because the light was 462 feet above sea level, during certain seasons of the year it was obscured by low clouds while the coast below was plainly visible. As a consequence, the light in 1891 was moved to a lower position on the tip of Point Loma. The light,

now only 88 feet above sea level, has over the years proven much more satisfactory. Today even one may obtain empirical evidence of the wisdom of this move. Throughout the year one sees a number of days at the old lighthouse when the fog is so thick that visibility is reduced to a few hundred feet, but he does not hear the foghorn at the lower lighthouse--there is no fog down below.

### 3. Archaeology

Although it is known that Indians of the La Jollan culture and Diegueno Indians occupied Point Loma, a recent (January 1960) site survey of monument land revealed that there were no sites on the monument proper.

### 4. Status of Research

The National Park Service has initiated only one research project dealing with the monument. It resulted in a multilithed publication entitled Juan Rodriguez Cabrillo, Discoverer of California. There is a current research program which is designed to result in a historical handbook for the area, but which will also have the side result of augmenting the research note file of the monument. There are also two research papers underway; one dealing with the discovery of California has been completed, and the other dealing with 19th century shore whaling activities at Ballast Point is well along the way to completion. It is hoped that a paper dealing with the ships and navigational equipment of the 16th and 17th centuries will also be completed on the current research program.

Probably in the not too distant future the Fort Rosecrans installation will be added to the monument. A research program should be undertaken on the fort and other coastal defense installations on Point Loma, as well as on the old Spanish Fort Guijarros. At this time a strong effort should be made to confirm or dispell the strong rumor that an underground room near Fort Rosecrans containing old rifles and black powder was sealed off.

A thorough historic buildings survey report should be done on the lighthouse utilizing local records as well as those to be found in Washington.

### 5. Research Accomplished

Much research and writing has been conducted by historians on the activities of the Spanish in the New World. The two historians whose works bear most directly on those activities with which the monument is primarily concerned are Herbert E. Bolton and Henry R. Wagner. These two men did a great deal of translating of Spanish documents of exploration, and they have the two best translations of the summary log of Cabrillo's voyage and the best identification of the places Cabrillo stopped. These translations can be found in Wagner's Juan Rodriguez Cabrillo, Discoverer of the Coast of California (San Francisco: 1941) and in Bolton's Spanish Explorations in the Southwest, 1542-1706 (New York: 1959). In addition Hubert Howe Bancroft, History of California (San Francisco: 1886), I, gives a good secondary account of the Cabrillo voyage. James F. King, Juan Rodriguez Cabrillo and the Discovery of California (Berkeley: 1941) is a fine and well written account of the Cabrillo voyage, its background, and its significance. Wagner's Cartography of the Northwest Coast of America to 1800 is most pertinent to the monument story, as are his translations of the various voyages along the west coast which were published over the years in the California Historical Society Quarterly.

A number of other translations of primary material and a number of secondary sources exist dealing with related voyages and activities in New Spain. But these are too numerous to list here. The monument bibliography file contains an extensive, but not yet complete, list of works concerning the monument story.

Research and writing connected with local topics, such as whaling activities at Ballast Point, Fort Rosecrans, and the hide warehouses, has been done by local lay historians. In many cases fact has been sacrificed for romance, and the writers generally lack the perspective and techniques of the trained historian. For example, William E. Smythe's History of San Diego is locally considered the best work on the subject, but it is not difficult to find errors in this work. These errors compounded with his failure to document certain specific items makes the work for the purposes of the monument useless. Those local writers who document their efforts use secondary sources as the basis for their writings with the result that they just perpetuate errors.

Several years ago the Cabrillo Historical Association sponsored a research program on the California Gray Whale. This study by Dr. Theodore J. Walker is to be published soon by the Association and is an excellent source of information on the gray whale and its place in the family of whales.

6. Research Needed

Research at the monument should be continuing, not only to further knowledge of the events centered in the monument story, but also to keep abreast of current historical thought. Especially should strong efforts be made to further knowledge of Juan Rodriguez Cabrillo and his voyages, as well as of other voyages along the west coast of America. The monument's historical note file should be constantly expanded.

MASTER PLAN  
FOR PRESERVATION AND USE  
OF  
CABRILLO NATIONAL MONUMENT

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Volume III, General Park Information  
Section E. Protection

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Prepared by: Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

## 1. Vegetative Cover

The dominant vegetative cover is the Pacific Coast mixed chaparral type surrounding the developed areas of the monument. This type includes members of the oak, heath, sumac, cacti, and rose families, and several herbaceous flowering plants.

