# Sacramento River Parkway

Master Plan 1975

# SACRAMENTO RIVER PARKWAY
# MASTER PLAN

City of Sacramento, California

Master plan prepared with the
assistance of Sacramento
City Department Staff.

by:

Environmental Assessment and Resource Planning, Inc.
1816 Tribute Road
Sacramento, California

June, 1975

June 11, 1975

Mr. Ron Parker
City Engineer
Department of Engineering
915 "I" Street
Sacramento, California 95814

Dear Mr. Parker:

I am pleased to transmit to you the Sacramento River Parkway Master Plan with its findings and recommendations.

The value of this unique recreational resource to the City of Sacramento and the greater Sacramento region cannot be overstated. This study has required countless hours of involvement by our multi-disciplined professional staff. The cooperation especially of the Departments of Engineering, Recreation and Park, and Planning, and City Managers office has been extremely beneficial. All City departments and levels of the State and Federal agencies have participated most willingly and have been a source of invaluable assistance to your consultant.

Through the conduct of this study, we have become well aware of the difficulties facing the implementation of this Parkway. While this plan is not the "cure-all" for conflicts and issues presently and in the future confronting this Parkway, this plan makes recommendations to assist the City in its deliberations and formulation of policies to implement the Sacramento River Parkway.

We are proud to have been of assistance in preserving and enhancing the Sacramento River resource for present and future Sacramento area residents.

Respectfully submitted,

ENVIRONMENTAL ASSESSMENT
AND RESOURCE PLANNING

Kerry W. Mulligan

Kerry W. Mulligan
President

KWM:ms

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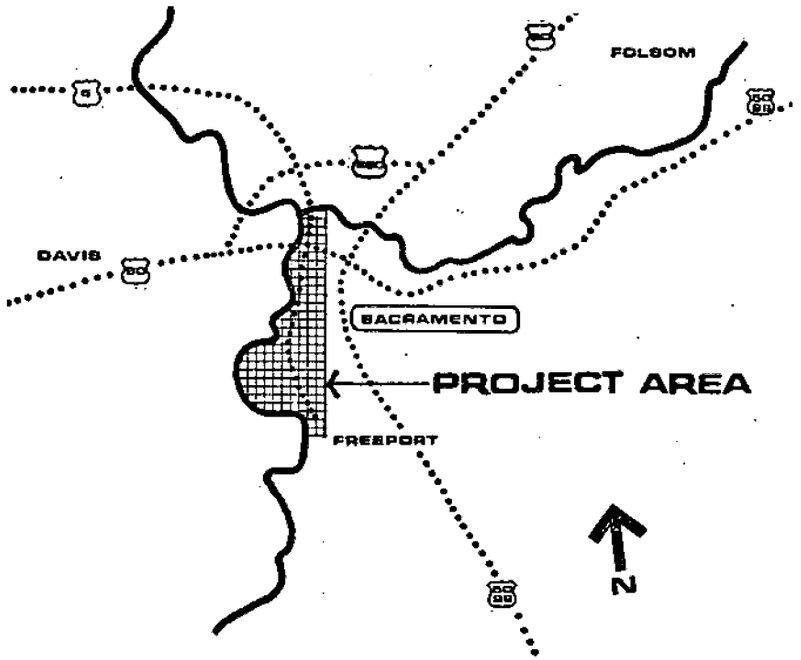
# I. INTRODUCTION

## A. OBJECTIVE

The purpose of this study was to assess the feasibility of developing the Sacramento River Parkway; thereafter, if determined feasible, to develop a parkway master plan, and an environmental impact study to ascertain the implications of such a plan on the Parkway and surrounding environment.




The consulting firm of Environmental Assessment and Resource Planning (EA&RP) was retained by the City of Sacramento to conduct this study in close consultation with City staff. Due to the complexity of the study and the multi-faceted nature of the project, EA&RP assigned a study team made up of an urban planner, landscape architect, social planner, recreation resource planner, and an environmental scientist to conduct the study.

The intent of the study was to evaluate the potentials, constraints, and consequences associated with the proposed Sacramento River Parkway. The following pages of this report will indicate an affirmation of the feasibility of the Sacramento River Parkway concept and its role as a unique recreation/open space resource to the City of Sacramento and the region.

It is indeed a rare opportunity that a major metropolitan area, such as Sacramento, can boast of two major rivers flowing through the heart of the city. Possibly, rarer yet is the fact that these rivers are still relatively clean and provide an abundance of water-related recreational opportunities within a short distance of many Sacramentans.

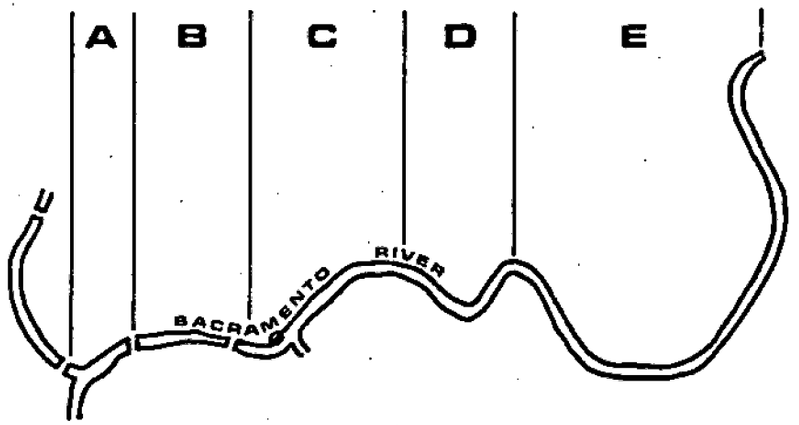
The Sacramento River and its natural areas provide open space and recreational opportunities for adjacent areas. It also functions as a valuable regional recreational resource which links many of the recreational and cultural facilities found adjacent to the Sacramento River.

## B. STUDY AREA

The Sacramento River Parkway study area is located along the easterly bank of the Sacramento River within the City limits of Sacramento. The boundaries of the area generally are the confluence of the American and Sacramento Rivers on the North, the Sacramento River on the West, City limits of Freeport on the South, and Interstate 5 Freeway on the East. Although in many cases the study extended beyond these boundaries, these were looked upon as the demarcation line for the study.

For the sake of the study, the Parkway was divided into five segments, as identified below and as illustrated on the project area Key Map.

(A) Discovery Park to Old Sacramento
(B) Old Sacramento to Miller Park
(C) Miller Park to 25th Avenue
(D) 25th Avenue to 35th Avenue
(E) 35th Avenue to Freeport




**KEY MAP**

The land uses within the study area vary greatly from industrial and commercial activities in the north and downtown area, residential area in the center, and agricultural land in the southern area. The Parkway area varies from very narrow segments with little vegetation to areas over 200 feet wide with a great deal of vegetation and wildlife. The river edge at various locations is occupied by boat landings, parks, oil storage and docking facilities, railroad tracks, and miscellaneous other uses.

Presently four bridges cross the Parkway: the Jibboom Street, I Street, Tower, and Interstate 80. The Inter-

state 5 freeway, running somewhat parallel on the East side of the Parkway, and the Southern Pacific Railrod track are the most significant barriers adjacent to the parkway. Some of the more significant community features found near the parkway are:

- o Discovery Park & American River Parkway
- o Southern Pacific R.R. yard
- o Proposed State Railroad Museum
- o Old Town Historical Area
- o Chinatown
- o K Street Mall
- o City, County, State and Federal Buildings
- o State Capitol
- o Crocker Art Gallery
- o Southside Park
- o Miller Park
- o City Cemetery, Riverside Blvd.
- o William Land Park
- o Reichmuth Park
- o Lake Greenhaven
- o South Pocket Agricultural Area

Any one who is familiar with Sacramento, the Sacramento River and these community features will realize the unique open space/recreational opportunities possessed by the proposed Parkway, and the possible linkage provided by the Parkway to these civic, cultural and recreational facilities.

## C. EXISTING RECREATIONAL USES

The Sacramento River historically has been a popular fishing and boating area. Although access onto the levee along urbanized portions is difficult, and lineal travel is hampered by numerous fences and gates, fishing and other natural recreational uses of the area continue to be in high demand. Contrary to the landside access, river access to the Parkway is quite easy. In fact, some of the more remote segments of the river's edge have traditionally been a haven for boaters because of its isolation.

In addition to this transitory recreational use, residents abutting the levee have used the levee and berm areas for a number of other uses such as backyard gardens, developed picnic areas, and private boat docks.

This unmanaged recreational use of the levee has resulted in a gradual deterioration of the natural areas, and has resulted in some vandalism to adjacent properties. The remoteness and inaccessability of most of the levee area together with the numerous fences on the levee have made security patrol and law enforcement difficult.

## D. HISTORY

Areas along the Sacramento River, including the study area, were once subject to periodic flooding caused by storms and spring thaws of the Sierra snow pack. Due to these floods and/or high water table, the area was largely covered with a dense growth of tule. These tule areas, being extremely fertile, were first developed for agricultural use. During this period, individual land owners built low levees to protect their property. Because of the rising river level due to the construction of these levees and sedimentation caused by upstream hydraulic mining operations, the low levees did not last long. Finally, through congressional actions in 1893, hydraulic mining was stopped and subsequently a permanent levee system was constructed with a bypass system to insure flood control. This is essentially the system that is in effect today.

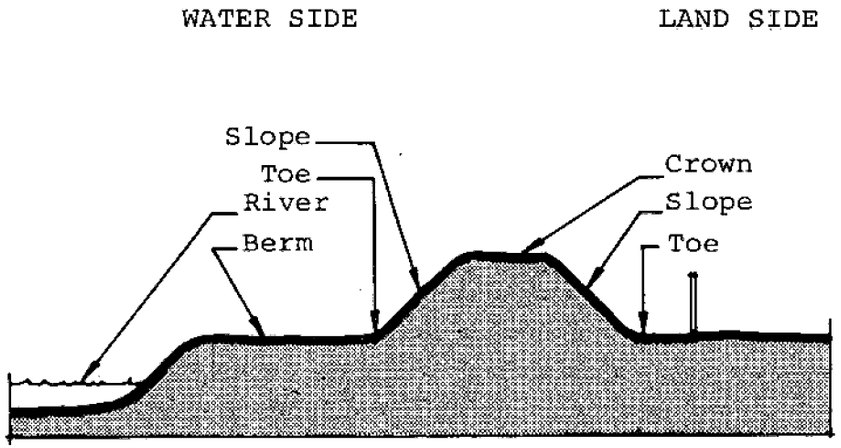
As the City of Sacramento grew, much of the agricultural land was converted to residential, commercial and industrial uses. This trend is continuing today. Due to the population increase and the associated need for additional residential lands, people began to come into contact with the river more frequently and came to realize the recreational value of this resource to the community. In 1916, John Nolen recommended that a riverfront recreation area be established along the Sacramento River. In 1929, the firm of Bartholomew and Associates made the same recommendation. In 1928, and again in 1946, Frederick Law Olmsted made similar recommendations in his reports to the State Park Commission. Again in 1960, the firm Pacific Planning and Research recommended that the area along the Sacramento River be developed as a parkway with hiking and riding trails.

Since 1960, urban encroachment along the river has occurred rapidly. In order to insure access to public waterways as urbanization engulfs open land, the California State Assembly in 1971 passed Assembly Bill 1504. The provisions of this bill are now a part of the Subdivision Map Act and require certain dedications of reasonable public access to and along public waterways. The local agency is required to define the extent and character of such dedications.

Even prior to this legislation, the City of Sacramento had been aware of the need to prepare a comprehensive plan for the preservation and use of its river resource. During the course of the last decade, the City Planning Department has prepared various studies which dealt with different aspects of the river parkway. Unfortunately, due to other pressing demands and shortage of staff, the City was unable to complete the total study. The various studies and research materials previously prepared by the City were made available to the study team and have been a valuable asset in the evaluation of the Parkway.

## E. LEVEE NOMENCLATURE

For the benefit of the reader, illustrated below is a diagramatic section of the river levee with its various elements identified.




NOMENCLATURE OF A LEVEE

Since the various parts of the levee are often mentioned in this report, it was considered essential that all readers be familiar with the levee elements:

- Levee - earthen embankment constructed to retain river water and prevent flooding of surrounding areas.
- Crown - the top surface of the levee. Generally leveled and used by maintenance vehicles in the up-keep and inspection of the levee.
- Slope - the sloping side of the levee either on the river or the landward side.
- Toe - the point at which the slope meets the the adjacent land surface.
- Berm - the flattened land area below the crown on the river side of the levee.
- Rip-Rap - rock surfacing of levee slope and berm areas to prevent erosion.
- Sides of the Levee - inward side is synonomous with river side, while outward side is synonomous with landward side.

## F. SUPPORTIVE DOCUMENTS

The research material generated during the study, in addition to that included in this report, has been turned over to the City Planning Department.

# II. RESEARCH AND ASSESSMENT

During the course of the study, various subjects related to the feasibility of the Sacramento River Parkway were examined. These subjects were categorized as land use, cultural, governmental, natural environmental and recreation resource and activities.

The following summary represents the findings of the research and assessment phase of the Sacramento River Parkway Study.

A. SUMMARY OF CONSTRAINTS: FINDINGS AND CONCLUSIONS; AND RECOMMENDATION

- Constraints:

Associated with any process of translating a planning concept into reality are those factors which act to constrain or otherwise present problems to its actualization. Consequently, these represent concerns which must be addressed and overcome to effectively implement the plan. Following is a summary of some of the major constraints to the Parkway development which were investigated in the assessment phase. Singularly, these individual constraints may not have a significant effect on the development of the total Parkway and can be accommodated with the use of appropriate planning cirteria and implementation techniques. However, the sum total of the constraints will indicate the magnitude of the issues involved.

Access and circulation. As the Parkway is developed, adequate provisions for landside automobile parking will be required. The access points to the Parkway will generate additional traffic and parking demands for the areas. These additional demands will require reconsideration of traffic controls, regulations and necessary provision for landside parking.

Erosion. The parkway levee and berm areas are easily eroded. This fact has already resulted in the loss of sensitive wildlife and vegetation from certain berm areas. Future development and use will require attention to correcting and preventing this condition.

Parkway Zoning. The Parkway area is generally zoned "F" for floodplain. It is limited in its present and future uses to agriculture, open space and other similar uses. Therefore, this limits the levee and berm area development to simple facilities which can withstand inundation.

Natural Habitat. Due to the limited amount of natural habitat available along the Sacramento River, areas of significant vegetative growth and wildlife habitat should be protected from intensive use. While these areas are also the most desirable for recreational use, such use must be regulated to retain these resources for the future.

Narrowness of the Parkway. The limited width of the Parkway generally restricts its use primarily to passive or transitory recreation. Segments of the crown which are constricted by other uses such as the railroad track are almost unusable for recreational activities in their present state. Measures must be developed either to gradually remove existing uses which are incompatible with the proposed open space and recreational use of the Parkway or to bring these conflicting uses into conformance with Parkway development.

Multiple Use. For a land area to accommodate a variety of uses and functions such as the Sacramento River and its levee, there will be problems associated with a larger user population. The further development of this resource will naturally create more problems in the areas of safety, security and maintenance. These will necessitate greater development management, coordination and consultation with involved agencies and concerned groups.

Private Properties on the Parkway. Where the levee and berm areas are privately owned and adjacent to developed properties, acquisition may be necessary. The type of interest acquired and the manner of such acquisition will depend upon the nature of the parcel and the landside uses, among other things. In those presently unsubdivided areas adjacent to the parkway intended for urbanization, the problems of acquisition can be avoided in large part through dedications of easements to and along the public waterway.

Community Attitude. Some South Area residents who own property adjacent to the levee are presently opposed to any public development and use of the levee. These residents are concerned about the possible loss of privacy, property value, and the potentials of vandalism.

Multi-Jurisdictional Responsibility. The number of public agencies involved in the planning, development and maintenance of this area calls for the highest degree of coordination and cooperation to effectively implement future Parkway development

Maintenance Responsibility. The maintenance responsibility of the levee and developed portions are presently shared by the City, State and special districts. As the Parkway is developed, a single agency, probably the City

of Sacramento should assume the overall maintenance responsibility for optimum effectiveness.

Safety. As the Parkway is developed, adequate safety measures for recreation users will have to be instituted to prevent accidents along the levee and berm areas. In addition, measures to promote safety for water users such as swimmers and boaters, are essential to the proper planning and implementation of all uses along the Parkway.

Security. As greater access to the River becomes available, problems with trespass across private property and vandalism to adjacent homes can be anticipated to occur more frequently. This concern will have to be addressed through active surveillance and patrolling of the Parkway, adequate residential setbacks from the levee in presently undeveloped areas, as well as through deterrent fencing, landscaping, etc.

Funding. The City of Sacramento is financially limited in its ability to acquire develop, manage and maintain a Parkway of this size. It will therefore be necessary to adopt a phased development approach which may require a number of years before the entire Parkway system is completed. To do this, the City will require outside funding assistance from available federal, state and local sources.

These are the major areas of concern in the development of the Parkway. They were investigated in the assessment part of this report. The Master Plan for the Sacramento River Parkway which was developed later, was designed to minimize or eliminate these constraints through the proper application of policy, design and implementation tools.

- Findings and Conclusions:

As a basic premise to determining the feasibility of the Parkway, several broad areas of concern were raised. During the study, the findings of the assessment were evaluated against these areas of concern. Following are the findings and conclusions relating to the feasibility of development in each of the areas.

1. Physical Capability

The Parkway land area is sufficient to accommodate the open space/recreational uses. Although the Parkway area is quite narrow at points, there are other segments which widen and provide sufficient width and space to accommodate the type of uses anticipated. The existing City parks, open spaces and public facilities, and proposed park sites which may be developed adjacent to the Parkway will additionally expand the resource potential of the Parkway.

2. Environmental Sensitivity

The impact on the existing natural environment as a consequence of the proposed open space/recreational use of

the area will be mitigated with proper design implementation and maintenance standards. The Parkway plan which was proposed, is sensitive to the existing natural environmental conditions, and presents development criteria and tools to minimize adverse impacts. Environmentally sensitive segments of the Parkway are to remain basically unimproved in low key, passive use. The high and moderate use areas are generally found on the landward side of the levee or on previously cleared or semi-cleared segments of the levee.

3. Adequate Access

Adequate access to enable reasonable entry into the Parkway from adjacent areas is possible. The assessment study indicated that numerous access points already exist to some segments of the parkway. Most of these existing access points will require improvement. Those areas presently lacking sufficient or adequate spacing of access points can be accommodated by future land acquisition, dedication, easement or through adjacent public development. The provision of necessary access along the levee and berm areas can be accomplished through a phased development program with existing planning and legal tools.

4. Resource Preservation

The Sacramento River Parkway area and its environment is a unique regional and community resource which will require proper management and use if it is to continue as an asset to the community. The continued encroachment on the river edge and urbanization of the adjacent areas has placed extreme pressures on the natural resources of the river. Segments of the Parkway are even now beyond repair; however with appropriate maintenance, and management, the remaining segments may be preserved.

5. Community Need

There is both a need and a demand for additional open space/recreational facilities within the Sacramento metropolitan area. Although the City of Sacramento and the regional area is generally more fortunate than most communities in the area of open space and recreational facilities, the increasing population, and its expanding demand for leisure and recreation activities which is increasing faster than the population, and the urgent need for urban parks and open spaces indicates the need to preserve a resource such as the Sacramento River Parkway for recreation and open space purposes.

6. Protection of Lives and Property

The joint use of the flood control levee for open space/recreational purposes will not adversely affect the primary purpose of the levee, that of protecting lives and property. Additionally, any proposed development and

use of the levee and berm areas will be reviewed by the State Reclamation Board, Corps of Engineers and other affected agencies to insure compliance with regulations and to insure that the flood control function is not impaired.

7. Adverse Impacts

The open space/recreational use of the River Parkway will not result in major adverse impacts to the surrounding area. Generally, the impact upon the adjacent areas will be minimal. The proposed Parkway can be planned to accommodate Parkway users while respecting the rights of the adjacent property owners, and complementing other adjacent land uses.

8. Relationship to Other Community Plans

Various community plans were reviewed in the preparation of this Master Plan. The proposed land uses within and adjacent to the Parkway suggested in this Master Plan are compatible with and conform to existing community plans. Presently the South Pocket Plan is being updated and other community plans will be updated in the future; care should be taken in these proceedings to consider the intent of the Parkway Master Plan and the potential influence of the updated plan upon the Sacramento River Parkway Plan.



- Recommendation:

It was found that the broad areas of concern noted above do not represent barriers to the development of the Sacramento River Parkway. The results of the assessment of the environmental, physical and cultural factors relating to the study area indicate that the concept of developing the Sacramento River Parkway into a lineal recreation resource is feasible.

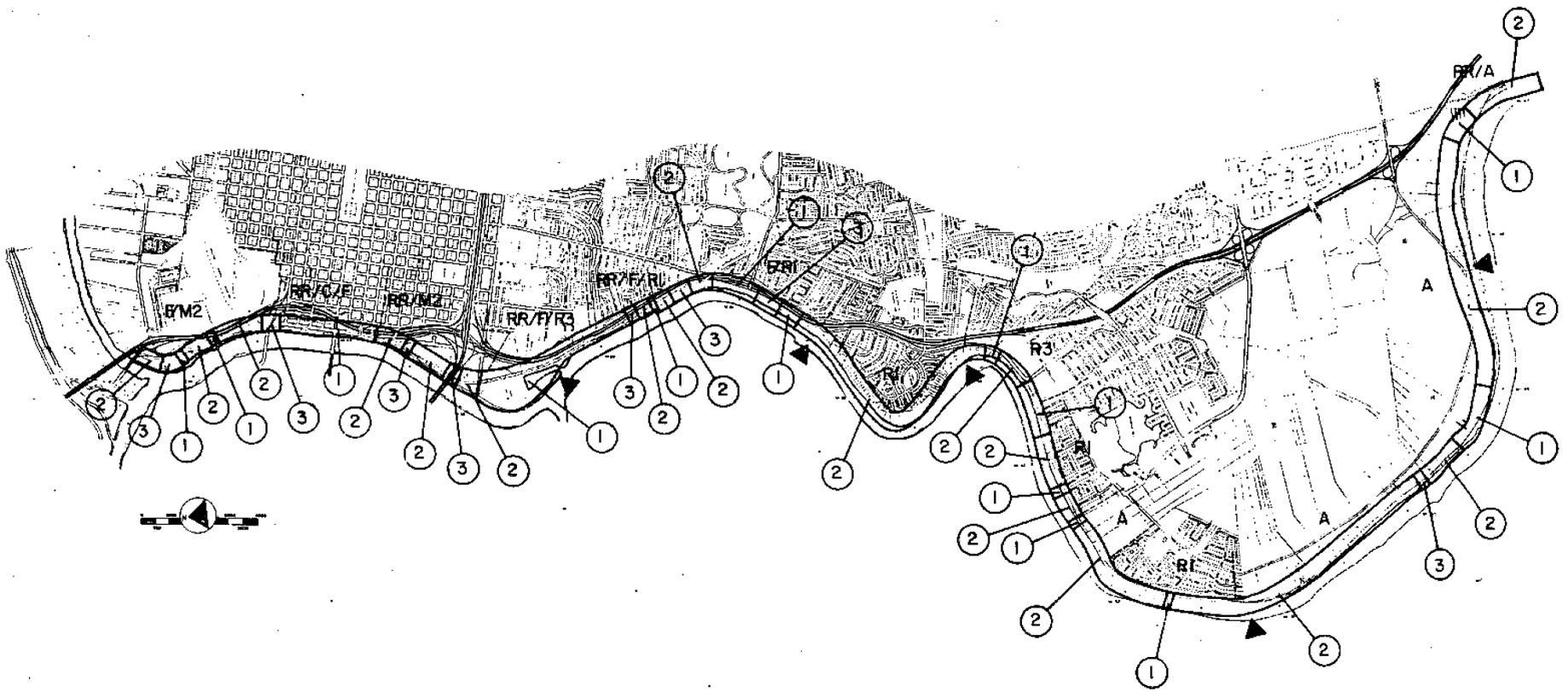
## B. LAND USE CONDITIONS

There are seven land use conditions and characteristics which have been examined for the benefit of this study. These are: types of land use, ownership patterns, zoning, circulation pattern, access to the River Parkway, berm and levee characteristics, and levee erosion conditions.

### 1. Existing Land Use (Map 1)

The land uses adjacent to the Parkway, as indicated on the land use and ownership map, include industrial, commercial, transportation corridor, single and multiple residential, and agricultural.

The major problems associated with existing land uses appear to be:




NOTE: PARKWAY CONFIGURATION AND SYMBOLS ARE DIAGRAMATIC ONLY

MAP I

## LEGEND

- (1) CITY OWNED PARKWAY LAND
- (2) PRIVATELY OWNED PARKWAY LAND
- (3) OTHER PUBLICLY OWNED PARKWAY LAND
- RR RAILROAD
- F FREEWAY
- M2 HEAVY INDUSTRIAL
- C DOWNTOWN COMMERCIAL
- RI LOW DENSITY RESIDENTIAL
- R3 HIGH DENSITY RESIDENTIAL
- A AGRICULTURAL
- ▶ EXISTING MARINA

# SACRAMENTO RIVER PARKWAY
SACRAMENTO, CALIFORNIA

# LAND USE AND OWNERSHIP

(a) S.P.R.R. track on portions of the levee from Old Town to Miller Park and Miller Park to approximately 13th Avenue restricts the full use of the levee crown.