Seventy to eighty percent of the area is covered by coast chaparral, the dominate shrubs being lemonade berry, coast manzanita, and scrub oak. These cover an elevational range of 50 feet to 420 feet.

Unusual species are those exotics introduced for erosion control and landscaping and are few in number. They include the aleppo pine from North Africa, the torrey pine and monterey cypress from California, and eucalyptus trees from Australia.

The fire hazard is presently low and poses no problems to structures in the area. In the near future the hazard to the vegetative cover itself will increase due to the construction of a salt water conversion plant and a sewage disposal plant which will increase the use by visitors of the lower area of Point Loma.

## 2. Forest Fire Control

Fire records for Cabrillo National Monument show that no fires have occurred on monument land and only two have occurred near its boundaries. Both were caused by aircraft crashing after take-off from a nearby naval air station.

The fire season is present throughout the year as the wind is constantly blowing and drying the vegetation. At present the majority of monument land is inaccessible to the public which is a deciding factor in keeping the fire incidence low. However, with the advent of proposed nature walks in the area and the expected increased use of the lower area the fire hazard will increase.

Detection of fires would be primarily by visitors reporting them to personnel on duty who in turn would report them to the Naval Electronics Laboratory fire department. On Point Loma fires are reported to the Naval Electronics Laboratory whose fire department provides protection to all federal installations within the military reservation.

Equipment available at the monument to fight fires includes backpack pumps, McLeod fire rakes, pulaskies, and brush hooks. Water

in the immediate and surrounding area is usually limited. The Fort Rosecrans National Cemetery water sprinkling system causes a fluctuating water pressure at the monument. Often the cemetery's system uses so much water that there is none available for monument use. This situation is offset to some extent by the arrangement with the Naval Electronics Laboratory for use of their fire equipment and personnel should the need arise.

The Public Works Department of the Naval Electronics Laboratory is in the process of installing three additional booster pumps along the water line which will provide the monument with better water pressure. This arrangement will serve until such time as the monument's present and proposed water system, including fire hydrants, can be connected to a new water main to be constructed for the salt water conversion plant and new sewage plant.

### 3. Building Fire Control

As mentioned previously there is an agreement with the Naval Electronics Laboratory for building and brush fire protection. Until this aid arrives, CO<sub>2</sub> extinguishers and the outside sprinkling system will be used to control any building fires. Fire hydrants are to be installed in the future which will provide complete protection. All new structures will have a complete fire protection system incorporated.

### 4. Forest Insects and Diseases

Not applicable.

### 5. Grazing and Browsing Control

Damage to landscape planting is due to the browsing of wildlife belonging to the lagomorpha and rodentia families which include brush rabbits, hares, squirrels, rats, and mice. Even though the food supply of the wildlife is abundant the young shoots of plants are too enticing to resist and screens have been required to protect them since repellents and poisons sprayed on them and the use of poison grains have not worked. Once the plants have matured, the screens are no longer required. An all out poisoning program has been contemplated to eliminate this problem. In lieu of this it might be possible to plant more mature plants rather than the young shoots.

6. Soil and Moisture Conservation

The only erosion on monument land is on the coast line and in a natural process. Other erosion caused by rainfall run-off occurs at various places throughout the area and is being controlled by the planting of ice plant, coast chaparral, and trees. All control is being undertaken by the monument staff without the assistance of cooperating agencies.

7. Other Vegetation Protection or Related Conservation

As mentioned in Paragraph 5, Section E, all new plantings need to be protected from browsing by native wildlife.

Trees, shrubs, and forbs used for landscaping or erosion control should be drought resistant and able to withstand the constant and drying wind as well as adapt to a poor soil. The monterey cypress should be given consideration for landscaping because of the similarity in the environment here and that found near its native habitat. African tree species such as the (Pinus halipensis) aleppo pine tolerate the Point Loma environment as do torrey pines.

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Volume III, General Park Information  
Section F. Concessions and Other Agencies

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Prepared by: Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

1. Concession Contracts and Permits

Upon completion of the restoration of the lighthouse by the National Park Service in 1935, Mr. Clifton Rock was appointed Custodian. At the same time permission was given to him to operate a concession at the monument. Mr. Rock continued operating the concession until the monument was closed during World War II. During the pre-war years he sold postcards, candy, and various souvenirs, and maintained a tea room in a lower room of the lighthouse where snacks were sold.