(b) Southern Pacific Rail Road yard and oil company properties between Old Town and Miller Park prevents lineal Parkway use and access to the river.

(c) Residential property backing up to the levee beginning approximately at 25th Avenue and continuing south into the North Pocket area creates potential land use conflicts related to residential/recreational uses in adjoining areas.

2. Parkway Ownership (Map 1)

The study included the identification of property ownership both of the levee and the adjacent properties. This information was not included in the report, but is available in the supportive documents.

Assessment of the proposed Parkway land ownership, as shown on the land use/ownership map, indicates that there are three principle groups of owners. They include the City, other public agencies, and private owners. The City owns approximately 23.45% of the Parkway length, mostly in six segments which are: Old Sacramento Miller Park, Sutterville Road Area, Seymour Park Area, Garcia Bend, and the Water Tower area near Freeport. The City also owns other non-contiguous smaller lots at various points along the Parkway.

Another 2.42% of the Parkway length is owned by other public agencies such as the County and State of California. The largest such ownership, a part of the State Park System, occurs in Old Sacramento.

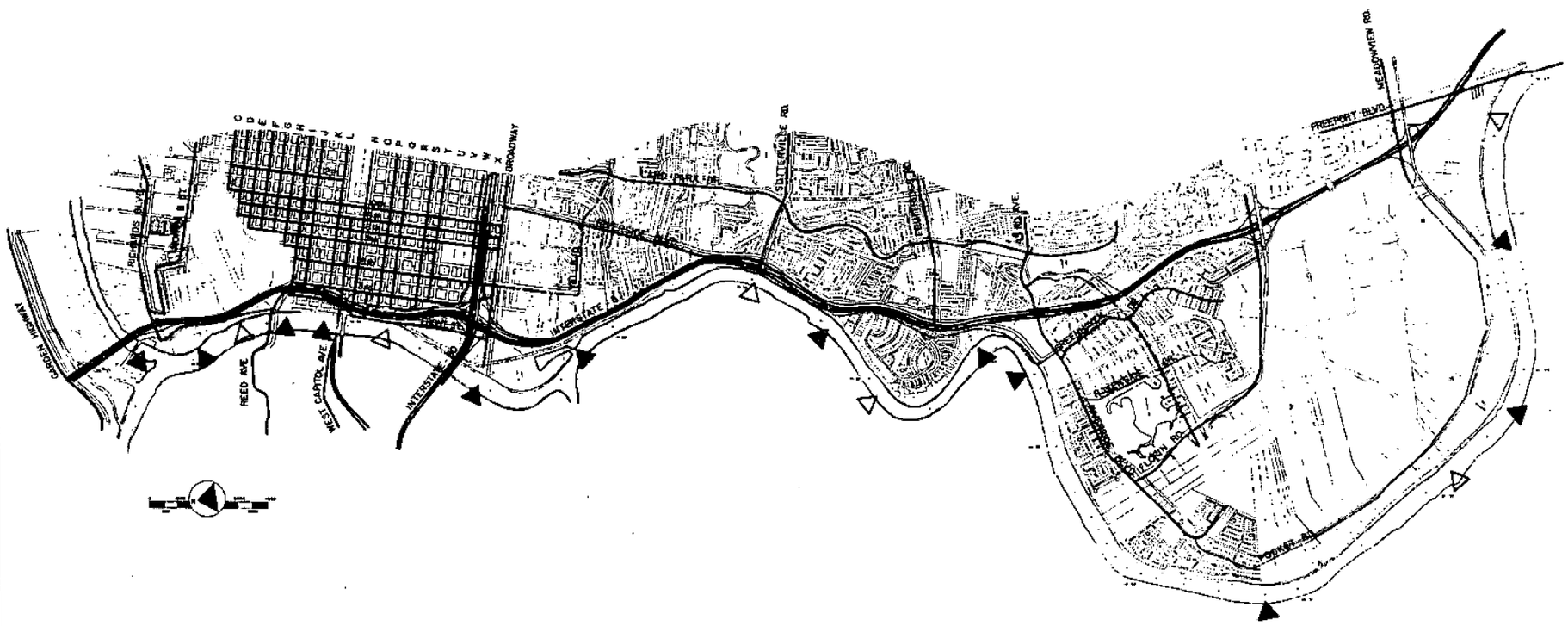
Private ownership amounting to 64.13% of the River frontage constitutes by far the major holding of the Parkway length. The S.P.R.R. is the largest such owner; however, the most controversial ownership relative to the Parkway is the private property owned to the water's edge. These generally occur from 25th Avenue southward to the Greenhaven area.

The problems associated with land ownership appear to be:

(a) Private property extending to the water's edge along portions of the Parkway presently prevents public access to and use of portions of the river edge.

(b) S.P.R.R. right-of-way and yard restricts use of the Parkway.

(c) The need for proper land use planning of




NOTE: PARKWAY CONFIGURATION AND SYMBOLS ARE DIAGRAMATIC ONLY.

MAP 2

## LEGEND

- MAJOR ACCESS POINT AUTOMOBILE PARKING OCCURS
- MINOR ACCESS POINT ACCESS ONTO THE PARKWAY IS AVAILABLE BUT THERE IS NO PARKING
- FREEWAY ROUTE
- MAJOR STREET
- COLLECTOR STREET

**SACRAMENTO RIVER PARKWAY**
SACRAMENTO, CALIFORNIA

# ACCESS AND MAJOR CIRCULATION

undeveloped agricultural lands in the pocket area to prevent land use conflicts and provide adequate access for Parkway development.

(d) The need for City acquisition of critical Parkway segments and adjacent properties is vital to the implementation of the Parkway Plan.

3. Zoning (Map 1)

Zoning indicates the reservation of land for certain uses and certain restrictions. Most of the Parkway area is within the City's flood zone classification. Some acceptable uses within this zone are agricultural and open space.

Lands adjacent to the flood zone fall within seven additional zoning classifications (refer to land use map for locations and their zoning). North of Old Sacramento is zoned either commercial or heavy industrial, downtown areas are zoned commercial, the majority of the area from Miller Park, including the Greenhaven area, is zoned residential, and thereafter south to Freeport is zoned agricultural.

The problems associated with zoning:
Zoning of parkway lands and adjacent areas does not seem to present any major problems for the future development of the Parkway.

4. Access and Circulation (Map 2)

The Parkway is presently accessible at various points, as noted on the Access and Circulation Map. These access points generally occur where major arterials meet Parkway boundaries, or at locations where development has already occurred on the Parkway.

For the sake of the study, access points were catagorized as either major or minor:

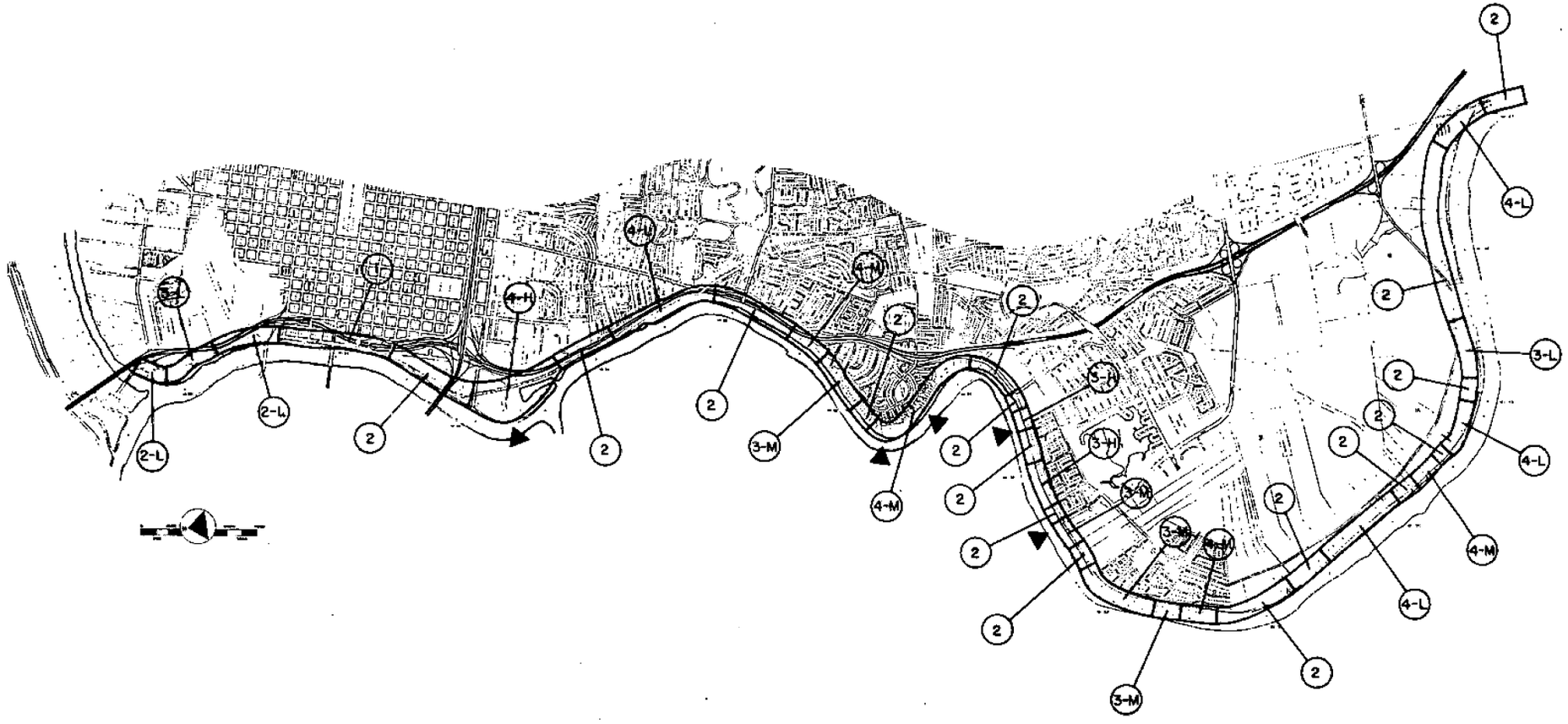
o Major accesses are those which provide vehicular access to the levee and are presently found at Jibboom Street Bridge, Old Sacramento, Capitol Mall, Miller Park, Captains Table Area near 25th Avenue, Da Rosa Boat Dock near 35th Avenue and at Garcia Bend in South Pocket Area.

o Minor access points, those providing pedestrian access only, are found at numerous points, most of which have no public improvements.

Other than at designated parking areas and at or near the levee, private vehicles are presently prohibited from using the levee. Bicycles likewise are not only prohibited, but their viability is limited due to the unimproved nature of the crown and the numerous gates which cross the levee.

The circulation pattern, that being the freeways and major city streets noted on the Access and Circulation Map, denotes the opportunities for access of vehicles to the Parkway.

Access to and circulation throughout the Parkway




NOTE: PARKWAY CONFIGURATION AND SYMBOLS ARE DIAGRAMATIC ONLY.

MAP 3

## LEGEND

(1) CONCRETE RETAINING WITH NO BERM

(2) NATURAL SLOPE TO WATER WITH NO BERM

(3) LEVEE WITH BERM UP TO 25 FT. WIDE

(4) LEVEE WITH BERM GREATER THAN 25 FT.

(-H) HIGH BERM AT 27 FOOT WATER MARK OR HIGHER

(-M) MEDIUM BERM HEIGHT BETWEEN 24 AND 27 FOOT WATER MARK

(-L) LOW BERM HEIGHT BELOW 24 FOOT WATER MARK

▶ RIVER EDGE AREAS WITH EROSION PROBLEMS

NOTE: WATER MARKER MEASUREMENTS ARE TAKEN NEAR THE I ST. BRIDGE. AVERAGE YEARLY HIGH WATER IS ESTIMATED TO BE 26 FEET.

# SACRAMENTO RIVER PARKWAY
SACRAMENTO, CALIFORNIA

# BERM AND LEVEE CHARACTERISTICS

is complicated by railroad tracks, industrial developments, Interstate 5, and the nature of the River itself which limits access from the west.

Problems associated with access and ciruclation:

(a) Providing an adequate number and spacing of access points to accommodate ease of entry to all points along the Parkway.

(b) Insuring that access routes through an area are compatible with surrounding land uses.

(c) Insuring that all access points are controlled and can be closed for emergency purposes.

5. Berm and Levee Characteristics (Map 3)

In order to understand the potentials and constraints of the Parkway levee and berm, the study team conducted a detailed site reconnaissance from the river and along the levee for the full length of the Parkway. One of the factors closely examined during the field investigation was that of the berm and levee characteristics.

This investigation indicates generally that there are four basic types of berm and levee section and also varying widths of useable levee crown. The slope on the inward side of the levee varies from a sheer vertical retaining wall such as found at Old Sacramento; rip-rapped steep slope as seen along Sutterville Road; gentle slope as seen at Miller Park; and medium earthen slope as seen generally in the Pocket area. There are also a number of variations on any one of these slope characteristics.

As varied as the slope may be, the berm areas differ more significantly from one location to another There are levee portions which lack any semblance of a berm, while other areas possess berm areas several hundred feet in length. Although fishermen have traditionally used even minor berms for toe holds, our assessment of the berm indicates that berm areas of less than 10 feet in width would be inadequate for any developed use. Berm areas are noted for their likelihood of flooding during the winter and spring months. Future Parkway improvements on berm areas should therefore be durably constructed and provided with periodic maintenance following inundation.

Problems associated with berm and levee characteristics:

(a) Inadequate useable crown width prevents continuous lineal use of the Parkway at several points.

(b) Conflicting land uses such as railroad tracks located on the levee crown may require

temporary bypass routes for levee areas with major problems.

(c) Levee segments lacking a useable berm area of 10 feet width or greater will be restricted to passive recreational use of the berm and transitory use of the crown.

6. Erosion Condition

As the river edge and the levee slope is generally earthen erosion does take place and is visible especially on the berm at various points along the Parkway. The City of Sacramento and the Levee Maintenance District have undertaken various measures to prevent or rectify eroding conditions. Some of these measures have been vertical concrete walls, concrete surfacing of the slope, rock and concrete, rip-rap, and erosion control plantings. The continuance of maintenance and preventative measures such as these have generally been successful in preventing major erosion problems.

Generally, the causes of erosion are the flowing action of the river; debris especially in winter and spring; wake actions of boats; and human traffic denuding the vegetation on the slopes.

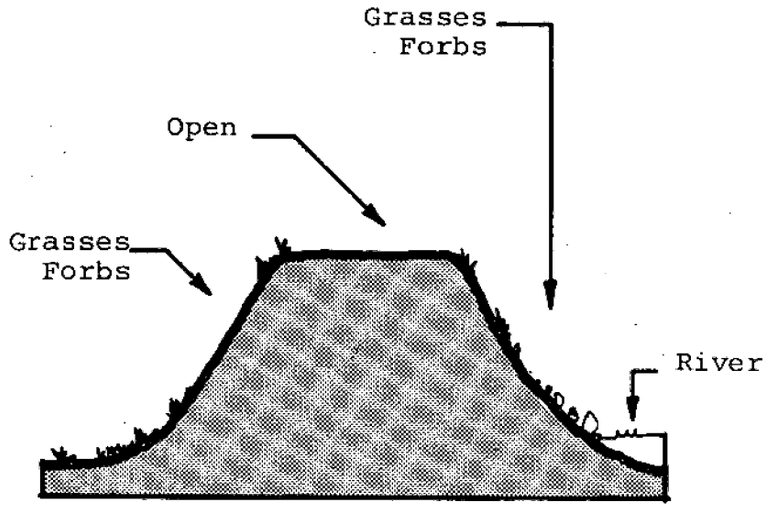
C. NATURAL ENVIRONMENTAL CONDITIONS

For purposes of discussion, the biological resources of the Sacramento River Parkway study area have been divided into four basic community types. These regions are; riparian (or streamside), aquatic, agricultural and urban. Each type is primarily a result of local land use and contains its own characteristic flora and faunal composition. The following is a brief description of major physical and biological aspects of these four community types.

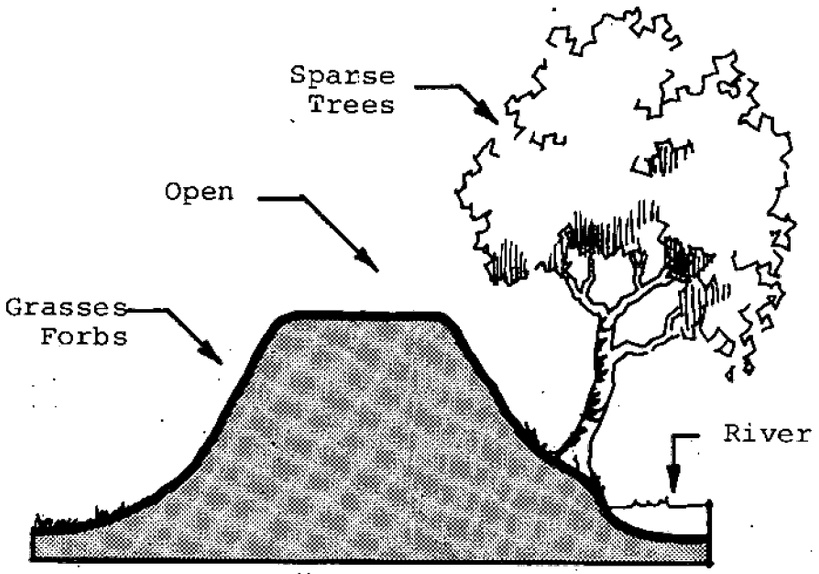
1. Community Types

Riparian. The riparian community is a natural feature along river and stream margins. It is characterized by lush stands of water-oriented plants and shrubs. The riparian community bordering the Sacramento River has been substantially disturbed and reduced in acreage by levee construction and maintenance. Within the study area, riparian habitat is restricted to those regions along the littoral or high-low water zone between existing flood levees. Construction of these levees has severely altered the historic characteristic of the river's edge through the Study Area. In some regions the river takes on a channel-like appearance with levee slopes extending to the water's edge. In other regions, this inside slope

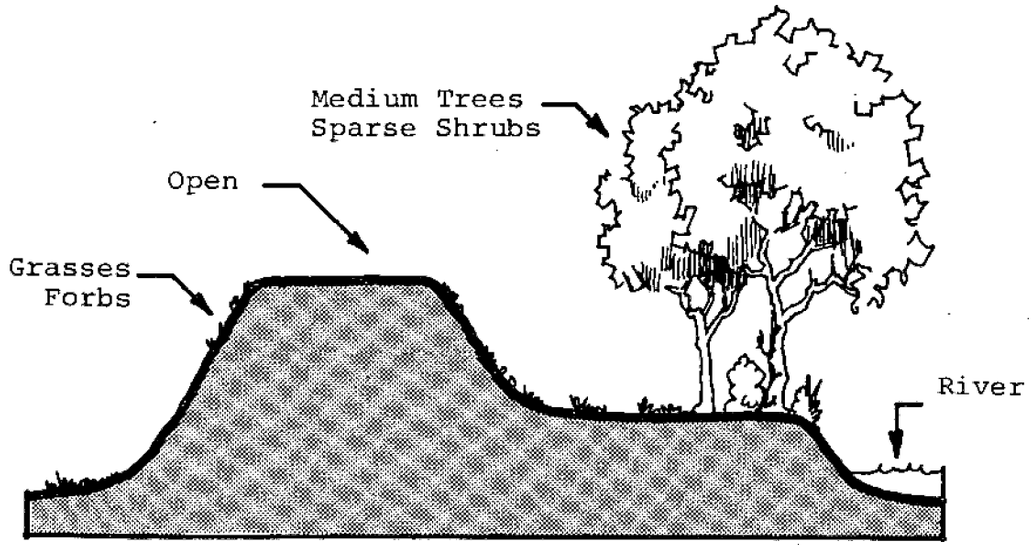
## TYPICAL VEGETATIVE CONDITIONS - Figure 4



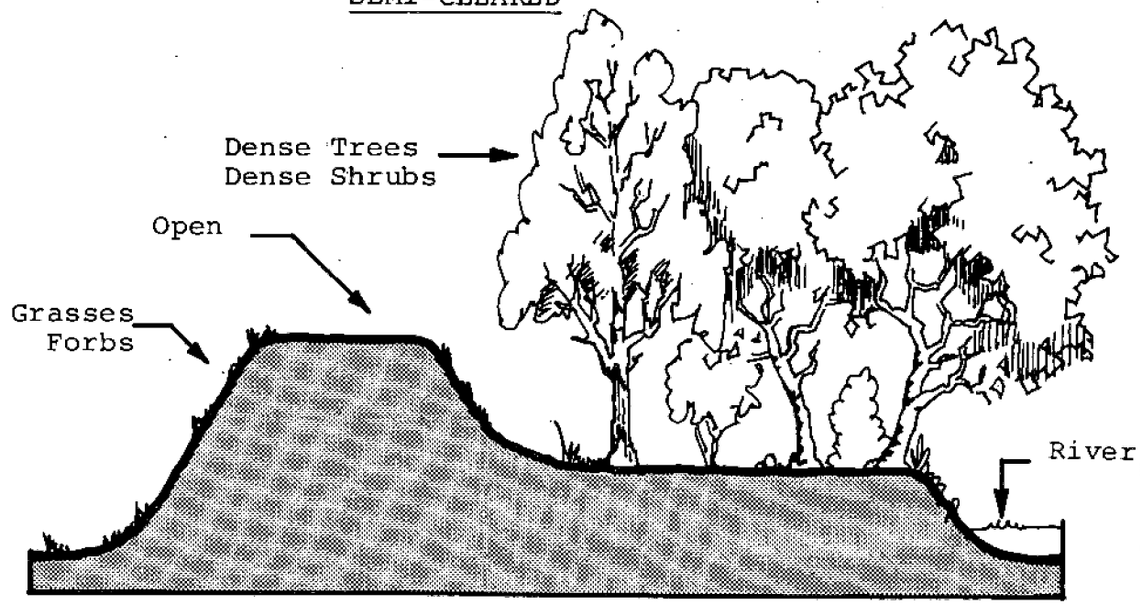

CLEARED




SEMI-CLEARED




OPEN WOODLAND




WOODLAND

continues down to a riverside berm of alluvial soil. These berms vary in width as well as height above the normal river level.

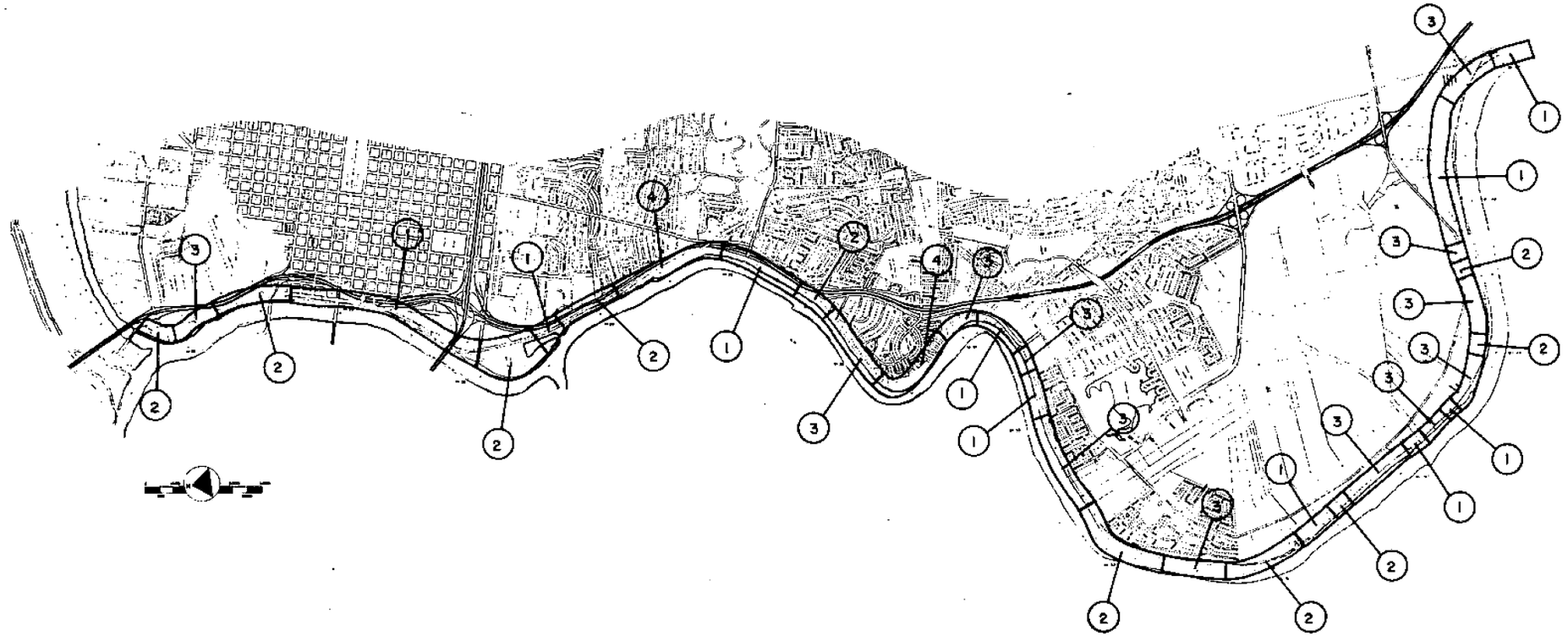
To more accurately describe the riparian lands bordering the Sacamento River, the region has been divided into four characteristic subtypes. These riparian subtypes are: woodland, open woodland, cleared and semi-cleared. These subtypes are shown graphically on the following page. These categories generally show distinct landform and floral and faunal composition, although overlapping of subtypes does occur.

Woodland: This riparian subtype is most typical of the native streamside floodplain. In these regions flood levees extend down to extensive berms which are generally flat and variable in width, but average over 50 feet. Most of the berms are partially inundated during high water but are fully exposed during the low water season.

The most distinctive characteristic of the true riparian woodland is the dense tree canopy and understory, (See Figure 4). Large cottonwoods provide shade and erosion stability to the fertile berm soils. A variety of shrubs occur in this community. Common plants include willows (Salix sp.), poison oak, wild rose, blackberry and elderberry. Forbs, such as cocklebur and dock, are also common.

The riparian woodland community provides the most important terrestrial wildlife habitat within the Sacramento River study area A wide diversity of native plants support a variety of wildlife species. Along with forage, the dense understory provides shelter and protection for smaller wildlife species. Thickets of wild rose and blackberry furnish excellent nest sites for valley quail and songbirds. Towering cottonwood trees on the berms also provide nesting and roosting sites for other avian forms. Species known to nest in these areas include red-tailed hawk, red-shouldered hawk, white-tailed kite, great horned owl and screech owl. All of these species are especially important in controlling rodents and insects in nearby agricultural regions.

The riparian woodland is generally considered a hearty and resiliant community. Most plant species in the region are capable of enduring long periods of inundation and siltation during times of high water. Although these areas are fairly stable, increased human activity could result in significant disruption of the environment. Many of the wildlife species inhabiting the areas are dependent upon the shelter and protection provided by the dense undergrowth. Unrestricted access through the berms would destroy the continuous nature of this vegetation and thus increase predation. Intense recreational use of the riparian berm between March and



NOTE: PARKWAY CONFIGURATION AND SYMBOLS ARE DIAGRAMATIC ONLY.

MAP 4

## LEGEND

1. CLEARED = NEGLIGIBLE WILDLIFE VALUE
2. SEMI-CLEARED • LOW WILDLIFE VALUE
3. OPEN WOODLAND • MODERATE WILDLIFE VALUE
4. WOODLAND = HIGH WILDLIFE VALUE

# SACRAMENTO RIVER PARKWAY

SACRAMENTO, CALIFORNIA

## VEGETATION AND WILDLIFE

June may also adversely affect the nesting habits of raptors in the area. In summary, opening these fairly secluded woodland areas to increased recreational use could result in significant ecological losses, unless adequate protective measures are taken.

Open Woodland: This community subtype is similar to the native riparian woodland. Each occurs on alluvial river berms which flood during periods of high water. The major difference betwen the open riparian subtype and the true riparian woodland is the density of canopy and understory. The open woodland community is comprised of a light-to-moderately dense canopy of cottonwoods. Willow and shrub growth is largely restricted to the low water berm edge. Grasses and forbs dominate the levee slopes down to the mid-berm region (see Figure 4). Although the width of the cottonwood zone along the river's edge is variable, in most areas the understory noticably lacks heavy shrub cover.

The open woodland community provides good riparian wildlife habitat. The tree canopy provides roosting and some nesting sites for a variety of predatory birds as well as other avian species. The red-shafted flicker, a less aboreal member of the woodpecker family, is abundant in these regions. Other common wildlife supported by this type of habitat include the opossum, raccoon, striped skunk and wood rat. Although this open riparian habitat supports a number of wildlife forms, it does not provide the diversity of vegetation and variety of wildlife that is found in the dense riparian woodland community.

One of the most important natural features of the open woodland community is the tree cover. Any removal of these trees would result in loss of habitat and associated wildlife. Increased human activity in and around these areas would not have a major impact on wildlife but could place additional stress on some species during breeding periods. Many resident wildlife forms, however, are highly adapted to some human activity.

Cleared: This riparian subtype occurs along the river where extreme bank protection measures have been conducted. In these regions, the flood levee slope drops sharply from the levee crown to the river's edge. No berm occurs along these regions. The levee slope is usually lined with boulders or concrete blocks to protect the levee surface against wave or current action. This bank protection is termed "rip-rap."

Vegetation along these reaches is very limited. Dominant plants include various grasses and forbs, (Figure 4). Scouring-rush (Equisetur sp.) is common between the low and high water bank zone. No trees and few shrubs occur along these protected levee banks.

The lack of trees and shrubs along the cleared reaches limits the wildlife value of these areas. Few wildlife forms are supported by this habitat. Among

the common species to utilize the area are small rodents and open-field birds (such as meadowlark, killdeer, mourning dove and various sparrow species).

The cleared riparian community which has been "rip-rapped" is very stable and resistant to further human disturbance. Wildlife occuring on these reaches are mainly those adapted to nearby human activity and would not be significantly affected by increased use.

Semi-Cleared: This subtype classification is similar in nature to the cleared riparian areas. The major difference between the two is the occurrence of sparse trees or shrub growth at the levee toe on semi-cleared portions (Figure 4). The inside levee slope is covered with rock rip-rap to near the low water level. This rock or concrete has replaced most trees and shrub growth on the upper levee zone. Vegetation on the rocky levee slopes is mainly grass and forbs. Scouring rush (Equisetum sp.) is abundant along most reaches.

The wildlife value of this riparian category is low, but somewhat better than the completely cleared river bank areas. Though wildlife forage value is low, existing trees and sparse willows along the river's edge provide some shelter and roosting sites.

The ecological sensitivity of the semi-cleared riparian community is low. Further reduction in the value of the area to wildlife would occur if existing trees and willows were removed. Human activity around these regions would not have significant impact on wildlife currently using the areas.

Aquatic. The Sacramento River is the primary aquatic resource in the study area. The River and its upstream tributaries are an integral part of the fisheries resource of California. One of the most important features of the River, in terms of its commercial and sportsman value, is the anadromous fishery. Anadromous fish are those that live part of their life in bay or ocean waters but must return to fresh water to spawn. Salmon, steelhead trout, striped bass, sturgeon and American shad all use the Sacramento River in their upstream migrations. The king salmon is the most important salmon to California sportsmen and commerical fishermen. The Sacramento River sustains the largest run of king salmon in California, estimated at about 300,000 annually. Of the other California anadromous fish, 100% percent of the adult striped bass spawn in the Sacramento River system. Within the study area, the river also supports warm water fish such as catfish, Sacramento squawfish, split-tail, hardhead and others.

Fishing is popular along many stretches of the Sacramento River through the study rea. The area of greatest fishing activity is between the I-80 Bridge (Pioneer Bridge) and the confluence of the American

River at Discovery Park. Salmon are sought mainly between September and December. Steelhead are also caught in relatively smaller numbers during this time and in the Spring. Other popular areas along the study area are the "Brickyards" (near 43rd Avenue), Miller Park and Freeport.

Agricultural. Undeveloped lands adjacent to the levee in the study area are primarily in agricultural use. Most of this land use occurs in the Pocket region south of Florin Road. For the purpose of discussion, uncultivated open fields are also considered in this category.

The primary crops grown in the Pocket Area are field corn, sorghum, sugar beets, wheat, barley and safflower. Other vegetation occuring in grassland lots and along the periphery of cultivated fields include a variety of invader-type grasses and forbs. A few of the common plants in the region are rye grass, ripgut grass, wild oats, yellow star thistle and wild mustard.

Wildlife value of the agricultural and open grassland fields is limited. Most crops grown in the area provide little year-round wildlife habitat. Modern farming methods have also eliminated much of the fringe areas of natural vegetation between crop fields, thus further reducing wildlife cover. Rodent species, such as the California ground squirrel, pocket gopher and various field mice, are the most dominant wild mammals found in the area. These species support a variety of raptors such as the red-tailed hawk, red-shouldered hawk, whitetailed kite and sparrow hawk. Other avian life common to these areas are Brewer's Black-bird, starling, meadowlark, mourning dove, common pigeon and various sparrow species. Ring-necked pheasants also inhabit these regions.

The agricultural and grassland fields within the study area have a low ecological sensitivity to human disturbance. Wildlife occurring in the region have a high tolerance to human activity and distrubance.

Urban. The urban environment which includes landscaped park areas, supports wildlife species which have adapted to life near human habitation. These animals include many avian species such as Brewer's blackbird, English sparrows, mocking bird, scrub jays and others. Wildlife found in residential areas have completely adapted to human activity and disturbance. The ecological sensitivity of the urbanized areas is very low.

## 2. Geology and Soils

The Sacramento River study area is within the Great Valley Geomorphic Province. This province is a structural basin that has been filled with sedimentary rocks ranging in age from early Cretaceous to Holocene. Beneath the surface in Sacramento County, the Cretaceous sediments

are estimated to be at least 10,000 feet thick. Post-Cretaceous marine rocks, mostly Eocene in age, are about 3,000 feet thick. All sediments in the study area have a uniform westerly dip.

The Sacramento River Area is considered to be within the river floodplain subunit of the Great Valley Province. Materials underlying this subunit are composed primarily of unconsolidated, deposits of clay, sand and silt. The more recent alluvial deposits occur at the land surface as natural berms within the leveed river channel. These floodplain deposits were, and are currently, being formed by winter flood stage runoff, and from natural sedimentation in the Sacramento Valley. The floodplain deposits generally provide poor foundation material being poorly consolidated and often water saturated. These deposits may also contain unstable clays which cause problems of shrinking and swelling.

The Soil Conservation Service of the U.S. Department of Agriculture, in cooperation with the University of California Agricultural Experiment Station, has arranged the soils of Sacramento County into seven major groups based on general soil characteristics and physiographic location. The soils of the Sacramento River study area are characteristic of two of these classification groups. Soil Group 2 borders the river and extends northward from about 35th Street through the Discovery Park Area. This area is dominated by deep, somewhat poorly drained soil of natural river levees and alluvial fans. Soils adjacent to the river in the Pocket Area are classified as Group 3. This area is dominated by poorly drained clay and clay loam soils of basins and basin rims.

Another important soil characteristic is fertility which is rated by the Soil Conservation Service under the Land Capability Classification system. Permanent soil qualities and characteristics, together with assumptions as to feasible soil improvements, management practices, and physical or economic factors, are considered in placing soils in the eight capability classes. Under this classification system lands adjacent to the Sacramento River above the Pocket Area are considered to be good agricultural land, with minor limitations, such as, somewhat poor drainage, gravelly textures, or slightly dense subsurface layers that reduce the choice of plants or require some conservation practices. Lands in the Pocket Area are described as moderately good with important limitations caused by soil, topography, or poor drainage that require restrictions in choice of plants and special management practices, cropping or drainage, etc. Soils north of the Pocket Area are moderately permeable while southern soils in the pocket are considered to have slow permeability characteristics. Both soil types within the study area are considered non-expansive.

Seismicity. The Sacramento River Study Area overlies a geologic formation which tends to be more unstable during seismic events. This formation is described as soil and underlying structures which are unconsolidated and water-saturated much of the time. The Sacramento Environmental Management Task Force Report, 1972, notes that special engineering precautions should be taken during construction in the Sacramento River floodplain region. This report assigns the vicinity of the project area a maximum expectable seismic intensity of VII, locally VIII, (in the Modified Mercalli units). The modified Mercalli Scale of seismic intensity rates the noticable effects of earthquakes on man, nature, and man-made structures.

Modified Mercalli Intensity Scale of 1931

(abridged)

VII. Everybody runs outdoors. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motorcars. (VIII Rossi-Forel scale)

VIII. Damage slight in specially designed structures; considerable in ordinary substantial buildings, with partial collapse; great on poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motorcars disturbed. (VIII+ to IX Rossi-Forel scale)

Source: Sacramento Environmental Management Task Force, 1972. Sacramento County Environmental Studies, Volume II, Sacramento County's Physical Environment

3. Hydrology

The Sacramento River is the largest river in California with a drainage area in excess of 2,300 square miles above Sacramento, and an average annual discharge of 16,490,000 acre feet. Discharge flows are below 54,000 cubic feet per second (c.f.s.) about 90% of the year. The range of mean monthly discharge at Sacramento between December and February is 25,000 to 42,00 cfs; March - May 29,000 to 35,000 cfs; June - August, 10,000 to 18,000 cfs; September - November, 12,000 to 15,000 cfs (U.S. Department of the Army, 1975).

The maximum historic discharge of the Sacramento River at Sacramento was 104,000 cfs on November 21, 1950. The river stage at the "I" street gage was approximately 30 feet above mean seal level (U.S. Department of Interior, 1973). Since then, a number of water projects have increased the storage capacity of the drainage and altered seasonal flow characteristics. During periods of high water the Sacramento weir, located upstream from

Sacramento, is opened and flood waters are allowed to flow into the Yolo Bypass, west of the City of Sacramento. The weir gates are partially opened when river flows reach 71,000 cfs or about 21.0 feet mean sea level (msl) at the "I" Street gage station. If flood waters continue to rise additional gates are opened so that flood stage does not exceed 29.0 feet (msl) at the station, (Bringham, 1975).

To assess the recreational potential of riverside berms in the study area, the elevation and inundation frequency of each berm was determined. To do this, field surveys of all berms were made during high water. The high water level during the survey period was 21 feet (msl) measured at the "I" Street gage station. The normal river level slope through the 13 mile stretch was taken into account. Tidal action, which normally effects the daily river level through the study area, was negligible during the high flows experienced during the survey. Once the relative elevation of each berm was determined, each was classified as either a high, medium, or low berm. (See map 3 ). The susceptibility of each berm category to flooding was determined by reviewing existing hydrologic data (U.S. Department of the Interior 1969-1974). Data prior to October 1968 was not used in the determination because of increased storage capability of the drainage system after the completion of the Oroville Dam Project. The low berms were found to be inundated an average of 3 times in 5 of the last 6 years; medium berms an average of over one time in 4 of the last 6 years; and the high berms an average of one time in 2 of the last 6 years.

Water Quality. The water quality of the Sacramento River is considered high in comparison to other large rivers of its kind. River waters just below the confluence of the American River are reported to be an excellent source for municipal supply (James Montgomery, 1974). However, due to wastewater outfalls, water quality decreases through the study area down to Freeport. Table 1 indicates the range in water quality of the Sacramento River 1/2 mile downstream from the confluence of the American River.

In comparison to the American River through the Sacramento Area, the Sacramento River shows a lower water quality. Turbidity, a major factor in water oriented recreational activity, is noticably higher in the Sacramento River. Some water quality characteristics for the Sacramento River versus that of the American River in 1970-71 were, respectively; turbidity, 27 Jackson Turbidity Units (JTU) and 4 (JTU); temperature 59°F and 56°F and; total dissolved solids 89 mg/l and 47 mg/l (U.S. Environmental Protection Agency, 1974).

Agricultural, industrial and municipal wastewater is currently being discharged into the Sacramento River

CITY OF SACRAMENTO

SACRAMENTO RIVER

RANGES IN WATER QUALITY

1960-1972[1]

Table 1

| Constituent | Range (mg/l) unless stated otherwise |
|---|---|
| Temperature | 37 - 74 |
| pH | 6.6 - 8.0 |
| Alkalinity (as $CaCO_3$) | 10 - 90 |
| Bicarbonate (as $CaCO_3$) | 20 - 43 |
| Hardness (as $CaCO_3$) | 16 - 31 |
| Iron | 0.00 - 2.33 |
| Magnesium | 1.0 - 7.3 |
| Sodium and Potassium | 2.4 - 16 |
| Dissolved Oxygen | 7.3 - 13.5 |
| Coliform (MPN/100 mls) | 30 - 110,000 |
| Turbidity (JTU) | 11 - 16[2] |
| Electrical Conductance (umhos/cm) | 125 - 152[3] |

(1) Based on analyses by the Sacramento Division of Water and Sewers.

(2) Range from 1970-1972

(3) Range from 1969-1972

Source: James M. Montgomery, Consulting Engineers, Inc. 1974. Sacramento River Treatment Plant Expansion and Master Planning Study.

at various locations within the study area. Most of the agricultural wastewater and some of the industrial water is discharged into the River along the Yolo County side between "I" Street and Miller Park. High river flows during the winter months dilute this wastewater to a large degree. However, during the summer recreation months, when agricultural runoff is high, river flows are relatively low. During these periods river water quality is lowered.

Municipal wastewater discharges during summer months also contribute to lower water quality in the Sacramento River. Three wastewater treatment plants currently discharge into the river within the Parkway study area. The West Sacramento Treatment Plant, with an average flow of 3.5 million gallons per day (mgd) in 1971, discharges into the river on the Yolo County side across from Miller Park. The City of Sacramento Main Treatment Plant, with an average flow of 51 mgd in 1971, discharges into the river near 43rd Avenue. The Meadowview Treatment Plant discharges an average flow of 1.5 mgd (1971) into the river south of the Freeport Boulevard - Meadowview Road intersection. (U.S. Environmental Protection Agency) 1974.

In addition to the three treatment plant outfalls, wastewater is discharged into the river during periods of high rainfall from two sumps connected to the City's combined sewer system. The sumps, numbered 1 and 2, are located at the southeast corner of Front and "U"

streets and the northwest corner of Riverside Boulevard and Eleventh Avenue, respectively. The combined sewer system, which serves approximately 7,000 acres of the older City Areas, receives both sanitary waste and storm water drainage. During dry weather periods all flow from the combined system is pumped to the City's Main Treatment Plant. During heavy storms, the flow in the combined system is increased tremendously by rainwater runoff. These flows often exceed the treatment capacity of the main plant. When this occurs (an average of 36 times per year) the excess sewer flow is pumped from the sumps directly into the River, untreated (U.S. Environmental Protection Agency, 1974).

Studies were conducted in 1972-73 to determine the effects of wastewater bypass on the water quality of the Sacramento River below the sump outfalls. These studies showed that bacterial contamination of river water is significant during bypass periods. Fecal coliform counts were above the State of California's Bath and Beach safety standards more than 3,000 feet below Sump 1.

In 1972 the City of Sacramento and Sacramento County began planning for a regional wastewater treatment system that would comply with the recommendations of the California Regional Water Quality Control Board. This system would eliminate all wastewater discharges into the Sacramento River between the Feather River and Freeport. Since this time extensive studies and reports have been developed on the feasibility and design concepts of the project. In 1973 the Sacramento Regional County Sanitation District was formed and a bond issue to partially fund the regional project was approved in 1974.

The new Regional wastewater management program includes the construction of two regional treatment plants which will eventually replace existing plants. This regional system will directly affect the water quality of the Sacramento River through the study area, by eliminating all existing wastewater discharges within the greater Sacramento Area along the American River and Sacramento River, except during stormy weather. The project will transport normal wastewater flows from all of the area's treatment plants to the County's Central Plant located south of the City limits. The Central Plant will be expanded and improved to become the new Regioanl Plant. Treated effluent from this plant will be discharged into the Sacramento River below the Parkway Study Area, near Freeport. (U.S. Environmental Protection agency, 1974).

An important feature of the Regional Plan, in terms of planning for the Sacramento River Parkway, is the abandonment of the City Main Treatment Plant as an all weather facility, and its conversion to a seasonal facility designed to treat only the excessive winter

flows of the combined sewer system. The norml, dry-weather combined flow will be transported by underground pipe to the Regional Plant. When winter flows from the combined system reach 70 mgd, the City Main Plant will be placed into operation to handle further increases. Treated effluent from this plant will be discharged through a midchannel diffuser to be constructed near the existing outfall, at 43rd Avenue. If, during heavy rainfall, the combined sewer system flow exceeds the capacity of the City Main Plant (200 mgd) excess untreated effluent will be stored for later treatment in existing sumps 1 and 2. If high rainfall continues and sumps fill to capacity, direct bypass of untreated effluent will be discharged into the Sacramento River, near the existing outfall locations. The bypass event will occur on an average of less than twice per year in comparison to the present 36 times, (U.S. Environmental Protection Agency, 1974).

In summary, all wastewater discharges into the Sacramento River through the Parkway study area and along the American River will be eliminated, except during very high rainfall periods. The current schedule for the abandonment of normal operation of the City Main Plant is 1980. The Meadowview Treatment Plant will be eliminated in 1979. Total consolidation of all project phases is sceheduled for 1981. Upon completion of the regional project, discharge of untreated effluent will occur on an average of twice a year from Sump 2 and less frequently from Sump 1.

4. Climate and Air Quality

Western Sacramento County, like other portions of the lower Sacramento Valley, experiences winters that are cool and rainy and summers that are very hot and dry. Temperatures for the year average 60.7°F, with the average seasonal highs and lows reaching 90.0°F and 38.3°F, respectively.

Cyclonic-type precipitation is commonplace in the Parkway vicinity. Precipitation averages 18 inches annually and occurs primarily from November through April. High-intensity rains are rarely sustained for very long and are usually associated with convective-type storms occurring infrequently during the late winter and early spring. Relative humidity also varies seasonally, with values ranging between 60 and 90 percent during the winter months, and summer values averaging 39 percent.

The air masses that pass through the Carquinez Strait are responsible for the southwesterly wind flows experienced in the area from April to October. Prevailing winds from December through February are from the southeast. The wind speeds average 7.6 miles per hour, with higher velocities occurring during October and November.

Another important climatological parameter is the average amount of sunshine per month. The values are

expressed as a percentage of the time, and range from a low of 44 percent of possible time in the month of January to a high of 96 percent in the month of July.

A variety of meteorology-related factors are important to the air quality of the area. The Parkway area lies within the Sacramento Valley Air Basin. The land area of the Basin is approximately 21,500 square miles and has a relatively flat valley floor bounded on the west by the Coast Range, and on the north and east by the Cascade and Sierra Nevada Ranges. The Basin formation influences to a large extent meteorological factors such as the previously discussed winds, storm activity, and solar radiation factors. In addition, the presence of temperature inversions plays an important role in the air quality of the region.

A temperature inversion is an increase in temperature with increasing altitude. This is generally associated with semi-permanent high pressure systems aloft which are prevalent in the area during the summer. The top of this layer is relatively high, reaching altitudes up to 7,000 feet. Winter levels are much lower, and on especially cold mornings, the top of the inversion may be as low as three feet off the ground. The persistence of this inversion and its resistance to vertical air currents makes it an effective trap for foreign materials which are emitted into the local atmosphere.

Radiation inversions occur within the Parkway area during the winter months. The ground cools at night by radiating heat into space, causing lower air temperatures near the ground. Depending on the moisture content of the lower layers, and its associated climatic factors, a "radiation fog" or "tule fog" may form between storm periods when stagnant conditions prevail.

D. CULTURAL ASSESSMENT

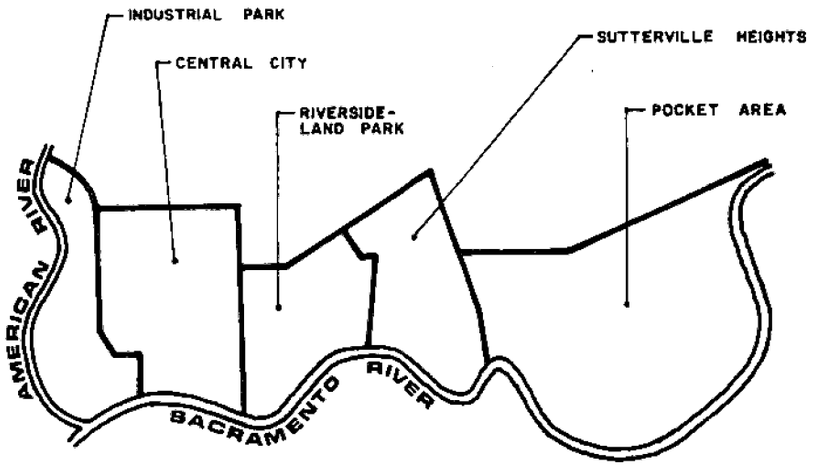
1. Population Characteristics of Sacramento and the Parkway Study Area.

Information on population characteristics and trends for the Sacramento area was compiled from several sources, including various United States Census Bureau publications, and related statistics published by the local planning agencies. The 1970 Census information was heavily utilized. Although it is several years since the Census was taken, it remains as the most definitive source of information on neighborhood, community and areawide population characteristics.