When the monument was reopened in 1947, Mr. Rock resumed the concession, but at this time was permitted to sell only postcards and souvenirs. He operated the concession until his death in 1955. For a year thereafter his widow retained the concession. In 1956 it was decided that a concession was not needed at the monument since there was more than adequate opportunity for the visitor to satisfy his craving for souvenirs at shops within a few miles of the monument. There is still no need for a concession here and it is doubtful that the need for one will arise in the foreseeable future.

At the time the concession was closed a bookshop, operated by the Cabrillo Historical Association, was opened. The Cabrillo Historical Association is a cooperating association and the profits derived from the bookstore are used to further the mission of the monument and to aid other National Park Service areas.

2. Other Agencies

Monument land is reached through Fort Rosecrans Military Reservation and is therefore affected to some extent by any rules and regulations imposed by the Department of Defense. The security guard of the military reservation controls access to the monument by means of an electrically operated gate across the main entrance road to the monument. This gate is open to the public from 9:00 a.m. to 5:30 p.m.

Due to normal patrols by the security guard, police protection is provided all land surrounding the monument. Facilities and personnel of the reservation are not actively employed on monument land and no adverse effects are caused by operation of these personnel or by their activities.

The area is closed at night to the public; therefore, it is not necessary to maintain personnel on duty in the area after 6:00 p.m..

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At such time as the Department of Defense permits night visitation to Point Loma, a major protection problem will be created and it will be necessary for the monument to have personnel for night protection of the area, and housing at the monument for these personnel will be essential. As long as there is no public clamor to use the monument at night, the Park Service would be wise in refraining from opening Point Loma to nighttime visitation.

### 3. Services Provided Outside of Park

The monument is located near the southern tip of a peninsula of land known as Point Loma. The nearest facilities and accommodations available to the public are six miles from the monument. There are numerous facilities in and around San Diego and they are more than adequate to accommodate all visitation. Most of the accommodations have been classed by the San Diego Convention and Tourist Bureau as good to excellent.

There are no federal and state accommodations available near the monument.

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Volume III, General Park Information  
Section G. Construction Data

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Prepared by: Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

(1) Weather Data

Development Site: Museum-Visitor Center

Climate

Temperature

Maximum: 86° F.

Minimum: 35° F.

Average summer day-night temperature difference: 15° F.

Mean Temperature

|         | <u>Jan.</u> | <u>Feb.</u> | <u>Mar.</u>  | <u>Apr.</u> | <u>May</u>  | <u>June</u> |
|---------|-------------|-------------|--------------|-------------|-------------|-------------|
| Maximum | 66          | 68          | 65           | 69          | 75          | 72          |
| Minimum | 47          | 62          | 51           | 53          | 60          | 55          |
|         | <u>July</u> | <u>Aug.</u> | <u>Sept.</u> | <u>Oct.</u> | <u>Nov.</u> | <u>Dec.</u> |
| Maximum | 79          | 75          | 74           | 66          | 63          | 54          |
| Minimum | 62          | 64          | 63           | 54          | 52          | 43          |

Prevailing wind from west in summer; northwest in winter.

Maximum recorded velocity: 45 mph.

Subject to: excessive humidity and continuous daily  
winds varying from 8 to 15 knots.

Annual rainfall: 14.0; maximum rate of fall: 1.64 ph.

Special climatic requirements: The monument faces the  
ocean on one side with the result that buildings and  
such are subject to salt spray; high humidity prevails.

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(2) Site Data

Elevation: 378.7', Latitude: 32° 40', County: San Diego.

Topography: Monument area on top of Point Loma

peninsula has a rolling terrain. Slopes of hillsides  
45° or more, and are subject to erosion.

Vegetation: The vegetation is chiefly coast chaparral  
with some exotic tree species. Erosion in some places  
is controlled by ice plant.

(3) Soil and Foundation Data

Geological description: A Chico formation best describes  
the top 10' of soil. This formation is a conglomerate  
of sedimentary deposits containing less than  
10% of clay.

Depth of water table: varies from 150' to 200'.

Water permeability: slight, mostly runoff.

Frost penetration: average none.

Bearing capacity: 4,000 pounds per square foot.

Foundation types usually used in vicinity: spread  
footing.

Usual depth of foundations: 2 to 3 feet.

Special foundation or soil problems: none.

Structural failures due to soil or foundation design:  
none.