The City of Sacramento has divided the area within its jursidictional boundaries into twenty-five community planning areas; of this number, five border on the Sacramento River, within the study boundaries. Therefore, whenever possible, the data pertaining to population characteristics will be allocated within these five community planning areas. For the most part, they conform to the five study areas set forth within the Sacramento River Parkway boundaries. The five community areas to be used are shown on Figure 6, and are as follows:

Industrial Park (IP)
Central City (CC)
Riverside/Land Park (R/LP)
Sutterville Heights (SH)
Pocket (Pk)

Figure 6




Population Totals. Living within the Sacramento Standard Metropolitan Statistical Area (S.M.S.A.) in 1970 were 800,592 persons. Of this number, 631,498 resided within Sacramento County, and 254,413 within the City limits of Sacramento (Table 2 ). In the five community areas along the Parkway, there were 74,895 residents. Table 2 indicates that of the five communities along the Parkway, the Central City community was the most populous (28,300). Residing in each of the three communities of Riverside/Land Park, Sutterville

Table 2

1970 POPULATION

| Area | Total | White | % | Black | % | Other | % | % Non-Wh. |
|---|---|---|---|---|---|---|---|---|
| IP | 1,031 | 871 | 84.5 | 98 | 9.5 | 62 | 6.0 | 15.5 |
| CC | 28,254 | 23,104 | 81.7 | 1,175 | 4.1 | 3,975 | 14.1 | 18.2 |
| R/LP | 13,782 | 10,924 | 79.3 | 719 | 5.2 | 2,139 | 15.5 | 20.7 |
| SH | 17,169 | 12,803 | 74.6 | 753 | 4.4 | 3,613 | 21.0 | 24.4 |
| PK | 14,659 | 11,630 | 79.3 | 527 | 3.6 | 2,502 | 17.1 | 20.7 |
| Area Total | 74,895 | 59,332 | 79.2 | 3,272 | 4.4 | 12,291 | 16.4 | 20.8 |
| City Total | 254,413 | 209,377 | 82.3 | 27,122 | 10.7 | 19,868 | 7.8 | 18.5 |
| County Total | 631,498 | 566,332 | 89.6 | 36,418 | 5.8 | 28,748 | 4.6 | 10.4 |
| SMSA Total | 800,592 | 728,212 | 91.0 | 37,911 | 4.7 | 34,469 | 4.3 | 9.0 |

Sources: U.S. Bureau of the Census, May 1972.
City of Sacramento, September 1974.
U.S. Bureau of the Census, December 1971.
U.S. Bureau of the Census, 1972.

Heights and the Pocket were between 14,000 and 17,000 persons. The Industrial Park community had the fewest number of residents, slightly over 1,000.

The ethnic profile from the Census indicates that within the S.M.S.A. and the County, approximately 90% of all residents are white. The average for the five areas along the Parkway shows that four out of five residents are white. This average varies slightly within the five areas, as the Census shows that the Sutterville Heights has the lowest average, and the Industrial Park neighborhood has the highest. The fewest number of black residents live in the Industrial Park area, although the percentage within this area is higher than the average for all other areas, including the total average for the SRP area. The proportion of people in the four community areas of Central City, Riverside/Land Park, Sutterville Heights and the Pocket whom the Census classifies as "other" (primarily Spanish surnamed/Spanish speaking, Oriental and American Indian) varies from 14% to 21%. The average for the total study area is 16%, which is higher than the averages for the City, County, and S.M.S.A. The overall percentage of non-white residents in the five areas ranges from 24% in the Sutterville Heights area to 16% for Industrial Park.

Age Profile. The 1970 Census information on the ages of residents within the five communities along the Sacramento River Parkway is shown on Table 3. Of the S.M.S.A., the County and the City, the percentages of persons in each age grouping vary only slightly. Overall, the total groupings for the Parkway show that it has proportionately fewer people within each category from infant up to age 44 than the City of Sacramento as a whole.

Within the five community areas, the Industrial Park area averages a significantly younger population than the other four areas, while the Central City is shown to have a much older population overall. The Riverside/Land Park area tends to have a high percentage of both younger persons (18 years and younger) and older persons (over 45), with comparatively small percentages of persons in the middle categories between 19 and 44. The Sutterville Heights area has a high proportion of residents between the ages of 5 to 18, and 45 to 64. The Pocket Area also has a high proportion of residents in the 5 to 18 age grouping, with comparatively lower proportions of adults over 45.

Income Profile. The 1970 Census data on family income for the Sacramento area, and the communities along the Sacramento River Parkway, is shown on Table 4. The mean (average) family income for the Sacramento

Table 3

1970 - AGE BREAKDOWNS

| Area | Total Pop. | % 0-4 | % 5-18 | % 19-24 | % 25-44 | % 45-64 | % 65+ |
|---|---|---|---|---|---|---|---|
| IP | 1,031 | 13.6 | 36.3 | 8.0 | 20.8 | 12.5 | 8.8 |
| CC | 28,254 | 4.6 | 13.8 | 13.3 | 20.7 | 25.7 | 21.9 |
| R/LP | 13,782 | 6.6 | 22.4 | 6.7 | 18.0 | 27.8 | 18.5 |
| SH | 17,169 | 5.7 | 27.4 | 7.4 | 21.0 | 29.4 | 9.1 |
| PK | 14,659 | 7.7 | 30.6 | 5.4 | 29.8 | 22.3 | 4.2 |
| Area Total | 74,895 | 6.0 | 22.1 | 9.1 | 22.0 | 26.1 | 14.7 |
| City Total | 254,413 | 8.0 | 25.7 | 10.2 | 22.7 | 22.5 | 10.9 |
| County Total | 631,498 | 8.0 | 29.4 | 10.0 | 25.4 | 20.1 | 7.1 |
| SMSA Total | 800,592 | 7.9 | 29.1 | 10.5 | 25.1 | 20.1 | 7.4 |

Source: U. S. Bureau of the Census, May 1972.

Table 4

1970 INCOME CHARACTERISTICS

| Area | No. of All Families | Mean Income | No. of Poor Families | % Poor Families |
|---|---|---|---|---|
| IP | 198 | $ 4,523 | 106 | 2.3% |
| CC | 5,648 | $ 8,107 | 794 | 14.1% |
| R/LP | 3,967 | $13,232 | 496 | 12.5% |
| SH | 4,714 | $15,567 | 228 | 4.8% |
| PK | 4,432 | $16,723 | 142 | 3.2% |
| Area Total | 18,959 | $13,035 | 1,766 | 9.3% |
| City | 65,798 | $11,177 | 6,873 | 10.4% |
| County | 161,765 | $11,737 | 13,210 | 8.2% |
| SMSA | 203,704 | $11,524 | 17,439 | 8.6% |

Source: U.S. Bureau of the Census, 1972.

S.M.S.A., the County and the City averages in the $11,000 range and slightly above. This is somewhat lower than the $13,000 average for the five communities along the Parkway.

Family income averages for the five areas showed much variation. The lowest incomes were found to be in the Industrial Park area. Progressing south along the Parkway to the other four neighborhoods, mean family incomes averaged higher. The mean family income for the Central City Area was $8,100; $13,200 for the Riverside/ Land Park area; $15,600 for the Sutterville Heights neighborhood; and $16,700 for the Pocket area.

Persons below the poverty level are of special concern to planning within an urban area. Within the Central City and the Riverside/Land Park area resided the largest numbers of families with incomes below the poverty line. Relative to recreation development, persons of low incomes have lower participation rates, evidencing special needs which should be addressed.

Housing Profile. The 1970 Census data on housing value and occupancy is shown for the Sacramento area and the study areas on Table 5. The median value of all owner-occupied housing units within the Sacramento S.M.S.A. ranges from $17,900 in the S.M.S.A. to $16,600 for the City of Sacramento. The total for all of the communities along the River was significantly higher at $21,900.

Within the five communities along the Parkway, there were considerable differences in housing values. The overall pattern of higher family incomes progressing south along the River study areas paralled the pattern of housing values. In Industrial Park, the 1970 median value of owner-occupied units was $11,300 while the median monthly rent of renter-occupied units was $58. In the Central City community, these values were $14,400 and $86 respectively. In the Riverside/ Land Park area there was a larger rise to $20,400 and $78. The median value of owner-occupied units in the Sutterville Heights area was $21,000, and the median monthly payments for renters was $118. The highest median home values were found in the Pocket, the newest area along the Parkway, with $30,100 for owner-occupied units, and $166 per month for rented units.

The occupancy profile for the greater Sacramento area shows that the majority (between 54% and 59%) of all housing units within the S.M.S.A. are owner-occupied, and approximately one-third are occupied by renters. Within the total study area, the proportion of owner-occupied units is significantly less, with 13,642 (or 41%) of the 33,143 units occupied by their owners.

Within the five study areas, the data shows that the housing in the Industrial Park and Central City communities is overwhelmingly rented. In the Riverside/Land

Table 5

1970 HOUSING OCCUPANCY AND VALUE

| Area | Total Housing Units | Total Owner-Occupied | | Median Value | Total Renter-Occupied | Median Rent | Total Vacant |
|---|---|---|---|---|---|---|---|
| IP | 349 | 15% | 53 | $11,300 | 283 | $ 58 | 13 |
| CC | 16,567 | 13% | 2,196 | $14,400 | 13,053 | $ 86 | 1,320 |
| R/LP | 5,411 | 68% | 3,670 | $20,400 | 1,625 | $ 78 | 116 |
| SH | 5,887 | 76% | 4,490 | $21,000 | 1,282 | $118 | 115 |
| PK | 4,929 | 65% | 3,233 | $30,100 | 1,389 | $166 | 307 |
| Area Total | 33,143 | 41% | 13,642 | $21,900 | 17,632 | $ 93 | 1,871 |
| City Total | 96,600 | 54% | 52,561 | $16,600 | 39,136 | % 90 | 4,903 |
| County Total | 212,158 | 59% | 125,364 | $17,900 | 77,589 | $107 | 9,205 |
| SMSA Total | 270,339 | 58% | 157,700 | $17,900 | 98,126 | $106 | 14,513 |

Sources: U.S. Bureau of the Census, May 1972.
City of Sacramento, September 1974.

Park and Sutterville Heights area, two-thirds are owner-occupied. The Pocket has the highest rate of home ownership (76 percent) of the five communities.

Automobile Ownership Profile. Information from the Census on the availability of automobiles within households for Sacramento and the River Parkway areas is shown on Table 6 . This data indicates how many cars, if any, are owned by members within each household unit*. Within the County and the S.M.S.A., proportional distribution of car ownership is similar. Approximately 11 percent of households have no car, while 45 percent own one car and another 45 percent own two or more cars. Within the City of Sacramento however, the pattern is different, as 19 percent (17,224) of all households do not own a car. Approximately one-half (47 percent) own only one car, while one-third own two or more cars.

Within the households in the five study areas, automobile availability decreases further. Over one-fourth (26 percent) of the households in the Parkway Study area do not have a car. Less than one-half have one car; while the remaining proportion of households have two or more cars. In each of the five study areas, there are some wide differences, as a pattern of greater automobile availability emerges progressing south from the Industrial Park area to the Pocket area.

Although the total number of households in the Industrial Park area is small, 29 percent have no car available to them. Nearly 60 percent have one car while only 12 percent have more than two cars.

In the Central City community, the pattern of limited automobile ownership is strikingly evident. Here the largest number and proportion of households (6,881 at 45 percent) are without any car. A similar number, 6,719 (44 percent) had only one car. The percent of those households which had two or more cars (11 percent), is the smallest for all five areas along the Parkway.

The pattern of car ownership in the Riverside/Land Park community is very similar to the City of Sacramento averages. In the community, approximately 18 percent have no car, and 49 percent own one car. The remaining one-third have two or more cars available to them. The data for the Sutterville Heights area indicates that smaller proportion (7 percent) of households are without a car. Similar numbers of households own one car, as those who own two or more cars.

The ownership patterns show that the Pocket area has the greatest availability of cars. Here, three out of five (60 percent) households own two or more cars; nearly two out of five (39 percent) own one car, and one percent have no car.

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* The household unit is defined by the Census as one or more persons living together as one economic unit. This definition includes, but is not limited to, a family or a single person living alone.

Table 6

AVAILABILITY OF AUTOMOBILES BY HOUSEHOLD

| Area | Total Hshlds | No Car | % | 1 Car | % | 2 or More Cars | % |
|---|---|---|---|---|---|---|---|
| IP | 313 | 91 | 29.1 | 183 | 58.5 | 39 | 12.4 |
| CC | 15,211 | 6,881 | 45.2 | 6,719 | 44.2 | 1,561 | 10.6 |
| R/Cp | 5,295 | 970 | 18.3 | 2,623 | 49.5 | 1,700 | 32.1 |
| SH | 5,772 | 379 | 6.6 | 2,663 | 46.1 | 2,730 | 47.3 |
| PK | 5,056 | 67 | 1.3 | 1,966 | 38.9 | 3,023 | 59.8 |
| Area Total | 31,647 | 8,388 | 26.5 | 14,154 | 44.7 | 9,105 | 28.7 |
| City | 91,710 | 17,224 | 18.8 | 43,157 | 47.0 | 31,329 | 34.2 |
| County | 202,953 | 21,739 | 10.7 | 90,726 | 44.7 | 90,488 | 44.6 |
| SMSA | 255,826 | 27,101 | 10.6 | 117,220 | 45.8 | 111,505 | 43.6 |

Source: U.S. Bureau of the Census, May 1972

This information on car ownership is an important element in establishing mobility patterns and utilization of recreation facilities over one-fourth of a mile away. Households with high automobile availability, i.e., two or more cars, tend to utilize recreational facilities much more frequently than those with only one car. Households without a car have significantly lower utilization rates of such facilities.

2. Social-Economic Aspects of Recreation Participation.

Close examination of participation patterns in recreation show that there are social, economic and cultural factors which act to limit or constrain the use of recreational facilities within specific segments of the population. These factors show that within the general population of the urban area, there are residents who typically have lower participation rates, evidencing special recreational needs.

Some of these factors are examined in a study, Recreation Problems in the Urban Impacted Areas of California (1970). The Sacramento urban area was included within this study as one of sixteen impacted areas within California. Within the context of this study, major portions within the Parkway study area have social characteristics which constrain participation in recreation and leisure time activities. These areas are the Central City area, the Industrial Park area, and parts of the Riverside Land/Park community.

The socio-economic characteristics of residents who have significantly lower participation patterns are those with low incomes; low housing market values; limited automobile availability; fewer years of education; and/or are over 55 years old. Persons of minority ethnic backgrounds, primarily Black and Spanish-speaking, have much lower participation patterns, particularly if they are in a low income group.

The data for the five study areas with respect to these socio-economic factors is contained in the section on Census information, and will not be repeated here in detail. However, it was shown that the three areas of Old Sacramento, Industrial Park, and to a lesser degree a portion of the Riverside/Land Park area, consistently had comparatively low family incomes; a high rate of families below poverty level; low housing value or rent payments; limited auto availability, a high proportion of minority persons; and particularly in the Old Sacramento area, a high percentage of older persons.

With the exception of age, all of the above factors bear a direct relationship to low incomes. Low income is a limiting factor in the participation in recreation leisure time, not only due to user costs, but also costs

associated with sporting equipment, such as boats, bicycles and hiking equipment. Limited availability of cars is also a sever constraint to those who desire to use facilities at distances greater than one-fourth mile, as this is the maximum distance most people will walk to get to recreational facilities. Within the Central City area, for instance, almost one-half of the households have no car available to them. In these instances, even the cost of public transportation will be a limiting factor. Households which have two or more cars are typically more likely to travel to recreational facilities. Households with only one car, still have lower participation ratios, as the one car will often be used for purposes that are more necessary to the household, such as transportation to and from employment, school, shopping needs, etc., rather than for travelling to lesiure time activities away from home.

These factors show that within the Sacramento River Parkway study area, there are many residents with special recreational needs which should be considered. Some ways of addressing this need will be in the provision of free recreational activities available along the Parkway, such as picnicking, walking routes and fishing areas. Another measure which should be taken is the establishment of public transportation to the major access points along the Parkway as they are developed.

Families or individuals who have higher incomes, and therefore typically have more disposable income, greater mobility, higher levels of educational attainment and more expensive housing, use recreational resources more heavily, and in effect, create the greatest demand on existing facilities.

This correlation between income related factors and recreation participation patterns indicates that of those who live in the five study areas along the Parkway, those who will be likely to utilize the Parkway most heavily as a community resource will be those living in the southerly areas. However, its existence as a regional resource will draw recreationists from the entire Sacramento metropolitan area.

3. Population Trends and Recreation

In terms of developing a regional resource such as the Sacramento River, population projections for both the Region, the City of Sacramento and the Sacramento River Parkway study area were examined. They were used in developing a profile of population trends and projected recreation demand.

Between 1950 and 1960 the population in the six county SRAPC area increased by 70%, an absolute increase of 300,000 persons. Between 1960 and 1970, the increase was 24%, or

175,000 persons. The projected 1970-1990 increase is estimated at 40-45% (Table 7).

Within the County of Sacramento between 1970 and 1990, an increase in population of 39% has been projected, accounting for about 250,000 new residents. (California Department of Finance, August, 1974). Within the City of Sacramento, a similar rate of increase (37 percent) has been projected in the General Plan, indicating there will be approximately 96,000 new residents by 1990 (City of Sacramento, 1974). Projections in the General Plan for two community areas along the Parkway show differing rates of growth. In Area 3 of the General Plan, which corresponds to the Central City and Industrial Park areas used in this study, a modest increase of 14%, or about 2,000 people has been projected. In Area 4 of the General Plan, which corresponds to the Riverside/Land Park, Sutterville Heights, Pocket Area, and some lands east of these three communities, a higher projection of 49% was forecast. (Source: City of Sacramento, 1974).

The steadily increasing population of the region has placed an obvious demand on existing facilities. and on all agencies to supply new facilities to accommodate this growth. Furthermore, the rate of recreation participation per capita has also been increasing due to greater amounts of leisure time, higher family incomes, and a younger population. This will be discussed further in the following section. It is necessary, therefore, to anticipate a future recreation demand in excess of absolute population growth. While population for the County is anticipated to increase by 39%, recreation demand in the County for activities pertinent to the Sacramento River Parkway is forecasted to increase by 73%. (See Table 8).

Table 7

POPULATION PROJECTIONS

| Area | 1970 | 1980 | 1990 | % Increase 1970-1990 |
|---|---|---|---|---|
| Area 3 | 32,734 | 34,800 | 37,200 | 14% |
| Area 4 | 64,522 | 78,100 | 96,200 | 49% |
| Area Total | 97,256 | 112,900 | 133,400 | 37% |
| Sacto City[1] | 257,105 | 296,700 | 353,000 | 37% |
| Sacto County[2] | 637,700 | 753,600 | 884,900 | 39% |
| Yolo County[2] | 92,200 | 118,800 | 147,300 | 60% |
| Placer County[2] | 77,900 | 109,500 | 137,600 | 77% |
| Sutter County[2] | 42,000 | 49,000 | 59,500 | 42% |
| Yuba County[2] | 44,800 | 47,300 | 55,300 | 23% |
| El Dorado County[2] | 44,000 | 64,200 | 87,700 | 99% |

Sources: 1) City of Sacramento, Preliminary General Plan, 1974
2) California Department of Finance, Population Estimates for California Counties, August 1974.

In terms of population trends, an analysis of age groups showed that the greatest 1960-1970 increase has been in the 10 to 25 year olds. The 5-10 year olds showed a small increase, while under 5 years of age experienced a large decrease, reflecting a trend toward smaller families. The 25 to 40 year olds increased at a very slow rate. The number of persons over 50 years of age is increasing substantially. This rate was greatest among those over 80, where the increase was 70 percent.

Participation in outdoor recreation is strongly correlated with age. Children and young adults (ages 5-25) place the greatest demands on outdoor recreation facilities, especially facilities developed for competitive sports and active recreation pursuits. The large proportion of individuals in this age group in the region indicates an existing high level of recreation demand which should continue for many years.

The number of persons over 50 years of age has an opposite effect on recreation demand, but presents a difficult challenge to suppliers of recreation facilities. National surveys show the sharpest drop in outdoor recreation participation occurs after the ages of 55 and 65, despite individual gains in available leisure time.

Personal income is also an important determinant in recreation participation. The number of families with incomes greater than $14,000 (constant 1970 dollars) has increased substantially since 1950. This increase in affluence is attributed to greater productivity and increase in the number of working wives. One result of this is a larger amount of disposable income available for recreation pursuits.

Families with incomes below $5,000 have also increased. Recent figures indicate that this trend is continuing. A gap is developing between the "haves" and "have nots." While the number with incomes above $14,000 and below $5,000 is increasing, those in the $5,000 - $14,000 range are not. Therefore, particular planning concern should be geared to those with incomes less than $12,000 - $14,000 and especially those with income below $5,000, as they have special needs which constrain or limit their recreation participation.

The relationship between recreation participation and income is influenced by other variables that affect income, for example, age, education, occupation and mobility. In general, recreation participation increases sharply above the $3,000 income class, and continues to increase through the $10,000 income class. At the upper income levels, participation remains relatively stable, although there may be significant shifts in the types of activities sought. Based on the increasing affluence of the region's population, participation in outdoor recreation activities should be high.

Recreation participation, particularly in outdoor activities rises with education. This is attributed in part to higher incomes and occupational status that accrue with education, both of which positively affect

recreation participation. The high education and income rates found in the Region can be expected to produce growth in the level of recreation demand in the ensuing years.

The ability of people to travel to and from recreation facilities is a critical factor in participation, especially where there is an uneven distribution of facilities in relation to the population. Federal, State, and regional parks are generally located beyond urban areas, making travel to these facilities by personal auto an almost universal necessity.

In the Sacramento Region, the average number of cars per household is 1.52, one of the highest rates in the nation, (Source: Regional Transit Plan and Program, Revised Ed., 1973). Thus, most of the region's population is highly mobile and automobile oriented. There are, however, approximately 40% of the population that do not drive, and are dependent on family members or other sources for transportation. Public transportation on a regular basis is available from the Sacramento Regional Transit District in the Sacramento-Roseville metropolitan area.

For those with autos, transportation to recreation facilities in the Region and particularly to the Sacramento River is enhanced by a well-developed highway system. Some parks in the Sacramento urban area are accessible by Regional Transit, but trips to these facilities may require several transfers and relatively long travel time to and from some parts of the community.



For those with means, mobility is not a limiting factor in recreation participation. There remains an acute need to provide transportation to major recreation facilities such as the Sacramento River Parkway for persons without automobiles (Source: SRAPC, 1974).

4. Recreation Demand Trends

Current and projected demand trends (between 1970 and 1990) for selected recreational leisure time activities in Sacramento County, which are applicable to the River Parkway are shown in Table 8 . The unit of accounting is millions of participation days, either by Sacramento County residents, or visitors to Sacramento County. The table is divided into two types of activities; those which are travel oriented, and those which are site locational. Of the selected activities, those which are transient or travel-oriented show a proportionally more rapid projected increase to 1990, as well as a greater numerical projection, than those which are site locational oriented.

It may also be noted that although these projections were available as of 1974, the data base from which they were drawn was developed in the mid and late 1960's. One recreational acitivity which has greatly increased in popularity within the last several years has been bicycling. Therefore, since the inception of the study shown in this table, it could be anticipated that the

participation days projected for this sport will be higher than first projected.

Table 8

ANNUAL DEMAND FOR OUTDOOR RECREATION ACTIVITIES ALLOCATED TO SACRAMENTO COUNTY

(In Millions of Participation Days)

| | 1970 | 1980 | 1990 | % Increase 1970-1990 |
|---|---|---|---|---|
| **Longitudinal Activities** | | | | |
| Walking for pleasure | 8.943 | 11.762 | 15.503 | |
| Nature Walks | .864 | 1.132 | 1.498 | |
| Sightseeing | 3.575 | 4.691 | 6.174 | |
| Bicycling | 2.850 | 3.742 | 4.958 | |
| Boating | 1.166 | 1.529 | 2.013 | |
| Water Skiing | .681 | .894 | 1.177 | |
| Total | 18.079 | 23.750 | 31.324 | 73% |
| **Locational Activities** | | | | |
| Picnicking | 1.148 | 1.506 | 1.984 | |
| Fishing | 1.010 | 1.324 | 1.750 | |
| Swimming | 4.492 | 5.896 | 7.752 | |
| Playing outdoor games | 7.753 | 10.189 | 13.465 | |
| Total | 14.403 | 18.915 | 24.951 | 73% |

Source: State of California, 1974.

It has also been established that within recent years, demand and participation in all recreational activities in Sacramento County have been increasing at a rate double that of actual population growth. In other words, even though population growth in some areas within the County has been slowing down or leveling off as population capacities are reached, recreation demand and participation is still increasing. This is due to several factors. The first is the trend towards more leisure time as a result of shorter working hours and longer vacation periods. The second is the trend towards more disposable income among middle-upper and upper income individuals. One result of this is that more money can be allocated to the "non-essentials" like sophisticated sporting equipment such as ten-speed bicycles, hiking paraphernalia and larger commodities such as boating equipment. Another trend has been the increasing national awareness both of personal physical fitness and concern over ecology and the natural environment. These factors have resulted in more leisure time spent away from the home in recreational activities oriented toward a "back to nature" movement. These trends toward more leisure time and the consequent orientation to recreational participation can be anticipated to continue into the future.

In terms of measureable recreation demand for the Sacramento River Parkway, the only available example within the region by which to project demand and utilization is the American River Parkway. This parkway, which stretches from the confluence with the Sacramento River up into the Mother Lode, has been under development for the past several years, with major portions completed within the metropolitan area. While the resources and extent of the American River Parkway are not identical to the Sacramento River, the concept is similar.

In 1967, active American River Parkway users were counted at 87,000 and sightseers numbered over 36,000. By 1973, the estimated attendance was 209,000 active users, and over 74,000 sightseers. The projections to 1990 for this resource indicate a minimum annual count of 291,000 active users, and 104,000 sightseers (Sacramento County, American River Parkway Review, 1974). Both water and land oriented activities have received optimum utilization, and some facilities such as bikeways, have been expanded to accommodate larger demands than originally planned for.

The historical experience associated with the American River Parkway indicates that there is a recognizably large demand for water-oriented linear parkway systems within the Sacramento region. The development of the Sacramento River Parkway would help to satisfy this demand, both as a regional resource for the metropolitan area and a community resource for the areas along the Sacramento River. The specific experience with bicycle paths along the American River Parkway also suggest that a similar facility along the Sacramento Parkway would be well-utilized. Such a bikeway facility would not only address a regional recreation need, but would also provide for an alternative transportation mode and commuter route which does not now exist. Further, it might be anticipated that an off-street bicycle facility would be safer for its users than existing or proposed on-street bicycle facilities.

## E. RECREATIONAL USE ANALYSIS

This recreation use potential analysis involves an evaluation of the existing resource and its ability to support different types of recreational activity. There are two essential parts to the analysis: an evaluation of the Parkway resource, physical and social conditions as they relate to recreational use; and analysis of recreational activity types, their appropriateness and compatibility with the resource and regional area. The primary purpose of the recreational use analysis is to arrive at recommendations to be considered in conjunction with other analyses in developing a conceptual plan.

### 1. Recreational Activity Analysis

(a) Basic Premise: The Sacramento River is a recreational resource of unique value because:

(1) It is an open linear area and offers transitory recreational opportunities. The outdoor recreation habits of Americans have changed tremendously in recent years, characterized by a growth and interest in transitory types of activities. Examples include the rise in popularity for hiking, bicycling, cross country skiing, river rafting and off-road vehicle activities.

(2) It offers opportunities for recreational activities that interact with water either directly or indirectly. Water has great human attraction and high recreation value.

"Direct" types of activities would include those that take place in or on the Sacramento River. "Indirect" activities are those that take place adjacent to water and are involved with it only in a sensory (primarily visual) way, or that are related to resources supported by the river's influence (eg. riparian woodlands, lakes and ponds).

Outdoor recreational activities that are predicated upon, or enhanced by, the Sacramento River are those that are most appropriate and are those that would result in the greatest recreational use of the resource. This would include outdoor recreational activities that have a direct or indirect relationship with the River or are transitory in character.

(b) Recreational Activities Considered: Outdoor recreational activities either appropriate or inappropriate that could possibly take place along the river or on adjacent associated lands were initially considered. The following is a listing of these activities:

- Archery and riflery
- Bicycle riding
- Motorcycle riding
- Nature Study

- o Boating
- o Camping
- o Contemplation/passive Recreation
- o Dirt bike riding
- o Field athletics
- o Fishing
- o Gardening
- o Hiking
- o Horseback riding
- o Open play
- o Outdoor Cultural events
- o Outdoor sporting events
- o Photography and Art
- o Playground activities
- o Picnicking
- o Sightseeing
- o Swimming in a facility
- o Swimming in the river
- o Tennis
- o Water skiing

(c) Recreational Activity - Relationship to River Resource:

| Those Recreation Activities Related to the Resource | Those Recreational Activities Not Related To River Resource |
|---|---|
| Boating | Archery and Riflery |
| Fishing | Dirt bike riding |
| Swimming in river | Field athletics |
| Water skiing | Gardening |
| | Open Play* |
| | Outdoor cultural events* |
| | Outdoor sporting events* |
| | Playground activities |
| | Swimming in a facility |
| | Tennis |

| Indirect Sensory Contact | Transitory Activities |
|---|---|
| Bicycling | Bicycle riding |
| Camping | Boating |
| Contemplation/ passive recreation | Hiking |
| Hiking | Horseback riding |
| Horseback riding | Motorcycle riding |
| Motorcycle riding | Sightseeing |
| Nature study | |
| Open Play* | |
| Outdoor cultural events* | |
| Outdoor sporting events* | |
| Photography - Art | |
| Picnicking | |
| Sightseeing | |

* Classification depends on the specific activity. For example, various types of sporting events could involve interaction with the river such as boat races.

(d) Ranking of Activities as to their Appropriateness Based on the Established Premise: An attempt was made to determine the relative appropriateness or inappropriateness of these activities through the assignment of numerical values. Subjectivity is inherent in such a process although this was minimized as much as possible through a simple point system based on the beginning premise.

| Activity Characteristics | Point Value |
|---|---|
| Direct water involvement or transitory activity | +2 |
| Indirect Sensory contact or site locational activity | +1 |
| Not related to river resource (not related to water resource either directly or indirectly and not a transitory activity | -1 |
| Objectionable to Parkway users and adjacent property owners | -2 |
| Safety hazard to others and destructive of environment | -3 |

See Table 9 which shows an evaluation of recreational activity characteristics. A higher point count indicates a greater appropriateness of the activity to the River Parkway resource.

Total Points

| | | |
|---|---|---|
| +5 | Boating | |
| +4 | Sightseeing | |
| +3 | Bicycle riding | Fishing |
| | Hiking | Swimming in river |
| | Water skiing | |
| +2 | Camping | Photography & Art |
| | Contemplation | Picnicking |
| | Nature Study | |
| +1 | Open play | |
| | Outdoor cultural events | |
| | Outdoor sporting events | |
| 0 | Field Athletics | |
| | Gardening | |
| | Playground Activity | |
| | Swimming Facility | |
| | Tennis | |
| -2 | Horseback riding | |
| | Motorcycle riding | |
| -5 | Archery & riflery | |
| | Dirt bike riding | |

These results show rankings ranging from +5 to -5. Boating is the only activity with a maximum rating of +5 (a logical result explaining the current marina development and use for boating).

In actuality the ranking divides the activities into 2 groups, those with positive values and those with a zero or minus value. The top valued activities in the positive group includes activities that are either transitory, have direct involvement with the

## Recreational Activity Characteristics

Table 9

| Activity | Direct Water Involvement | Indirect Sensory Contact | Transitory Activity | Site locational Activity | Not Related to river resource | Objectionable to others | Safety Hazard Destructive | Total Points |
|---|---|---|---|---|---|---|---|---|
| 1. Archery and Riflery | | | | 1 | -1 | -2 | -3 | -5 |
| 2. Bicycle riding | | 1 | 2 | | | | | 3 |
| 3. Boating | 2 | | 2 | 1 | | | | 5 |
| 4. Camping | | 1 | | 1 | | | | 2 |
| 5. Contemplation | | 1 | | 1 | | | | 2 |
| 6. Dirt bike riding | | | | | -1 | -2 | -3 | -5 |
| 7. Field athletics | | | | 1 | -1 | | | 0 |
| 8. Fishing | 2 | | | 1 | | | | 3 |
| 9. Gardening | | | | 1 | -1 | | | 0 |
| 10. Hiking | | 1 | 2 | | | | | 3 |
| 11. Horseback riding | | 1 | 2 | | | -2 | -3 | -2 |
| 12. Motorcycle riding | | 1 | 2 | | | -2 | -3 | -2 |
| 13. Nature Study | | 1 | | 1 | | | | 2 |
| 14. Open play | | 1 | | 1 | -1 | | | 1 |
| 15. Outdoor cultural events | | 1 | | 1 | -1 | | | 1 |
| 16. Outdoor sporting events | | 1 | | 1 | -1 | | | 1 |
| 17. Photography and art | | 1 | | 1 | | | | 2 |
| 18. Playground activites | | | | 1 | -1 | | | 0 |
| 19. Picnicking | | 1 | | 1 | | | | 2 |
| 20. Sightseeing | | 1 | 2 | 1 | | | | 4 |
| 21. Swimming in river | 2 | | | 1 | | | | 3 |
| 22. Swimming in facility | | | | 1 | -1 | | | 0 |
| 23. Tennis | | | | 1 | -1 | | | 0 |
| 24. Water skiing | 2 | | | 1 | | | | 3 |

river, or have both characteristics. The lower half, or less appropriate activity group, includes mostly activities that have indirect sensory contact with the river resource and are site-locational instead of transitory activities.

The second group of activities, those with zero or negative values, are inappropriate uses of Parkway resources. Those in the zero category may be more appropriate if located on a landward area adjacent to the parkway. The activities with a score of minus 2 and 5 would only be appropriate if sizeable land areas were available adjacent to the Parkway and were confined to those sites. Even in this latter case, there still may be objections from adjacent property owners.

(e) Selection of Most Appropriate Recreational Activities: Recreational activities most appropriate for the Sacramento River Parkway are those whose inherent needs and activities are supported by the Sacramento Parkway resource. Those recreational activities which have this relationship are selected here for further study and possible inclusion in Parkway development plans. These are listed here in two groups as to activity type.

| Transitory Activities | Locational Activities |
|---|---|
| Boating | Fishing |
| Sightseeing | *Camping |
| Bicycle riding | *Swimming, river |
| Hiking | Contemplation |
| Water skiing | Photography and Art |
| | Nature Study |
| | Picnicking |
| | Open Play |
| | *Outdoor Cultural events |
| | *Outdoor Sporting events |

* These activities are recommended only if adequate space, proper safety and health measures are provided, conflict with surrounding activities mitigated, and city regulations followed.

(f) Compatibility of Recreational Activities: Many recreational pursuits are compatible with each other in joint use of a recreation resource and in close proximity to each other. Some recreational activities are even compatible in the use of the same facilities.

Multiple use is ideal utilization of a public recreation resource. However, certain outdoor recreational activities have built-in incompatibilities in terms of sharing the same resource at the same time.

Generally, in these situations, contemplative, passive types of recreation yield to more aggressive activities. It is important to consider which activity types preclude other activities so that recreational opportunities are maximized.

In many instances recreational activities that are incompatible can be restricted to separate locations away from each other. This is particularly so for activities which take place within a confined area, usually centered around a particular facility. For transitory activities, given the limitations of a narrow band of land, such opportunities do not exist as the same trail facility must be shared. At least two separate trail facilities must be located next to each other. A similar situation exists with water oriented activities as the same resource is used.

Site Concentrated Activities. The conflicts seen in water related activity stem mainly from the need for the separation of differing activities such as swimming from boating and water skiing; fishing from swimming, boating, and water skiing. One additional conflict is that of motor boat noise. This depends to a large degree on the types of boaters, and the size and nosie of their motors. Some boats are extremely loud and would be offensive to nearly all land recreationists but particularly to those involved in passive activities.

Trail related Activities. Certain trail type activities which are compatible. Hiking, bicycling, horseback riding and motorcycling require separate trails, and in fact differently surfaced trails. In the case of the Sacramento River Parkway, the limited width generally precludes any possibility of multiple trail systems. Due to this restriction and the following, motorcycling and horseback riding are not recommended on the Parkway:

- Safety hazards of motorcycles and horses to pedestrians and bicyclists on single trail.
- Erosion problems created by motorcyclists and horses on the levee.
- Conflict with passive and natural enjoyment of the Parkway.
- Strong objections to such recreational uses of the Parkway by adjacent property owners.

In summary, many of the evaluated recreational activities are compatible given a proper separation. Some activities which could have major conflicts are motorcycle riding, horseback riding and high-powered motor boating. These produce either loud obtrusive noise in contrast to the other recreation activities or are an extreme safety hazard. Motorcycle riders and horseback riders also create erosion problems if not confined to a trail, which in most

cases would be almost impossible to enforce.

Little opportunity exists for mitigating the incompatibilities of motorcycle and equestrian use, particularly if a single trail system is to run the entire length of the Parkway. Boating, however, can be restricted to different sections of the River by motor size, boat type, etc.

Each of the recreational activities selected as being appropriate for the Sacramento River Parkway should be considered.

It is unlikely that all of the selected recreational activities could be accommodated at any one location along the Parkway; nevertheless, the recreational resource evaluation will indicate the opportunities the Parkway offers for the different recreational activities identified.

2. Recreational Resource Analysis

(a) Basic Premise: A Sacramento River Parkway would offer two basic types of recreational opportunities. These are: (1) transitory activities which follow along the river for a considerable length, and (2) location activities concentrated in a given area and usually centered around a particular resource situation or developed facility.

These two differing types of recreation have different resource needs. It therefore becomes necessary to analyze the Parkway's resource opportunities and limitations separately for each recreation type. These can then be looked at together to determine overall use potentials.

The first part of this analysis was the identification of the resource needs for those recreation activities selected as being most appropriate for the Parkway. Then, in light of this information, potentials (opportunities) and constraints (limitations) were determined and mapped for both transitory and site-locational activities.

(b) Analysis of Constraints and Potentials: The purpose for developing a "constraints map" is to identify areas on the land that have conditions or characteristics either physical or social that would restrict or completely preclude recreational use. A "potentials map" does just the opposite, it identifies places on the land that have valuable resources for various recreational uses.

For some resource considerations, however, there is a fuzzy line between what should be considered a potential and what should be considered a constraint.

For example, areas near auto access points have a greater potential for recreational facility development and use. Conversely, those areas not near access points can be considered areas with a constraint, i.e. poor access. Whether the accessibility of an area is to be considered a constraint or a potential is a point of judgement.

In this study, for those questionable resource conditions, consideration as either a potential or a constraint was made based on the negative or positive nature of the rarest conditions. For example, if 80 percent of the Parkway has good accessiblity (within .4 miles of levee access) and 20 percent has poor access, the poor access is the rarer situation and accessibility is considered a constraint.

Evaluation of recreational constraints and potentials is divided into two parts, those affecting a linear facility for transitory activities and those affecting individual sites or sections along the River that would be for locational activities. This division is necessary for evaluative purposes due to the vastly differing resource needs of each type.

(c) Transitory Activities - Linear Facility: For each transitory activity previously identified, the primary resource need is a continuous uninterrupted trail. The primary recreational value derived is the pleasure obtained from continuous change in visual composition as one moves through the landscape. The advantage of such a facility along the Sacramento River is the dual opportunity for transitory motion coupled with continual visual contact with the natural river attraction.

Major constraints to transitory activities are physical and social conditions that present obstacles to development of a continuous trail such as barriers, land use conflicts, safety hazards, or lack of adequate space for passage. Potentials are less useful in evaluating the viability of transitory activities as these recreation types have less contact with the resources of a specific area. Instead, a brief interaction occurs and the traveler moves on. Resource situations that would complement such activity are vistas and other visual attractions along with variety in the perceived landscape and the course of the trail (curves, slopes and trail vantage position).

Constraints. The following conditions were considered to be possible constraints to development of a minimum width, continuous trail system that would run the length of the Parkway.

1. Usuable berm less than 10 feet in width
2. Usuable levee crown less than 10 feet in width
3. Residences abutting levee
4. Private ownership of Parkway berm and/or levee

5. Barriers across Parkway (bridges and gates)

The occurance of each of these is recorded for every tenth of a river mile and is presented in the supportive documents.

Constraints often occur together and in certain combinations can indicate a more seriously limited situation. A constraints map was developed which shows relative degrees of constraint. This was accomplished by combining certain physical and social conditions (listed above as possible constraints) which, when occuring together presented varying magnitudes of constraint. In most cases these limiting situations may be overcome by monetary outlays. A general estimation of the size of these costs was used as a method to determine the level of constraint.

Four levels of constraint are shown on Map 5. Level 1 is the most constraining situation and level 4 the least constraining. These are:

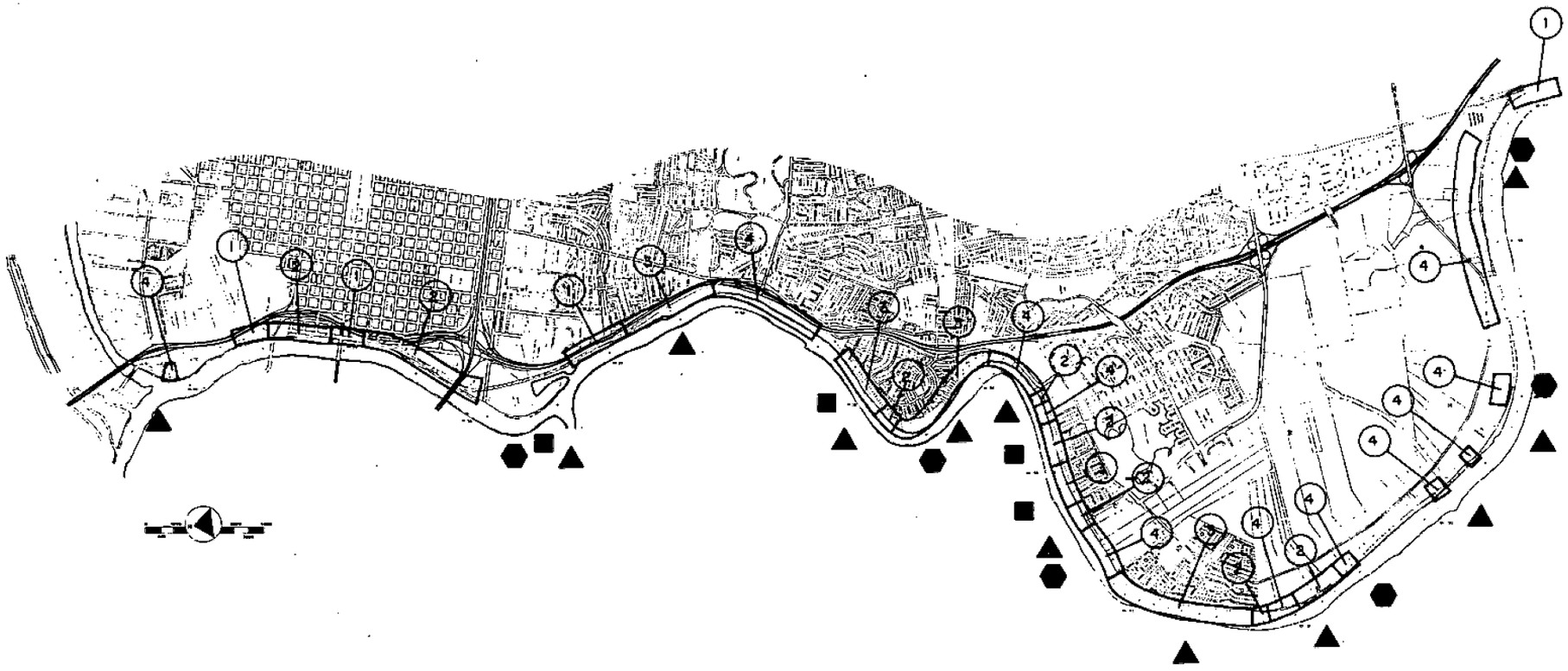
Level 1 - The lack of a usuable berm or levee of 10 feet or greater at the same location. This would include those areas lacking usuable berms or levee crown space, or areas subject to barriers that prevented adequate width for passage of a trail. Ten feet was considered to be a minimum width for a trail in order that the trail could also accomodate maintenance vehicles. Most surfaced trails such as bike trails need a minimum of 8 feet with 3 feet of clearance preferred on each side making a total of 14 feet.

Level 2 - These are areas lacking usable berm (10' width) necessitating use of the levee crown and where residences abut the levee or where other sensitive land use conflicts exist. The latter situation would include land uses that present health and safety hazards or those which could be subject to damage or vandalism by trail users. A caution related to this type of situation is that over the long run, policing land use conflicts could become quite costly.

Level 3 - A situation similar to Level 2 but where there is a usable berm but not a levee. This would allow slightly better possibilities for mitigation of land use conflicts than with Level 2 constraints.

Level 4 - These are areas lacking usable berm (10' width) necessitating the use of the levee crown but where no major land use conflicts occur. This is constraining only in that it limits development possibilities and poses potential land use conflicts if land uses abutting the levee changes.

Potentials. Opportunities for transitory use occur where the minimum requirements of the constraints are



NOTE: PARKWAY CONFIGURATION AND SYMBOLS ARE DIAGRAMATIC ONLY.

MAP 5

## LEGEND

CONSTRAINTS

1. NO USABLE BERM OR CROWN
2. USABLE CROWN ONLY / ADJACENT LAND USE CONFLICT OR HAZARD
3. USABLE BERM AND CROWN/ ADJACENT LAND USE CONFLICT OR HAZARD
4. USABLE CROWN ONLY / NO LAND USE CONFLICT

POTENTIALS

- BERMS HAVING INFREQUENT TO NEGLIGIBLE FLOODING
- AREAS OF SOLITUDE AND QUIETNESS
- AREAS HAVING SHADE PROVIDING TREES

NOTE:
AREAS NOT DESIGNATED 1 THRU 4 OFFER NO MAJOR CONSTRAINT TO TRANSITORY USE.

# SACRAMENTO RIVER PARKWAY
SACRAMENTO, CALIFORNIA

# TRANSITORY USE POTENTIALS AND CONSTRAINTS

met and additional positive resource characteristics are present. In this respect both locational and transitory activities share some of the same potentials. The primary positive resource characteristics affecting a continuous linear facility are:

1. Very infrequent to negligible berm flooding
2. Shade providing trees
3. Solitude and quietness
4. Other unique resource attributes including vistas, unique landscape features, historical or natural areas.

A discussion of each is given in the following section. The occurrence of each potential by a tenth of a river mile has been recorded in matrix form and included in the supportive document.

(d) Locational Activities - Site Facilities: Locational recreational activities are those concentrated at a specific site, usually centered around a facility or unique resource such as picnic tables, a beach area or natural area. Resource needs vary according to the types of recreational activity but usually they require some relatively flat land, vehicle access, space, and certain natural features such as shade trees or water access.

Constraints. Various constraints found along the Parkway undoubtedly limit recreational opportunities in some areas. Site-specific activities unlike transitory activities need not necessarily be affected by these since they can be located away from conflicting areas. It is therefore more important that areas offering potential for various recreational activities be identified. It was still considered appropriate to address certain constraints so a constraints map was developed showing accessibility - proximity to existing access points. Three levels of access constraints are shown on the map:

1. Access further than .4 mile, a constraint
2. Access .4 mile or less, a minor constraint to some recreational activities
3. Direct car access, no constraint

It was determined that, for planning purposes, access points to all parts of the levee should be provided at intervals of no greater than 4/10 of a mile apart. This determination was made after an evaluation of the site conditions and preliminary access study reports were prepared by the City Planning Department, State Department of Parks and Recreation, Engineering Department and City Attorney's Office. Their findings were made from their interpretation of statutory language "reasonable access" as stated in the Subdivision Map Act of the State of California.

Potentials. The following conditions are positive resource attributes for site-locational types of recreational activities. The occurrence of these singly,

or in combination, provide various recreational potentials:

1. Useable berm top greater than 25 feet wide
2. Negligible berm flooding
3. Visually significant areas
4. Natural areas within or abutting the Parkway
5. Historical or cultural areas within or abutting the Parkway
6. Beach areas
7. Popular fishing areas
8. Open City land adjacent to Parkway
9. Open or agricultural land next to Parkway
10. Shade providing trees
11. Solitude, tranquility

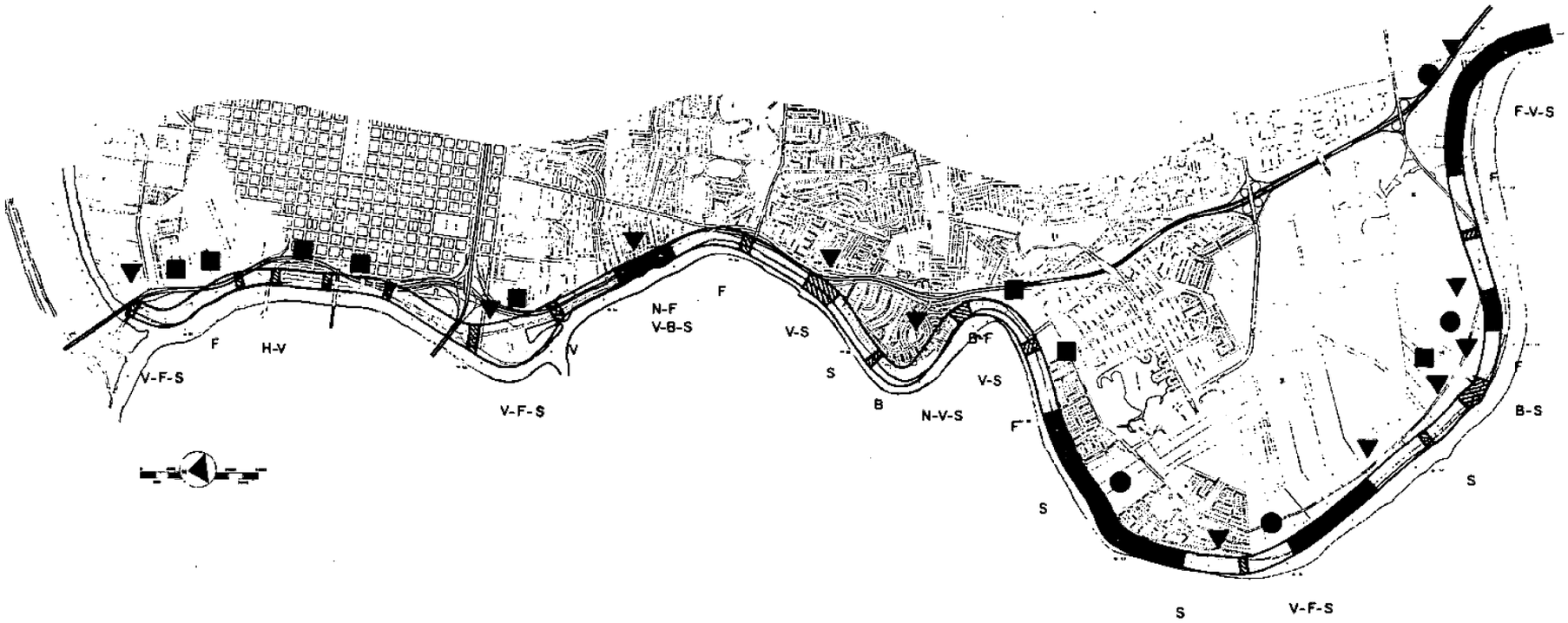
Each of these attributes has been noted as to its occurrence every tenth of a river mile, and are presented in the supporting documents. A potentials map has also been developed and is useful in showing the relationship to each other and to the land. In nearly all cases on the Parkway, recreational development beyond a trail is dependent at least on a suitable berm area of 25 feet in width or greater. On the landward side of the levee, opportunities are much greater for development but such areas lack a close relationship to the River.