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(4) Miscellaneous Design Considerations

Wood destroying insects: Termites. Flies. Poisonous insects and reptiles: Black Widow spiders, possibly rattlesnakes and scorpions. Rabbits, squirrels, and rats are also present.

(5) Architectural Influences

1. Brief architectural history of development and description of construction type in existing buildings: The lighthouse is of Cape Cod design and fits in perfectly with the coastal or seafaring theme.
2. Note any special historical, archeological or traditional considerations related to design of future buildings: Due to the proximity of the ocean and San Diego harbor and the fact the monument is named after the discoverer of the harbor, Spanish architecture or architecture having a maritime theme should be incorporated into the design of future buildings. Note: Spanish architecture should predominate.

(6) Facilities for Contractor's Use

Electric power: Voltage: 220; Rate: \$.0172 per KWH.

Water supply, rate: \$ .338 per thous. gals.

Telephone arrangements to be made with Pacific  
Telephone.

Housing and Mess Facilities:

Government: Location - None.

Concessioner: Location - None.

Commercial: Location - Point Loma. Distance:

Six miles. Type: Apt. & House. Rate: \$90 per mo.

Trailer Camps: Location - Number of trailer camps  
nearby. Distance: 8 to 10 miles. Rate: \$45 to  
\$60 per month.

Construction Office Space: None.

Materials Storage Space: On site. Charges: None.

Nearest Railroad: City of San Diego, 10 miles. Line:  
Santa Fe; Union Pacific, Chicago Rock Island and  
Pacific; San Diego & Arizona Eastern.

Construction Season: All year.

(7) Building Materials

Building stone: Source: Hazard Products, Inc.

Distance from headquarters: 10 miles. Kind: Wall  
Rock. Color: Natural - Tan. Quarried, Field, and

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Sawed. Flagstone: Source: Hazard Products, Inc.

Distance from headquarters: 10 miles. Kind; 5

kinds. Color: 9 colors. Quality: excellent.

Coarse aggregate: Source: Mission Valley. Distance  
from headquarters: 10 miles. Crushed rock, Gravel,  
clean. Screen analysis available:  $3/4"$ ,  $1"$ ,  $1\frac{1}{2}"$ .

Sand (Concrete): Source: Woodward Sand Co. Distance  
from headquarters: 10 miles. Impurities - None.  
Analysis available.

Sand (plaster): Source: Woodward Sand Co. Distance  
from headquarters: 10 miles. Impurities - None.  
Analysis available.

Logs: Source: Washington or Oregon. None available  
in San Diego. Distance from headquarters: 1,500  
miles. Species: White pine, fir and cedar. Size:  
20-30 ft. Conditions affecting availability, cost,  
use: depends on quality, quantity, purchase from  
Point Loma Lumber Co. in San Diego.

Lumber: Source: Builder's Market. Species and types  
in each species stocked: Standard and better Douglas  
fir air dried; clear fir kiln dried; const. heart  
redwood air dried; clear redwood kiln dried; No. 2  
Ponderosa pine kiln dried.

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Concrete Blocks: Hazard Products, Inc., San Diego 3,  
California. All types made locally by distributor.

Brick and Tile: (Same as above).

Availability of:

Plant or transit mix concrete: Yes.

Plant mix road materials: Yes.

Concrete testing facilities: Yes.

All available at Hazard Products, Inc., San Diego,  
California.

Light weight plaster or concrete aggregates: Expo-  
Stucco Co., 1420 W. Palm, San Diego, California.

Reinforcing Steel:  $3/8"$  -  $1/2"$  -  $5/8"$  X 20'.

Structural Steel: All sizes; U. S. Steel Supply.

Other local building material of special interest:

San Diego Prestressed Concrete.

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Volume III, General Park Information  
Section H. Buildings Inventory

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Prepared by: Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

July 1961

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MASTER PLAN  
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Volume III, General Park Information  
Section I. Utilities Inventory

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Prepared by: Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

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### 1. Water System

Water for the monument is obtained through the Navy Electronics Laboratory who in turn obtains it from the City of San Diego.

Water pressure in the area fluctuates. When the nearby national cemetery uses their sprinkling system, which is almost daily, the water pressure is reduced considerably, often to a vacuum. This problem is temporary since the City of San Diego will construct a water line along a monument road right-of-way for their sewage disposal plant. At the same time lines will be laid to the Department of Interior's salt-water conversion plant southwest of the monument. The monument will be allowed to connect its present and future water system to this line. In view of impending developments at the monument with an attendant increased need of water at the area for fire protection, sprinkling systems, and visitor use, care should be taken to see that adequate water lines are installed and possibly the present lines replaced with larger ones to insure adequate water pressure at all points of distribution.