The potentials map shows areas where land is available or readily so. These are shown by graphic symbols on the map. The symbol designating berm land greater than 25 feet is the most desireable because of proximity to the river. Another symbol denotes adjacent City owned land on the landward side of the levee. Finally, the third symbol shows open land adjacent to the landward side of the levee where potential park and open space land may be available.

In addition to the various symbols, letters are added that denote areas where potential attributes listed previously, occur. Those shown include the following:

- Visually significant areas and features
- Beach areas
- Historical or cultural resource abutting the Parkway
- Popular fishing areas
- Natural areas

(e) Potential Areas for Site Locational Activities and Development: Site-locational activities can be quite diverse in their resource needs. It is, therefore, necessary to selectively look at the appropriate set of mapped potentials in order to determine recreational potential for each.




NOTE: PARKWAY CONFIGURATION AND SYMBOLS ARE DIAGRAMATIC ONLY.

MAP B

## LEGEND

**CONSTRAINTS**

- AREAS WITH ACCESS GREATER THAN .4 OF A MILE AWAY
- AREAS WITH DIRECT ACCESS
- AREAS WITHIN .4 OF A MILE OR LESS OF DIRECT ACCESS

**POTENTIALS**

- BERM AREA OF 25 FEET OR GREATER
- AREAS WITH CITY OWNED LAND ADJACENT
- AREAS WITH OPEN LAND ADJACENT
- B SANDY BEACH AREAS
- F POPULAR FISHING AREAS
- H HISTORICAL AREAS
- N NATURAL AREAS
- S SIGNIFICANT SHADE AREAS
- V VISUALLY SIGNIFICANT AREAS

# SACRAMENTO RIVER PARKWAY
SACRAMENTO, CALIFORNIA

# SITE LOCATIONAL USE POTENTIALS AND CONSTRAINTS

The following matrix shows potentials that are approrpriate for various recreational facilities. Two categories are shown, those potentials which are required, and those which enhance.

| | Berm 25' or more | Negligible flooding | Visually significant areas | Natural areas | Historical, etc. areas | Beach areas | Fishing holes | Open City land | Open agricultural land | Shade trees | Solitude |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Picnic areas | R | E | E | E | E | E | | R | R | E | |
| Camping areas | R | | E | E | | E | E | R | R | E | |
| Nature Study areas | R | | | R | | | | R | R | E | E |
| Swimming beaches | R | | | | | R | | | | E | |
| Marinas | R | | | | | | | R | R | | |
| Outdoor cultural facilities | R | | E | | | | | | | | |
| Contemplation | R | | | E | | | | R | R | | E |
| Photography & Art | R | | E | E | | | | R | R | | |

R = Required

E = Enhancing

3. Existing Recreational Facilities Adjacent to Sacramento River Parkway.

There are presently numerous important recreational, educational and cultural facilities adjacent to the Parkway. Viewed on a regional scale, these facilities act as resource extentions of the Parkway. They may also function as origin points for the use of the Parkway as a part of a transitory recreational experience, combining numerous nearby facilities.

In order to gain a better understanding of such nearby attractions, an inventory of these facilities and their improvements were made. Indicated on the following matrix are the findings of the inventory by study segments and identification of the type of facilities present.

The purpose of evaluating these adjacent facilities was to determine their contribution in terms of their their resource value to the Parkway and to prevent duplication of facilities.

Recommendations. Findings presented in this recreational use potential analysis should be evaluated in conjunction with findings made in the recreation demand analysis, existing supply recreational facilities analysis, environmental sensitivities study, and socio/cultural factors.

Although it has been shown that camping may be an appropriate activity, limited space and lack of proper

MATRIX OF EXISTING RECREATIONAL FACILITIES ADJACENT TO THE SACRAMENTO RIVER PARKWAY

TABLE 10

| | Amphitheater | Arboretum | Archery | Arts & Crafts | Ball Fields | Boat Launch | Boating | Bocci Courts | Concession | Fishing | Golf Course | Hard Surface Courts | Indoor Recreation | Kiddie Land | Picnic | Play Apparatus | Play Field | Rest Room | Swimming Pool | Soccer | Tennis Courts | Tot Lot | Tourism (Cultural & Commercial) | Trails | Wading Pool | Zoo |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Discovery Park to Old Town: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| o Discovery Park | | | O | | | O | O | | O | | | | | | O | | O | O | | | | | | O | | |
| Old Town to Miller Park: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| o Sac. Historic Area | | | | | | | | | O | | | | | | | | | O | | | | | O | | | |
| o K St. Mall | | | | | | | | | O | | | | | | | O | | | | | | O | O | | | |
| o Capitol Park | | O | | | | | | | | | | | | | | | O | | | | | O | | | | |
| o Crocker Art Gallery | | | | | | | | | | | | | | | | | | | | | | | | | | |
| o Roosevelt Park | | | | | O | | | | | | | O | | | O | O | O | O | | | | | | | | |
| o Southside Park | | | | | O | | | O | | O | | O | O | | O | O | O | O | O | O | O | O | | | O | |
| o China Town | | | | | | | | | O | | | | | | | | | | | | | | | | | |
| Miller Park to 25th Avenue | | | | | | | | | | | | | | | | | | | | | | | | | | |
| o Miller Park | | | | | O | O | O | | O | O | | | | | O | | O | O | | O | | | | | | |
| o Calif. Jr. High | | | | | O | | | | | | | O | | | | O | | O | | | | | | | | |
| o McClatchy High | | | | | O | | | | | | | O | | | | | | O | | | | | | | | |
| o Sacto. City College | | | | | O | | | | | | | O | | | | | O | O | | | O | | | | | |
| o William Land Park | O | O | O | | O | | | | O | O | O | O | | O | O | O | O | O | | O | | O | O | | O | O |
| o Hughes Stadium | O | | | | | | | | O | | | | | | | | O | O | | | | | | | | |

MATRIX OF EXISTING
RECREATIONAL FACILITIES
ADJACENT TO THE SACRAMENTO
RIVER PARKWAY

TABLE 10

| | Amphitheater | Arboretum | Archery | Arts & Crafts | Ball Fields | Boat Launch | Boating | Bocci Courts | Concession | Fishing | Golf Course | Hard Surface Courts | Indoor Recreation | Kiddie Land | Picnic | Play Apparatus | Play Field | Rest Room | Swimming Pool | Soccer | Tennis Courts | Tot Lot | Tourism (Cultural & Commercial | Trails | Wading Pool | Zoo |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25th Avenue to 35th Avenue : | | | | | | | | | | | | | | | | | | | | | | | | | | |
| o Bahnfleth Park | | | | | O | | | | | | | | | | | | O | | | | | | | | | |
| o Sam Brannan Jr. High | | | | | O | | | | | | | O | O | | | | O | O | | | | | | | | |
| o Seamas Ave. Park | | | | | | | | | | | | | | | | | O | | | | | | | | | |
| 35th Avenue to Freeport: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| o Reichmuth Park | | | | O | O | | | | | | | O | | | O | O | O | O | | | | O | | O | | |
| o Bing Maloney Golf Course | | | | | | | | | O | | O | | | | | | | | | | | | | | | |
| o Chorley Park | | O | | | O | | | | | | | | | | O | O | O | | | | | O | | O | O | |
| o Seymour Park | | | | | | | | | | | | | | | | | O | | | | | O | | O | | |
| o Bear Flag School | | | | | | | | | | | | O | | | O | O | O | | | | | O | | | | |
| o Lake Green Haven | | | | | | O | | | | O | | | | | | | | | | | | | | | | |
| o Kennedy High | | | | | O | | | | | | | O | | | | | O | O | O | O | O | | | | | |
| o Garcia Bend | | | | | | O | | | | O | | | | | | | | | | | | | | | | |

facilities precludes this as an advisable recreational use for the area.

There is very little opportunity for development of major use facilities between the levee crown and river. Many opportunities do exist, however, for major use areas on the landward side of the levee. If major recreation development does take place in these areas, it should relate to the unique linear-waterway resource or to other activities associated with it.

Minor recreational developments can and should be developed along the Parkway berm particularly in juxtaposition to marina developments or other recreation focal areas.

Aside from relatively passive recreational activities and marina developments, opportunities for major use areas between the levee and river are few. However, opportunities are afforded for low intensity, non-facility oriented activities such as natural picnicking, fishing, photography and art, contemplation and nature study.

Swimming beaches could be developed but further research should be made to identify areas that are safe for such activity both from river current and motor boat hazards.

The development of a continuous multi-purpose trail with nodal areas of moderate and high recreational use offers the greatest use of the parkway resource. Several problems such as the need for adequate right-of-way narrowness of the parkway and others are associated with the development of a trail, but efforts should be made to overcome them.

## F. GOVERNMENTAL ASSESSMENT

This portion of the assessment study deals with factors that are governmentally related. The first section discusses the differing jurisdictional responsibilities which governmental agencies have relative to the Sacramento River. The second section discusses the conformity of the general plans of three jurisdictions which have a direct relationship to the development of the Parkway. The legal means of acquiring land for the development of the Parkway is discussed in the third section. The final section evaluates the maintenance responsiblity for the Parkway.

### 1. Interjurisdictional Responsibility

Within the Sacramento River Parkway Study area, a number of federal, state and local agencies possess various regulatory authority. In order to explain the complexity and the multitude of jurisdictions involved, this segment identifies and briefly describes the agencies and their authority.

The agencies mentioned are categorized into two groups: (a) regulatory agencies, (b) reviewing agencies. The listing of the agencies and their responsibility pertains to the planning and development of the Parkway.

(a) Regulatory Agencies:

Agencies which govern or control the planning, development and uses of the river and land areas within the Sacramento River Parkway are as follows.

U.S. Army Corps of Engineers: Regulates any work such as dredging, drilling, filling and any structures located in or over any navigable waterway to mean higher highwater.

U.S. Coast Guard: Regulates any bridge over a navigable waterway, regattas and marine parades, and placement of buoys.

State Reclamation Board: Regulates any work within the limits of any authorized flood control project or any plan of reclamation for the control of floods.

State Lands Commission: Regulates any use of land beneath the ordinary high water mark prior to levee formation along any navigable water way

California Department of Transportation: Regulates the use of any access through highway and freeway rights-of-way and easements.

State Department of Water Resources: Regulates the development, maintenance and recreational use of water facilities and flood control works, including levees.

State Levee Maintenance District #9: Under the direction of the State Water Resources Board, the District is responsible for maintaining the levee portion South of Sutterville Road.

State Department of Parks and Recreation: Responsible for acquiring, operating and managing units of the State Park System for use and enjoyment by the public.

State Department of Fish and Game: Responsible for the broad protection and management of fish and wildlife resources of the State. This involves protection, of the fish and wildlife species, and the environment upon which they depend.

Regional Water Quality Control Board. Regulates discharge of waste into any waterway.

City of Sacramento: The City of Sacramento through the City Council and Planning Commission governs and regulates the activities and land uses on public and private lands within the City of Sacramento, in order to protect the health, safety and well being of the public. Specifically, the following departments are directly involved with the Sacramento River Parkway.

1) Sacramento City Engineering Department

maintains the levee portion between Discovery Park and Sutterville Road.

2) Planning Department regulates land use and zoning as it relates to present and proposed uses to be made of the levee and adjacent properties.

3) Recreation and Park Department administers recreational activities, park facilities and their maintenance.

4) Real Estate Division administers gaining of right-of-way easements, purchase and sale of lands.

5) Police Department enforces the laws affecting public use of the Parkway and the protection of life and property.

6) Fire Department is responsible for fire prevention and suppression, and the protection of life and property.

7) Engineering Department administers the planning, design and construction of public improvements to insure adherence to required standards and regulations.

(b) Reviewing Agencies

The following agencies have authority to examine and recommend actions regarding proposed plans and uses of the Sacramento River.

Environmental Protection Agency (EPA)
Bureau of Sports Fisheries and Wildlife
Bureau of Outdoor Recreation
National Parks Service
State Resources Agency
State Dept. of Navigation and Ocean Development
State Dept. of Conservation
State Dept. of Health
State Wildlife Conservation Board
State Office of Planning and Research
Sacramento County Public Works Dept.
Sacramento County Parks and Recreation Dept.
Sacramento County Planning Dept.
Sacramento County Environmental Protection Agency
Sacramento County Sheriff Dept.
Sacramento Regional Area Planning Commission
Delta Advisory Planning Council
Yolo County

add X Cafe

(c) Need for Coordination

As the multitude of governing agencies listed herein indicates (and these are by no means all) it is quite evident that for any meaningful development of the Sacramento River Parkway to take place, considerable coordinative and cooperative efforts will be required of these and other agencies.

The City of Sacramento as the operative agency must assume the lead role in bringing together the variously affected agencies and deal with the issues of their individual concern.

Due to the obvious need for overall planning and management control, the City should designate a department and a senior staff person within that department as

a project manager with full responsibility for the necessary planning and coordination of the Parkway development.

2. Compatibility with Existing Local Plans

As part of the assessment phase of this study, the General Plans of Sacramento County, Yolo County and the Sacramento City-County Bikeways Task Force were reviewed and evaluated for their compatibility and conformance to the proposed development of the Sacramento River Parkway. Only the Sacramento County General Plan has been adopted as of this writing. However, the remaining two plans were evaluated in their present form to determine if there were any anticipated conflicts. The result of the review indicated that all three plans, in their present form, indicate development that is compatible with the proposed River Parkway.

The Sacramento County General Plan. The current Sacramento County General Plan was adopted in 1973 and revised in October of 1974. Its overall goals and objectives are compatible with those of the City of Sacramento, particularly as they relate to open-space and recreation uses. The General Plan for the County designates the same types of land uses along and adjacent to the Sacramento River as the City of Sacramento.

Along the southern area of the River Parkway, the County General Plan designates the Pocket area as low density residential development, which is also in conformance with the City General Plan. Immediately south of the City boundaries, around the Freeport area, the County has designated a large area of land to be a recreation preserve. This type of use will be compatible with the City General Plan and the development of the Parkway.

Yolo County Proposed General Plan. The Yolo County General Plan is currently being revised, with a completion and adoption date slated for later this year. However, for purposes of this discussion a few comments will be rendered on the Proposed General Plan for the East Yolo Planning Area, which is directly across the Sacramento River.

At this writing, the proposed plan does not appear to conflict with the development of the Sacramento River into a parkway system. The East Yolo plan calls for the levee and berm areas on the Yolo side to be maintained in open space. Along the Yolo side from the confluence with the American River down to approximately Miller Park, the land is currently being used for industrial and commercial uses. This is slated to continue in the future, according to the proposed plan. South of this area, and continuing down the river, lands adjacent to the Sacramento River are currently in agricultural uses with a few low density residential areas. Some of the agricultural lands in this area are slated in the proposed plan to be converted to low density residential uses, with neighborhood parks and shopping areas. At this time,

the proposed East Yolo General Plan shows uses which are compatible with the Parkway development.

Sacramento Bikeways Master Plan. The Sacramento Bikeways Master Plan is a plan for the development of on and off-street bicycle paths throughout the City and County metropolitan area. It has been authored and approved by the Sacramento City-County Bikeways Task Force. This plan will come before the Sacramento City Council and the County Board of Supervisors for consideration of adoption later in 1975.

The goals, objectives, policies and planning criteria of the Master Plan indicate that they are in conformance with the Sacramento City General Plan and development related to the Sacramento River Parkway. The Master Plan map designates an off-street bicycle trail to run the length of the Parkway with the exception of Miller Park. It also designates numerous on-street paths which are located near or adjacent to the Parkway. While this plan is not officially adopted by the City and County at this time, it would appear that its stated objectives are compatible with the proposed development of the Sacramento River Parkway.

### 3. Subdivision Regulations and Zoning Control

Open space lands, as well as areas of potential development for recreational uses in or near urban areas are subjected to strong conflicting pressures for both urban development and retention for open space/recreational uses.

Police power regulation can be utilized for two primary purposes: (1) the protection and enhancement of a valuable natural resource, and (2) the prevention of incompatible and hazardous uses and structures within a designated floodway of Sacramento River.

The City of Sacramento presently has a subdivision ordinance which provides that the City can require equestrian, hiking trails and bike paths to be designed and located in new subdivisions as established by the General Plan or the Specific Plan. (City of Sacramento Ordinance No. 3483, Section 40.316.) In addition, the California Subdivision Map Act (Govt. Code §66410 et. seq.) requires that all new subdivisions adjacent to public waterways provide reasonable access for public use.

Under the Subdivision Map Act, the City of Sacramento will be able to acquire a substantial amount of land along the levee and berm areas of the Parkway in the unsubdivided portions of the Pocket Area through the process of land dedications. This process bears no initial cost to the City. However, since these will be taken off the tax rolls, there may be a minor loss of revenue to the City over the longe term.

Since all property inside the levee is subject to periodic inundation by the waters of the Sacramento River, it has been traditionally zoned "F". This zone is currently defined as an open space zone and only

those uses which would not pose a hazard to life and property are permitted.

Another available zoning tool involves the establishment of a resource protection zone adjacent to the flood plain zone along the Parkway. Through this mechanism, all new land uses could be regulated through special or conditional use permits to assure compatibility with the Parkway. This tool would primarily be applicable in the undeveloped areas adjacent to the river in the Pocket Area.

(a) Acquisition (Fee Simple). The most effective means of preserving or establishing open space for recreational uses is for a public agency to purchase full title to all adjacent land, or that portion of it which would be used for recreational purposes. Acquisition can take several forms: payment of full value, installment sales, purchase-leaseback, or purchase-saleback. Using this method along the Parkway will be very expensive in terms of capital outlay to the City, requiring a timed or phased acquisition process. Therefore, while this method is the most permanent and effective, it is also the most costly.

(b) Acquisition (Less-than-Fee Simple). This method involves purchasing only specific rights or privileges in the property. By using this procedure, the City of Sacramento can lower its costs, keep the land on the tax rolls, and reserve to the landowner certain access and use rights on the land. The property owner benefits through property tax reductions on the property while retaining title to the land. Acquisition of a partial interest in the land is a permanent means of providing open space. However, it also limits the public agency from obtaining full control and use of the property in question. Two forms of acquisition less-than-fee simple are applicable for use along the parkway. They are:

(1) Easement - A recreation easement of the entire levee and berm could be obtained with the property owner retaining title to the land. Access and use rights generally associated with property ownership would be retained by the owner as long as such access and use does not conflict with the public recreation use of the area.

(2) Easements on portion of the parkway - This involves obtaining a recreation easement only on the berm and levee side slope and thereby reducing losses to the property owner. The public could be restricted from gaining access to the crown and landward side slope by a security fence on the river side edge of the crown. The property owner could retain similar rights as described in (1).

In order to obtain access to and along all portions of the Parkway, the City of Sacramento will have to employ these three primary means of acquiring land. The method used will differ along the various segments of the Parkway. Most parcels of land along or adjacent to the Parkway will have to be considered on an individual basis as there are many variables involved in the process. These include, but are not limited to: (a) the market value of the land; b) the value of the portion of a parcel to be acquired relative to the entire parcel of land; c) the historical use of the property to be acquired; d) ownership of the river bed; and e) the timing of the acquisition relative to delays caused by negotiation or litigation.

In summary, these mechanisms for land acquisition and control are essential to the development of the Parkway. However, their application will involve a significant commitment in time and monetary resources on the part of the City of Sacramento.

4. Maintenance Responsibility

Presently, the flood control maintenance

responsibility for the Parkway segment of the Sacramento River is handled by the City of Sacramento and the State Reclamation Board through its maintenance district.

The City of Sacramento is responsible for the levee area from the confluence of the American and Sacramento Rivers to Sutterville Road; while Maintenance District No. 9 is responsible for the remainder south. The maintenance work performed by these two agencies is generally to prevent erosion of the levee, maintain the levee area in a condition for ease of inspection, and inspection of the levee during high water periods.

State Reclamation Board. The Reclamation Board is on record as favoring a single agency being responsible for flood preventive maintenance and also for the proposed Parkway maintenance of the entire length of the Parkway. The Reclamation Board considers the multi-agency approach to maintenance difficult to manage, especially when considering the maintenance of a joint use area.

The Reclamation Board presently is opposed to the construction of security fencing along the crown of levee slopes. The primary reason for the Board's objection to fencing is that it makes inspection of the levee more difficult, and may hinder flood prevention measures. Principally, the Board is concerned that such fencing would result in increased maintenance and flood preventive costs.

Should another agency assume full responsibility for the maintenance of the levee and the Parkway, the Reclamation Board then would have no objections to such fencing. Ideally, the Reclamation Board would like the City of Sacramento to assume the maintenance responsibility for the entire length of the Parkway.

City of Sacramento. Currently, the City maintains the levee from the American River south to Sutterville Road, but is unable to assume additional levee maintenance responsibility due to budgetary constraints.

In addition, the City currently maintains existing recreational developments south of Sutterville Road and will continue to assume such responsibility as future Parkway segments are developed for public recreational use.

Sacramento County. The County maintains the American River Parkway and its Bikeway. The Sacramento River Parkway is directly linked to the American River Parkway by the Jibboom Street Bridge and would extend the American River Parkway. The County additionally is experienced and familiar with the maintenance of a river parkway.

At present, however, the County has not formally indicated a desire to actively participate in development or maintenance of the Sacramento River Parkway

beyond recognition in the County General Plan that such a development is desirable and in conformance with existing and proposed goals of the County.

Conclusion

It has been repeatedly demonstrated in the research and assessment portion of this study that a Sacramento River Parkway is a viable possibility which would benefit not only City residents, but a broad regional population as well. Solutions to such questions as levee maintenance responsibility; acquisition and development; ongoing operations and police protection will require inter-jurisdictional co-operation and creativity which may include compensation to the City for performance of these functions.

# III. SACRAMENTO RIVER PARKWAY MASTER PLAN

The Sacramento River Parkway Master Plan is the result of a planning process which included research, consultation, data analysis, and Parkway planning studies.

The intent of this Master Plan is to provide the City of Sacramento with a planning tool to guide the orderly development of the Parkway. Although over 60% of the Parkway length is presently privately owned, it is necessary that the City of Sacramento evaluate and designate future land uses, public access, traffic circulation routes and area development within and adjacent to the Parkway. It will then be possible to plan development within and adjacent to the Parkway accordingly, and require that other public agencies conform to the plan in their areas of responsibility.

This section of the Master Plan identifies some community goals which have already been set forth in the Sacramento General Plan, and the goals for the River Parkway. These are followed by the Master Plan policies which were developed for the Parkway, and will be used to implement this Plan relative to adopted City goals. The Master Plan Map follows with an explanation of its chief components. Further policy recommendations for four areas of concern relevant to the Parkway follow. Graphic representations of the Master Plan for each of the five study areas are shown. Considerations for development in areas adjacent to the Parkway concludes this section.

## A. COMMUNITY GOALS

The 1974 General Plan identifies numerous community goals. Its primary goal is directly related to this Parkway:

> "The overriding goal is--to improve and conserve existing urban development, and at the same time, encourage and promote quality growth in expanding areas of the City."

Additionally, in the Open Space and Conservation Elements of the General Plan other appropriate goals are established for the City:

- "Provide opportunities for a full range of recreational activities to meet the demands of an expanding population with increasing amounts of leisure time.
- Protect and manage the diverse and valuable land, water and air resources for the use and enjoyment of present and future generations.
- Develop and maintain a harmoniously balanced ecologic system and provide methods which enable man to continue physical development on the land without upsetting that balance.

- To preserve and enhance the inherent natural beauty of the various geographical areas of Sacramento.

- To protect and conserve important wildlife habitats and open areas of unique ecological significance, particularly along the American River.

- To preserve open spaces which are required for the protection of man from natural hazards.

- To provide some category of open space land within reasonable walking distance of each resident.

- To provide an overall open space system for Sacramento which is inter-connecting to the maximum extent feasible and designed to preserve and enhance the natural and man-made environment."

In consideration of these goals, the various policies advocated in the General Plan, the concerns of the City and our findings, the following goals are recommended for the Sacramento River Parkway.

- To create a continuous, lineal Parkway from the confluence of the American and Sacramento Rivers to the City limits at Freeport.

- To provide appropriate access and facilities for the enjoyment of the Parkway by present and future generations.

- To preserve, protect and enhance the natural resources of the Parkway.

- To mitigate adverse effects to the Parkway of activities upon the adjacent areas.

B. MASTER PLAN POLICIES

1. The City shall adopt this report and the Master Plan as a specific plan amendment to the City General Plan.
2. The City shall implement the goals, policies and recommendations through the adopting of ordinances and resolutions, and commit necessary staff and resources to implement the Plan.
3. The City shall adopt the following Parkway Concepts:
   a. that the Parkway is a recreational, open space, educational and water oriented resource.
   b. that, the Parkway constitues a designated floodway susceptible to periodic inundation.
   c. That, although it is to be developed for human use, the natural environment shall be protected, preserved and enhanced to the fullest extent possible, especially large aggregations of significant vegetation and wildlife.
   d. that, except for designated high use areas of the Parkway and on adjacent parklands, a majority of the Parkway shall be retained in a natural state for passive recreational uses.
   e. that permitted recreation and educational uses of the Parkway shall be such that:
      1) they enhance but do not destroy or significantly alter the natural resources of the Parkway,

2) they require a minimum of man-made improvements and facilities,
3) they are appropriate for and suitable to the nature of the area,
4) that the access points and associated improvements shall not have adverse impact upon adjacent land uses,
5) that high use activities and facilities shall be accommodated only at designated locations which afford the least conflict with adjacent land uses.

4. The City shall insure that all developments which take place within and adjacent to the Parkway will adhere to the intent and purpose of the Parkway Concept.
5. The City shall encourage the general public, property owners, private groups, quasi-public agencies and other governmental agencies to participate in the decision-making process with respect to the development of the Parkway.
6. The City shall determine at a later time the properties, easements and rights of way which shall be acquired to insure that proper access and use of property will be provided.
7. The City shall prepare a management plan for the Parkway and request other affected public agencies to review their own operations to insure adequate consideration for:
   a. security for persons in the Parkway and for residences adjacent thereto,
   b. emergency services for the Parkway and persons using the Parkway,
   c. orderly development of recreational and educational facilities, and services within the Parkway based on available resources and sound planning principles,
   d. maintenance of the Parkway and enforcement of regulations pertaining thereto,
   e. delineation and clarification of the roles, rights and obligations of all governmental agencies who have jurisdiction in the Parkway,
   f. implementation of the goals, policies and design elements of this Plan,
   g. conformance with the City's General Plan.
8. The City shall promulgate regulations and cooperate with interested and affected governmental agencies, quasi-public agencies, private groups and citizens as are necessary to accomplish the following tasks:
   a. identify and resolve problems that affect the planning, development and management of the Parkway,

b. develop and maintain a comprehensive landscaping and maintenance plan and program to further Parkway goals.

9. The City shall promulgate measures to mitigate or eliminate adverse impacts on use and access which:
   a. are adjacent to the Parkway and may affect the Parkway,
   b. are inside the Parkway and may affect the Parkway,
   c. are inside the Parkway and may affect the uses outside the Parkway,
   d. are adjacent to the Parkway and may affect other uses outside the Parkway.
10. The Parkway shall have its natural integrity and continuity protected from injurious or incompatible elements associated with adjacent land uses, parking, transportation, communication, storage and public or quasi-public utility facilities crossing or located within the Parkway.
11. Due to the narrowness of the Parkway, safety hazards, and erosion problems, all motorized vehicles and horses shall be prohibited from the levee and berm areas, except emergency vehicles.
12. The City shall identify those existing uses within or abutting the Parkway which do not contribute to the long-range goals for the preservation and enhancement of the Parkway, and shall plan and provide for long-range conformance to Parkway uses.
13. This Master Plan shall be reviewed, updated and revised periodically in conformance with changing needs and circumstances.

## C. MASTER PLAN MAP AND COMPONENTS

The following are the primary components of the Sacramento River Parkway Plan:

### 1. Parkway Land Use Development Categories

There are three recreational land use categories proposed for the Parkway which reflect the proposed intensity of development. They are listed from the most restrictive to the least restrictive: low use area, moderate use area, and high use area.

These three land use classifications are based on the resources of the Parkway, its ability to support varying degrees of use, past development, relationship to adjacent uses, access, community need and uniqueness of the area.

(a) Low Use Areas (Natural Areas): This designation is applied to areas containing significant amounts of vegetation and wildlife which would be easily disrupted by heavy use. The emphasis in designating specific areas

"low use area" is to protect, restore and make available for educational purposes environmentally unique areas of the Parkway. Except for minimal shrub removal to accommodate a trail, these areas will be left in a natural state with uses restricted to passive recreation (nature study), primarily from the trail. No permanent improvements or facilities should be installed in these areas.

(b) Moderate Use Area (Limited Recreation Area): This designation is applied to areas which can accommodate some active recreational use without the need for extensive facilities. Included in this designation are levee crowns, berm areas classified as cleared or semi-cleared, and adjacent landside areas available for limited recreational use. Although some improvements - such as trails and turfed areas - may be located on the berm areas, the majority of such improvements are located on the adjacent landward property. Designated moderate use areas shall be easily accessible from adjacent neighborhoods.

(c) High Use Area (Developed Recreation Areas): This designation is applied to areas able to withstand and accommodate relatively intensive use. These areas may be developed with a variety of recreational facilities and improvements similar to a neighborhood park. This designation is applied to areas where there is not only a need for such a facility, but also areas where such development will not have a significant adverse impact upon the surrounding natural and cultural environment. High use areas are expected to attract the largest number of users. To minimize any adverse impacts of this intensity of use, it may be necessary to restrict or limit certain uses in particular areas. The intent is to provide recreational opportunities for all users, but not at the expense of the Parkway nor of the surrounding neighborhood.

2. Access Points

There are two classifications of access points:

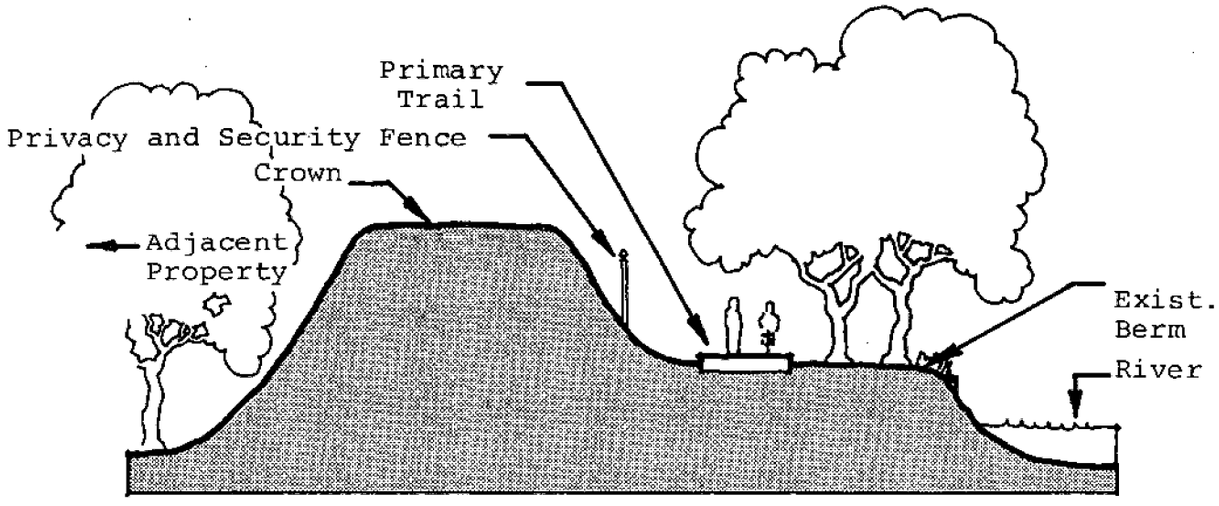
(a) Minor Access: This designation applies to access points intended for pedestrian and bicycle entry into the Parkway and connection to the recreational trail. Generally, vehicular parking is not provided at these points since these entry areas are intended for localized use.

(b) Major Access: These access areas are found in conjunction with high or moderate use areas and permit vehicular parking in adjacent landside area. Additionally, pedestrian, bicycle and emergency vehicle access onto the Parkway is provided in these areas.

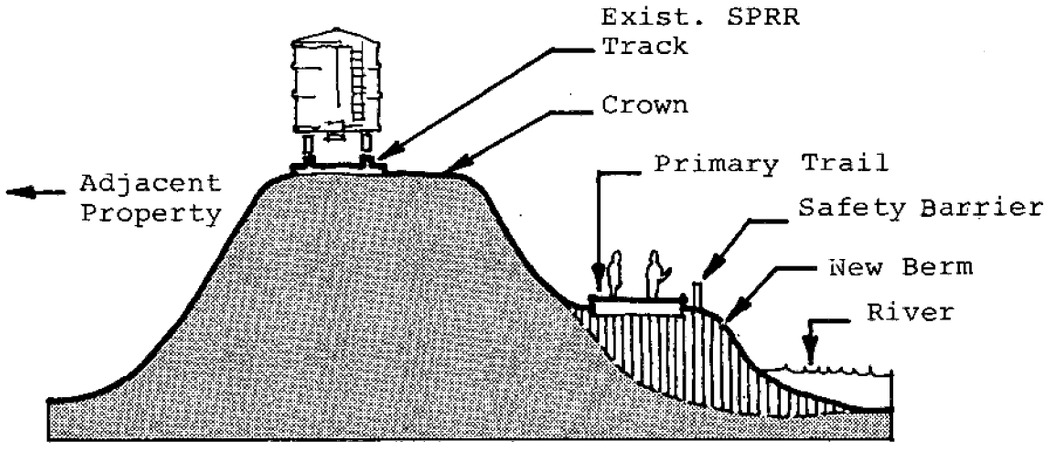
3. Recreational Trails

The Parkway trail system consists of four different types of trails: Primary, Secondary, Temporary Bypass Trail and Alternate Trail. The four types of trails and their functions are described as follows:

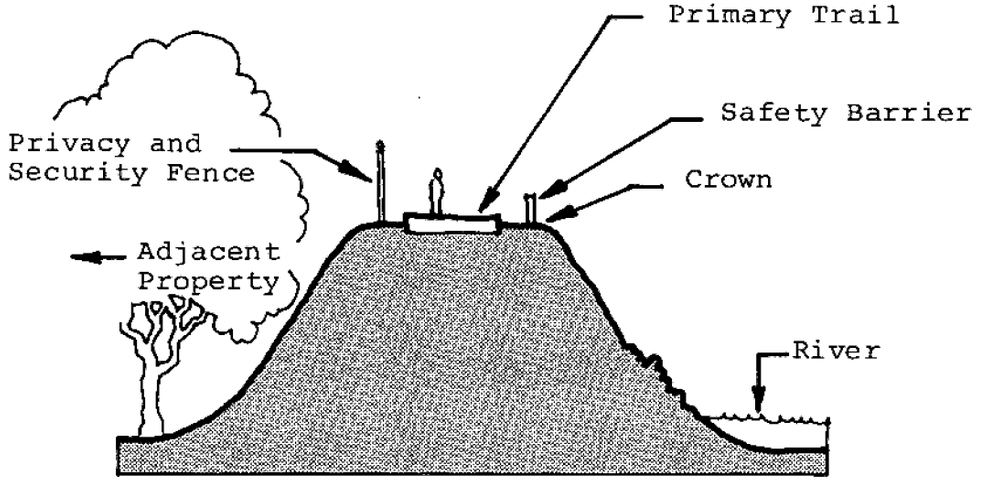
# TYPICAL SECTIONS OF PARKWAY



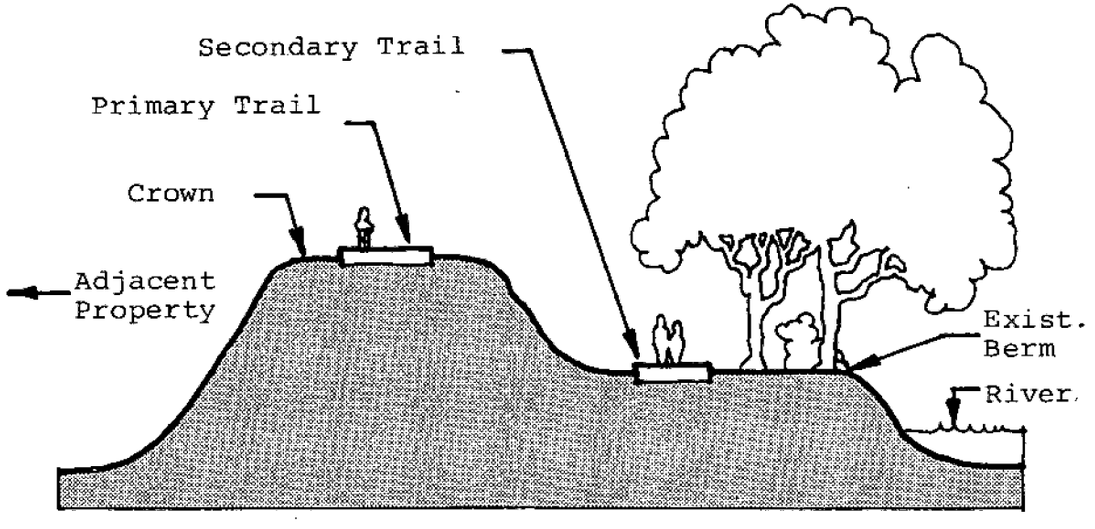

PARKWAY CONDITION 1




PARKWAY CONDITION 3




PARKWAY CONDITION 2




PARKWAY CONDITION 4

(a) Primary trail: This is the principal trail which traverses the entire Parkway length and provides continuity. It is designed to accommodate pedestrians, bicyclists, and maintenance and emergency vehicles. Wherever possible, the Primary trail will be located on the berm to provide greater separation between the Parkway and adjacent residences in order to reduce potential conflicts.

(b) Secondary trail: These trails augment the Primary trail where berm areas are large enough to accommodate a second trail. Interconnected with the Primary trail, they will provide additional route choices for pedestrians and bicyclists, but are not intended for maintenance or emergency vehicles.

(c) Temporary Bypass Trail: This is the designation given to the bicycle route which runs somewhat parallel to the Parkway and is recommended as a temporary bypass of segments of the Parkway which may be undevelopable for a period of time.

(d) Alternate Trail: This is the alternate trail located in the Old Sacramento segment. Since it is necessary to slow bicycle traiffic through Old Sacramento, bicyclists proceeding directly through the area will be required to walk their cycles through the riverfront area, while those taking a peripheral route around old Sacramento may ride their bicycles.

4. Typical Parkway Sections

The following graphics illustrate some typical cross sections of the proposed Parkway.

Parkway Condition 1. illustrates a portion of the Parkway adjacent to private residences where a relatively wide berm exists. The primary trail is located on the berm with a security fence separating the berm area from the crown. This condition is similar to that which would exist in the Seamas and Lake Greenhaven areas. The placement of the trail on the berm and fence on the crown provides vertical and horizontal separation from the adjacent property, and thereby affords greater privacy to the residents.

Parkway Condition 2, illustrates a levee section where there is no berm. The primary trail is on the crown with a security fence on the landward side of the crown and a safety barrier on the river side of the crown. This illustration would be similar to conditions found around Sutterville Road.

Parkway Condition 3, illustrates a levee section where the crown is occupied by a railroad track and no berm is present. The remaining crown area does not allow adequate space for the trail and consequently a new berm must be constructed by land fill. The primary trail will be constructed on the new berm. This condition is found South of Miller Park.

Parkway Condition 4, illustrates a levee section which is quite wide and provides an opportunity to provide not only a primary trail on the crown, but also a secondary trail on the berm.

5. Recreational Facilities

Recreational facilities appropriate to support and complement Parkway activities and users are indicated.

6. Recreation Activities

The activities recommended on the Parkway are generally those which were previously identified as being appropriate in the recreation activity assessment in the Research section.

## D. DEVELOPMENT POLICY RECOMMENDATIONS

The recommendations for the policies concerning the development of the Parkway are presented herewith. They represent means of directly addressing specific aspects of the Parkway. They are for the overall development of the Parkway, for recreational use and access, for design, and for several areas of operational concerns. At such time as this Plan is adopted, these recommendations will also become Parkway policy.

- The City should assume the overall responsibility for the management and maintenance operations of the Parkway as each segment is developed.
- The City should prepare a management plan for the Parkway which will designate and coordinate the responsibilities of all agencies and jurisdictions which have authority over various portions of the Parkway. Where necessary, the City should enter into joint exercise of powers with other agencies and/or receive appropriate monetary compensation from them.
- The City should prepare an acquisition plan for each segment of the Parkway as a guide for the intended timing and method of acquisition of each parcel of land necessary for the Parkway development.
- All planning and development by the City of future public facilities should be consistent with the Parkway plan, complement the intent of the Parkway, provide for joint use of facilities where possible, and provide ease of access to the Parkway.
- All future community plans for neighborhoods adjacent to the Parkway should be developed and evaluated with cognizance of the Sacramento River Parkway, and the necessary influence and impact of one upon the other.
- The City of Sacramento should develop and maintain full liaison and cooperation between all other planning agencies within the sphere of influence of the Parkway to ensure the designation and

establishment of compatible land uses adjacent to the City boundaries.

## E. RECOMMENDATIONS FOR RECREATIONAL USE AND ACCESS FROM THE RIVER

Recreational use of the river and access to the Parkway from the river will continue to play an important part of the overall recreational opportunities of the Parkway:

- o River recreational activities which are hazardous, incompatible with Parkway environment and uses, and detrimental to the surrounding areas should be prohibited.
- o Designated swimming areas should be roped off and cleared of hazards; motorboating should be prohibited within or near such areas.
- o Hazardous conditions and restrictions on river use should be clearly posted.
- o In order to check the healthful condition of the river water, periodic water quality checks should be made.
- o In order to minimize erosion, prevent hazardous conditions, and reduce disturbance to natural habitat, designated segments of the river edge should provide for beaching of boats and have easy access to the Parkway and facilities.
- o Private use of the river's edge and Parkway segments should be discouraged. Existing private docks, boat ramps, floats and moorings should be gradually phased out or made public. No additional new permits for similar facilities should be granted.
- o Existing private river's edge commercial facilities which are compatible with the Parkway, and which will serve the public, should be encouraged to remain and such establishments incorporated in the planning process.
- o Since the planning, development and use of both the east and west sides of the Sacramento River has a great bearing on the other, there should be close coordination between the City of Sacramento, Sacramento County and Yolo County on the planning and management of the Sacramento River resources.

## F. RECOMMENDATIONS FOR DESIGN

The actual design of the Parkway is based upon the effectuation of policy relative to the capacity of the resource to be committed to human use.

### 1. Recreational Trail

- o The trail should be of all weather construction, of proper dimension, clearance and grade to accommodate pedestrian and bicyclist.

- The trail should be located either on the crown or on berms wider than 15 feet.
- The primary recreational trail should also be of adequate dimension and construction to accommodate maintenance and emergency vehicles.
- Trails should be designated on berm areas to accommodate foot traffic to points of interest.

2. Temporary Bypass Trail

- Until a continuous lineal trail is possible on the Parkway, a temporary bypass trail should be designated along or near the Parkway.
- The temporary trail should utilize those streets which best accommodate bicyclists and pedestrians, while providing the most direct route paralleling the river Parkway.

3. Access Points

- Major access points should provide adequate vehicular parking and should be easily accessable from an arterial without vehicular circulation through residential areas.
- Minor access points are intended primarily for the use of pedestrians and bicyclists; where space permits, minimal vehicular parking may also be provided.
- Access into the Parkway should be provided in conjunction with all future Parkway and adjacent public developments. New residential development built contiguous to the Parkway should either dedicate to the City a reasonable access to the Parkway, or the City should have the option of accepting an in-lieu fee in place of the dedicated access.
- Access to and use of the river Parkway should be controlled at all access points by the use of gates, barriers or similar means.
- Access points should be designed to permit entry of maintenance and emergency vehicles onto the Parkway crown.

4. Recreational Use Areas

- High use areas (Developed Recreation Areas) should be limited to those areas designated in the Master Plan as possessing sufficient space and adequate access to accommodate relative intensive localized use without adverse impact upon the surrounding area.
- Moderate use areas (Limited Recreation Areas) should include those areas designated in the Master Plan. These areas are designated to accommodate semi-active to passive recreational use which does not require extensive improvements.

- Low use areas (Natural Area) should include those berm areas which possess valuable vegetative and wildlife habitat which would be disrupted by heavy to moderate use. These areas should be restricted to passive, natural use. Man-made improvements to the area should be minimized.

5. Alteration to Existing Levee and Berm Areas

- All alterations to the parkway area should be designed to aesthetically blend with the area.
- Any change or improvement to the levee, berm or waterway should be in keeping with the natural character of the Parkway, the flood control function of the levee, meet the recreation/open space intent of the Parkway, and be approved by the State Reclamation Board.

6. Erosion Control

- All levee areas which may require grading or filling, and existing areas with erosion problems, should be properly treated for erosion protection.
- Erosion measures utilized should be of such a nature as to properly prevent erosion, protect the structural integrity of the levee and blend harmoniously with the surrounding landscape.

7. Functional and Aesthetic Planting

- Planting of trees, shrubs and groundcovers in the Parkway should be undertaken to protect the levee, provide screening of private residences, and to create an aesthetically pleasing environment.
- The varieties of plant materials, manner of planting and maintenance should adhere to the guidelines established by the California State Reclamation Board.
- The plantings on the berm and levee areas should, to the greatest extent possible, be designed to create a naturalistic character.

8. Safety and Security

- Consideration of the rights of adjacent property owners to privacy, security and protection should be included as part of the Parkway planning and development.
- Improvements and activity areas within the Parkway should be planned with the greatest amount of vertical and horizontal separation possible from the adjacent residences.
- Where necessary or desirable, visual and/or physical barriers between the Parkway and adjacent residences should be provided for greater security and privacy.
- Parkway and adjacent areas which will be used in the evenings should be provided with adequate security lights.

- In areas where the levee crown is narrow or hazardous, safety barriers or fences to protect Parkway users should be installed.

9. Emergency Vehicles

- Adequate provision should be made to accommodate emergency vehicle access and movement into and along the length of the Parkway via the primary trail.

10. Adjacent Facilities

- Plan and develop the Parkway to maximize the use of existing and proposed adjacent public facilities and reduce to the minimum any duplication of facilities.

## G. RECOMMENDATIONS FOR OPERATIONAL CONCERNS

The well-planned and efficient operation, management and maintenance of the Parkway is crucial to its existence as a public resource:

### 1. Safety and Security

Safety of the Parkway user and security of adjacent property owners have been of prime consideration in the preparation of this Parkway Plan. The safety and security measures which are recommended as an integral part of the Parkway Plan follow:

a. Safety

- Narrow and dangerous portions of the Parkway should have safety barriers installed to protect Parkway users.
- The major access areas and the primary Parkway trail should be designed to accommodate emergency vehicles and equipment.
- There should be adequate horizontal and vertical clearance along recreational trails to safely accommodate bicyclists.
- Hazardous areas and activities on the Parkway should be clearly posted.
- Where necessary, separation barriers or fences should be installed to prevent Parkway users from entering into hazardous areas.
- Within reason, existing fixtures, structures and conditions on the Parkway which can reasonably be considered as attractive nuisances or hazards should be removed or such conditions rectified.
- During emergency situations which may require the barring of the public from the Parkway, all access points should be closeable or controllable.

b. Security

- o During daytime, and if necessary at night, police patrol on the Parkway should be provided.
- o All access points and developed recreation areas should be provided with adequate security lights to aid surveillance and deter crime.
- o In order to minimize potential security problems, the Parkway trail and active use areas should be located as far from adjoining residences as possible. Additionally, fencing and visual barriers should be installed to provide greater privacy and protection for adjacent property owners.
- o In order to provide greater privacy and security to adjoining property owners, Parkway use should generally be limited to daylight hours.
- o Adjoining property owners who are concerned with privacy, should be assisted in the planting of deciduous trees between their property and the levee crown to create visual barriers.