### 2. Sewage System

The sewage system, built in 1935 by the National Park Service, consists of a four-inch tile line approximately 1,500 feet in length extending from the comfort station west to the ocean edge. Here the sewage pours into the ocean and is carried away by the tide. The system is gravity drained and no flushing devices or treatment are used. This system is not desirable and studies are now underway as to whether it would be better to install a septic tank or connect to the new city sewage plant which is to be built in the near future.

The only storm drainage and flood control devices in the monument are short drain pipes from the parking area to surrounding landscaped areas.

Topography of the area is hilly with slopes up to 80%. The soil is a chico formation consisting of a conglomeration of sedimentary deposits which contain less than 10% of clay.

### 3. Garbage and Refuse Disposal

All refuse is at present collected by truck and taken to an open dump and burned. Refuse is collected twice a week and amounts to about 266 fifty-gallon barrels per month. The dump is owned by

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the military and is also used by them. Recent complaints from local citizens, however, are forcing the military to close the dump. Consequently, the monument now must look for another place to stash its trash.

#### 4. Power System

The Navy Electronics Laboratory purchases power from the San Diego Gas and Electric Company for all government installations on Point Loma. The monument in turn obtains power from the Navy Electronics Laboratory.

Supply lines are federally owned and are approximately 11,500 feet in length. Conductors on the first 9,100 feet of overhead line, which runs from the Navy Electronics Laboratory to just north of monument boundaries, are three No. 1 conductors of 12KV capacity. The remaining 2,400 feet of line is underground and runs from the terminus of the overhead lines to a transformer vault just northeast of the old lighthouse. It has a No. 3 conductor of 12KV capacity. The power is through a No. 4 bare copper three phase 12,000 volt line for the first 9,100 feet. The remaining 2,400 feet is No. 4 lead and armored underground cable. From the transformer vault, where the power is reduced to 120/240 volts, a single phase line, 150 feet in length, carries electric power to a meter in the lighthouse. From this meter lines supply electricity to various buildings and visitor use areas in the monument. All other agencies on Point Loma are metered separately from the main power cable.

#### 4. Communications System

##### Telephone Circuit

The monument's telephone circuit, Number C 3, is owned and maintained by the Navy Electronics Laboratory. The dial phones, used solely by the monument, are owned and maintained by the Pacific Telephone Company. The primary circuit is a grounded 100 pair, copper, underground armored cable 2.4 miles in length which runs from the Navy Electronics Laboratory switchboard to a terminal vault southeast of the lighthouse. From this 100 pair cable the monument owns a 10 pair, copper, underground feederline 150 feet long that extends from the vault to a junction box in the lighthouse. From the junction box underground extension lines provide telephone service in the lighthouse and in the present administration building. The other feederline, abandoned by the Army after

the war and on monument land, is a 200 pair copper, armored, underground cable extending from near the present administration building to the proposed museum-visitor center site at the Ballast Point Overlook. This cable, found to be in good working condition when tested during the early part of 1961, is 150 to 175 yards in length and needs only to be connected to the existing 100 pair cable for use. There is no switchboard connected to monument lines.

MASTER PLAN  
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Volume III, General Park Information  
Section J. Surveys Data

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Prepared by: Lorne W. West Date July 1961  
Park Ranger

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ACCEPTED BY: Donald M. Robinson Date July 1961  
Superintendent

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AS BUILT SURVEYS

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5. Base Surveys for Interpretive and Management Use

No base surveys have been made for the area. Those required include a Historical Site Survey, and a vegetative cover survey which are to be done by monument personnel in the near future.

6. Other Surveys

Surveys required are to include a wildlife survey, a fire protection survey, and after the construction of the museum-visitor center, a survey on all aspects of traffic flow and visitor use.

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Notes on Surveys.

No. 1. Topographic Surveys at present are complete and up-to- date and no further surveys are required.

No. 2. Boundary Surveys are correct and up-to-date with no further additions or corrections needed.

No. 3. Reconnaissance Surveys need to be brought up-to-date on roads, trails, and underground utilities due to proposed developments under MISSION 66. No master plan surveys for the proposed work are presently available.

No. 4. The existing AS BUILT SURVEYS drawn in 1949 need extensive revising. Since that time the construction of a new parking area, the addition of 80.1 acres, and other changes have made present drawings inadequate.

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