2. Aesthetic and Functional Planting

In creating the Sacramento River Parkway, it is essential that a program of landscape planting be undertaken to vegetate those areas which are denuded of vegetation, thereby creating a more natural and attractive Parkway:

a. Initiate a program of replanting trees, shrubs and grasses, of indigenous or closely linked varieties natural to the area, for areas in need of additional vegetation.

b. Planting should include a substantial mixture of varieties to assure the survival of those best suited to the condition.

c. The plantings in the Parkway should attempt to achieve as natural an appearance as possible. Highly cultivated and ornamental varieties normally found in residences should be avoided.

d. The planting program will be undertaken to recreate natural habitat, reduce erosion, create shade for Parkway users, increase the attractiveness of the area, and screen objectionable views or create visual barriers for sake of privacy.

e. The planting program should be reviewed with the State Reclamation Board for their approval. Included in the appendix is the permissable planting procedure and list of plant varieties acceptable or unacceptable by the State Reclamation Board.

3. Erosion Control

The slope of the levee and the berm is subject to erosion from the flowing water, rain, and human traffic.

In order to protect the levee and future parkway improvements, the following erosion measures are recommended:

a. Apply rock rip-rap and other erosion control measures to existing and future areas subject to erosion.

b. Repair previously applied erosion control measures which have been damaged.

c. Revegetate rip-rapped areas with native vegetation which will withstand periodic inundation and blend the area into the surrounding landscape.

d. Avoid use of soil sterilents or herbicides over large areas as this would encourage surface erosion. Indigenous grasses have proven effective in stabilizing soil and reducing rain water runoff. Native vegetation should therefore be protected and encouraged to grow.

e. Reduce indiscriminate foot traffic on levee slope by providing trails to channel traffic to key points.

4. Improvements at Access Points

Two categories of access points are designated for the Parkway. They are "major", those provided in conjunction with High and Moderate use areas and which provides vehicular access into the Parkway; "minor", those entry points created primarily for pedestrian use.

A. Improvements required at both major and minor access points:
   - o Security lighting
   - o Access control gate
   - o Primary trail link to the Parkway
   - o Landscaping and shade trees
   - o Security fencing to protect adjacent property
   - o Garbage receptacles
   - o Emergency service terminal for fire, police and medical aid

b. Improvements required at major access points:
   - o All weather, paved parking area, and access to the parking areas

c. Desirable improvements at major access points:
   - o Restroom and storage facilities
   - o Secondary trails
   - o Drinking fountain
   - o Concession facility
   - o Play apparatus and tot lot facility
   - o Picnic area
   - o Open play field

d. Improvements required at minor access points:
   - o All weather paved trail for use by pedestrains and bicyclists.

e. Desirable improvements at minor access points:
o Minor parking area

## H. STUDY AREA PLANS

The study area plans "A" - "E" which are graphically presented in this section, illustrate for each area in greater detail the Master Plan.

The intent of these area plans is to provide a guideline for the development of each area. Although it is recommended that the development of the Parkway occur in a sequential manner from the north to the south (the reasoning of which is discussed in the Implementation Section), it is quite possible that for various reasons certain amounts of disjointed development will occur. It is for this very reason that those area plans are important. Though such disjointed development may not be desirable in the lineal use context, the intent of the Parkway will be served if such piecemeal or incremental development will adhere to the area plans.

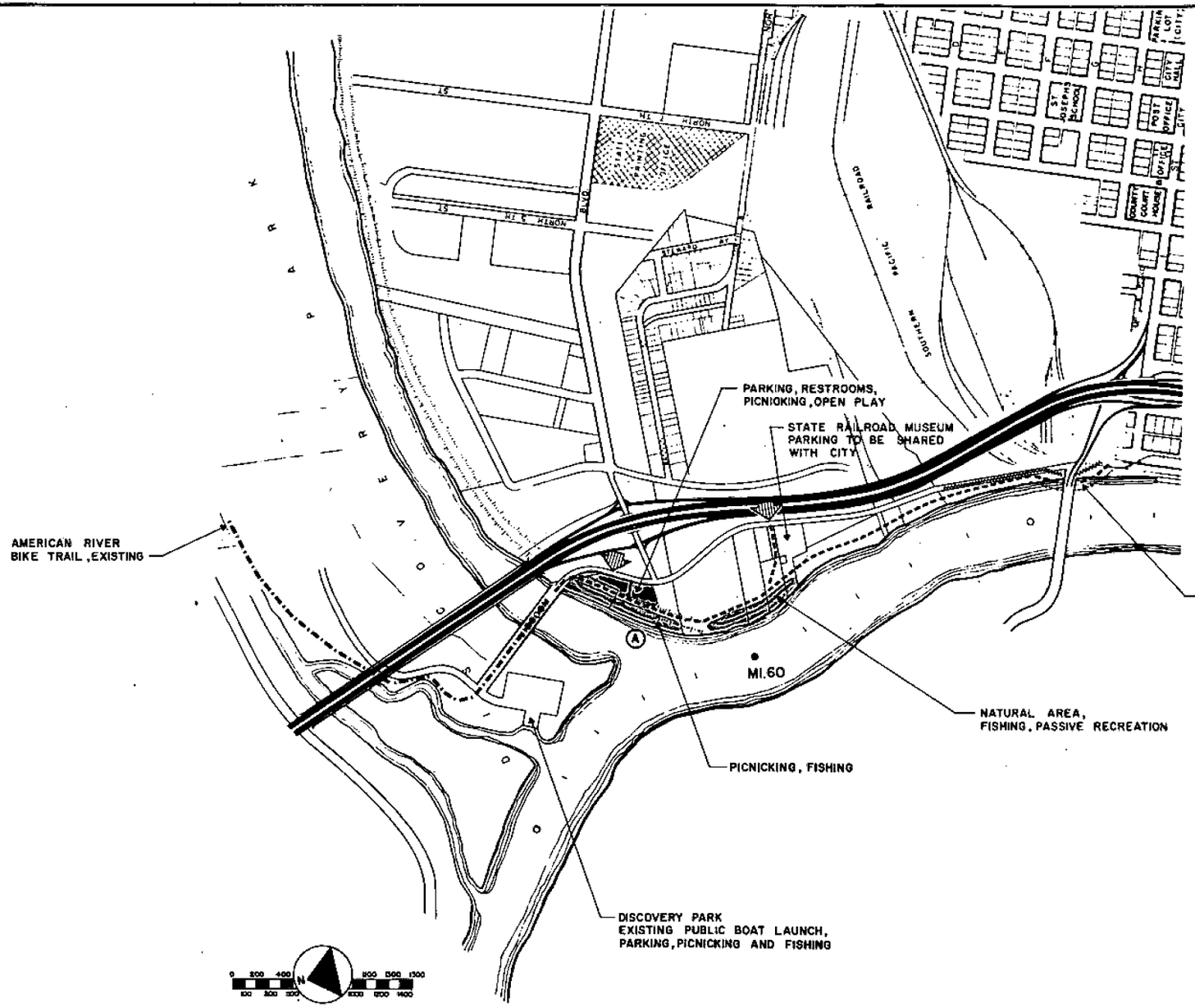
### 1. Study Area "A" - Jibboom Street to Old Sacramento

The proposed development in this segment will provide a Parkway and trail linkage from both Discovery Park and American River Bikeway to Old Sacramento and the Central Business District. The Parkway facilities will enable greater access and use of the river area around the mouth of the American River, which is so popular for fishing. The proposed access points, parking areas, restroom facility, and trail system will complement the development in Discovery Park. This plan will require the acquisition of the land area between the levee and Jibboom Street north of Richards Boulevard, and the construction of an underpass below the "I" Street Bridge.

### 2. Study Area "B" - Old Sacramento to Miller Park

The old Sacramento River Front Area and the State Historic Museum portions of this study area were master planned by another consultant for the Sacramento City and County Housing and Redevelopment Agency and the State Department of Parks and Recreation respectively. The plans and development concepts evolved in these two studies were incorporated in this segment of the Parkway.

This segment provides two uniquely different areas. Old Sacramento area is primarily a tourism/commercial area providing a convenient rest area for transitory users of the Parkway and numerous shops. Others, whose primary objective is Old Sacramento, may also enjoy a stroll along the river front for a short distance along the Parkway trail. South of Old Sacramento, expecially between "Q" Street and Broadway, the area becomes industrial. The present SPRR track on the crown




MAP 6

# SACRAMENTO RIVER PARKWAY

SACRAMENTO, CALIFORNIA

## STUDY AREA - A

## LEGEND

**LAND USE:**

- DEVELOPED AREA
- NATURAL AREA
- SECURITY FENCING
- SAFETY BARRIER
- (A) AREAS REQUIRING MAJOR ACQUISITION

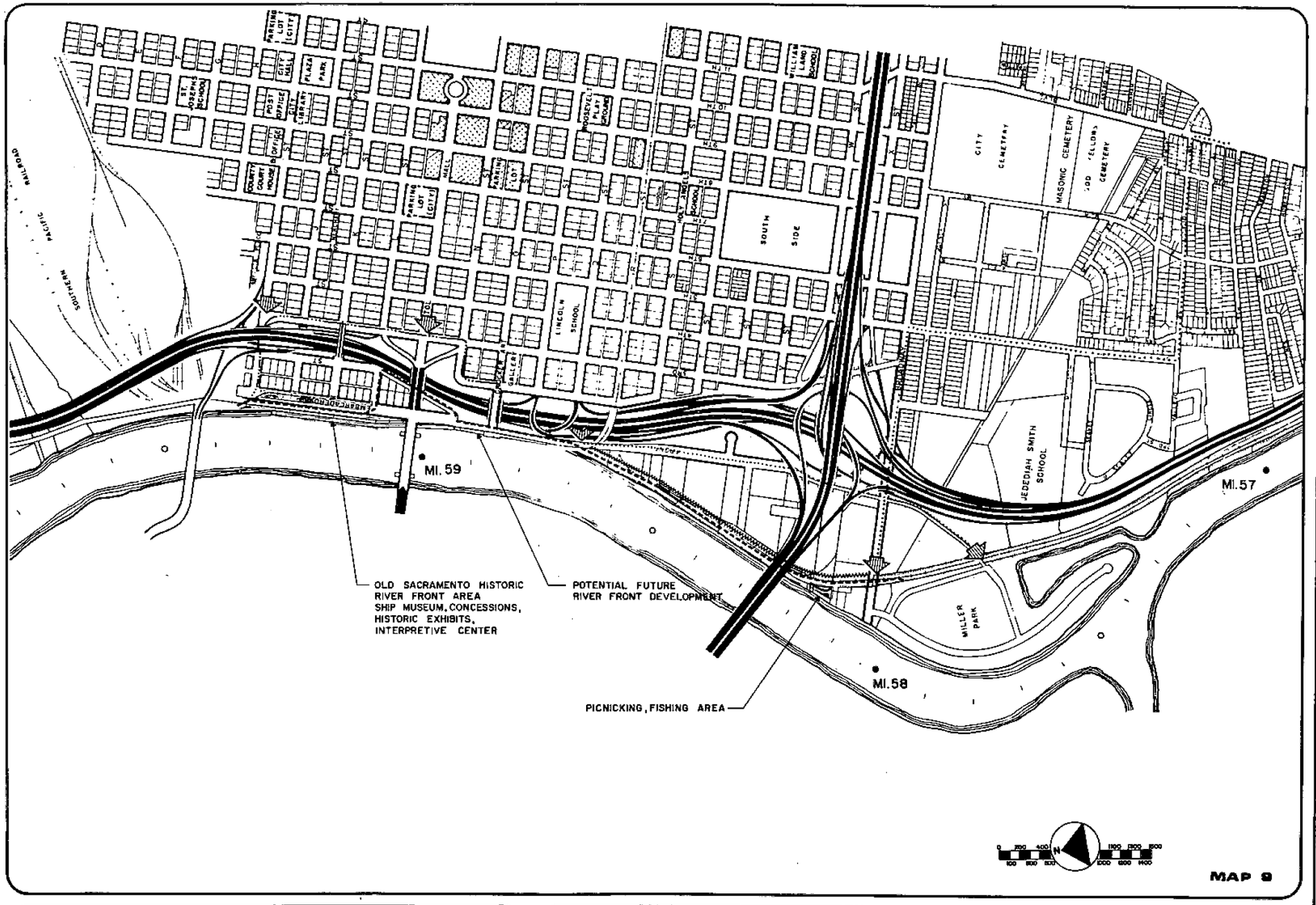
**ACCESS:**

- AUTOMOBILE ACCESS AREAS
- PEDESTRIAN / BICYCLE ACCESS, SPECIFIC LOCATION
- PEDESTRIAN / BICYCLE ACCESS, GENERAL LOCATION

**TRAILS:**

- EXISTING TRAIL
- PRIMARY TRAIL
- SECONDARY TRAIL
- TEMPORARY BYPASS TRAIL
- ALTERNATE TRAIL
- POTENTIAL FUTURE OFF-STREET MULTI-PURPOSE TRAILS

Environmental Assessment and Resource Planning




MAP 9

## LEGEND

**LAND USE:**

- DEVELOPED AREA
- NATURAL AREA
- SECURITY FENCING
- SAFETY BARRIER
- (A) AREAS REQUIRING MAJOR ACQUISITION

**ACCESS:**

- AUTOMOBILE ACCESS AREAS
- PEDESTRIAN / BICYCLE ACCESS, SPECIFIC LOCATION
- PEDESTRIAN / BICYCLE ACCESS, GENERAL LOCATION

**TRAILS:**

- EXISTING TRAIL
- PRIMARY TRAIL
- SECONDARY TRAIL
- TEMPORARY BYPASS TRAIL
- ALTERNATE TRAIL
- POTENTIAL FUTURE OFF-STREET MULTI-PURPOSE TRAILS

# SACRAMENTO RIVER PARKWAY

SACRAMENTO, CALIFORNIA

## STUDY AREA - B

Environmental Assessment and Resource Planning

of the levee necessitates that Front Street be used as a temporary bypass trail until such time as the tracks are no longer needed and the area useable as a Parkway.

Due to the conflict of numerous pedestrians and bicyclists in the River Front Area, bicyclists traveling through the River Front Area in Old Sacramento will be required to dismount and walk their bicycles. An alternate route around Old Sacramento which will allow bicycle riding is also provided.

A river edge parcel near Broadway is recommended for acquisition as a fishing and river access area.

3. Study Area "C" - Miller Park to 25th Avenue

Miller Park, located in the northern portion of this area, provides a unique river oriented community park. The facilities such as open play areas, restrooms, parking spaces, concession stand, picnic facilities, boat ramp, and access road will all play a vital part in the success of the overall river Parkway. This is one of the rare opportunities along the entire length of the Parkway where the berm area is wide and will accommodate a large gathering of people.

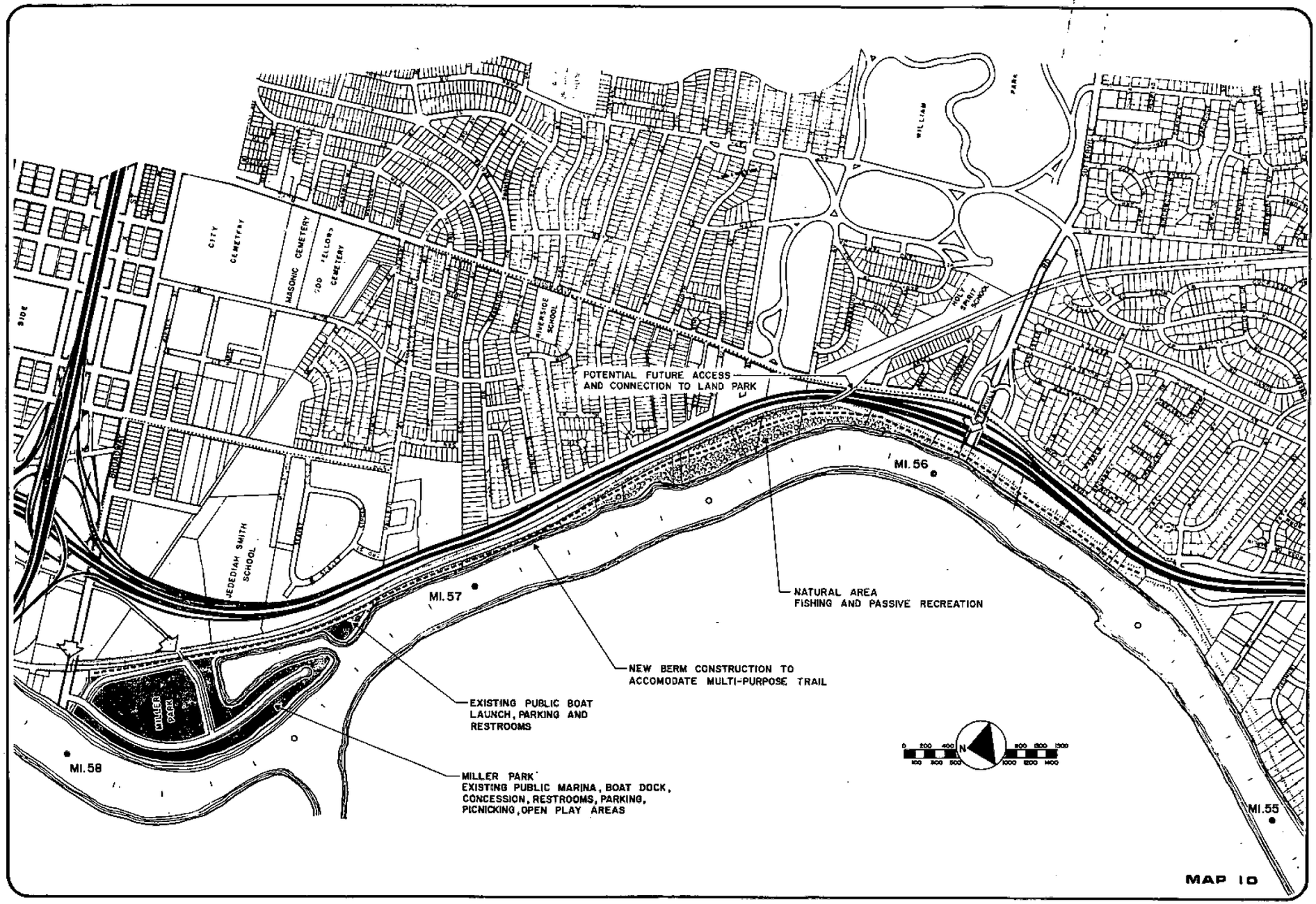
Miller Park will function as a rest area for transitory users of the Parkway, as an origin point for the use of the Parkway in either direction, and also for those wishing to use Miller Park as their point of destination.

South of Miller Park, for approximately 4/10 of a mile, the crown area is occupied by the railroad track. This segment will require the construction of a new berm to accommodate the Parkway trail. Located approximately in the middle of this study area is a segment of the Parkway which is heavily vegetated and should be preserved as a natural habitat. This plan accordingly recommends that this area be designated as a natural area for low key, passive recreational use.

Due to the presence of the railroad track on the crown, the Parkway trail from Miller Park to 2/10 of a mile north of Sutterville Road is located on the berm. It then returns to the crown and connects with the existing trail constructed by the State Department of Transportation.

4. Study Area "D" - 25th to 35th Avenue

A private boat dock exists on the northern end with a parking and concession facility. To the east of this is State owned property which should be acquired and made a part of the Parkway. This three-plus acre site ideally would serve as a major access point into the Parkway and would accommodate a parking lot, restroom and turfed play area.




## LEGEND

**LAND USE:**

- DEVELOPED AREA
- NATURAL AREA
- SECURITY FENCING
- SAFETY BARRIER
- (A) AREAS REQUIRING MAJOR ACQUISITION

**ACCESS:**

- AUTOMOBILE ACCESS AREAS
- PEDESTRIAN / BICYCLE ACCESS, SPECIFIC LOCATION
- PEDESTRIAN / BICYCLE ACCESS, GENERAL LOCATION

**TRAILS:**

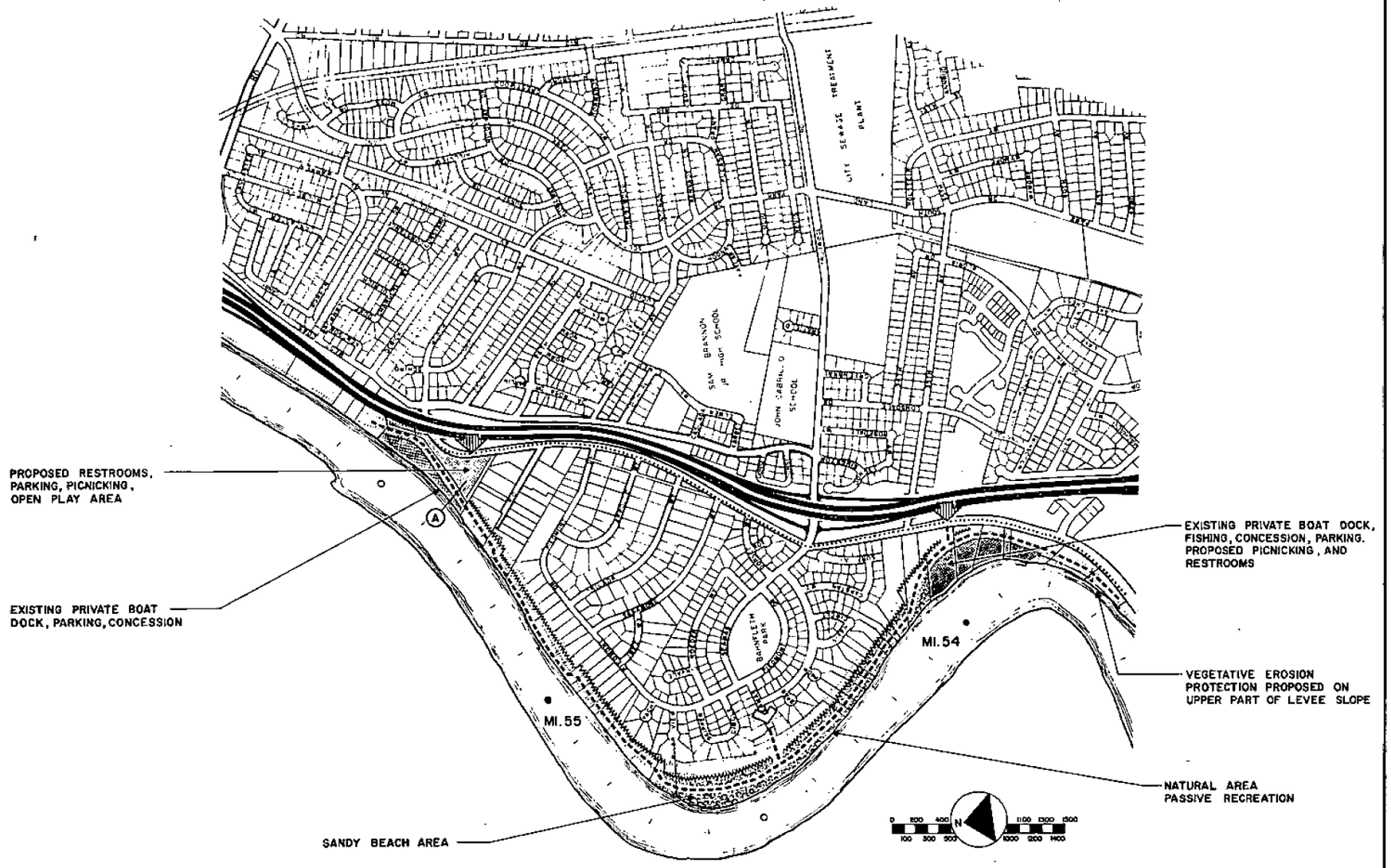
- EXISTING TRAIL
- PRIMARY TRAIL
- SECONDARY TRAIL
- TEMPORARY BYPASS TRAIL
- ALTERNATE TRAIL
- POTENTIAL FUTURE OFF-STREET MULTI-PURPOSE TRAILS

# SACRAMENTO RIVER PARKWAY

SACRAMENTO, CALIFORNIA

## STUDY AREA - C

Environmental Assessment and Resource Planning




MAP 11

## LEGEND

**LAND USE:**

- DEVELOPED AREA
- NATURAL AREA
- SECURITY FENCING
- SAFETY BARRIER
- (A) AREAS REQUIRING MAJOR ACQUISITION

**ACCESS:**

- AUTOMOBILE ACCESS AREAS
- PEDESTRIAN / BICYCLE ACCESS, SPECIFIC LOCATION
- PEDESTRIAN / BICYCLE ACCESS, GENERAL LOCATION

**TRAILS:**

- EXISTING TRAIL
- PRIMARY TRAIL
- SECONDARY TRAIL
- TEMPORARY BYPASS TRAIL
- ALTERNATE TRAIL
- POTENTIAL FUTURE OFF-STREET MULTI-PURPOSE TRAILS

# SACRAMENTO RIVER PARKWAY

SACRAMENTO, CALIFORNIA

## STUDY AREA - D

Environmental Assessment and Resource Planning

Private residences abut the levee along a majority of this study area and consequently the proposed Parkway uses present potential conflicts. In order to minimize such conflicts, the Parkway trail is recommended to be located on the berm wherever possible. The vertical and horizontal separation created by the placement of the trail on the berm, along with a security fence to prevent Parkway users from reaching adjacent properties, will lessen potential conflicts.

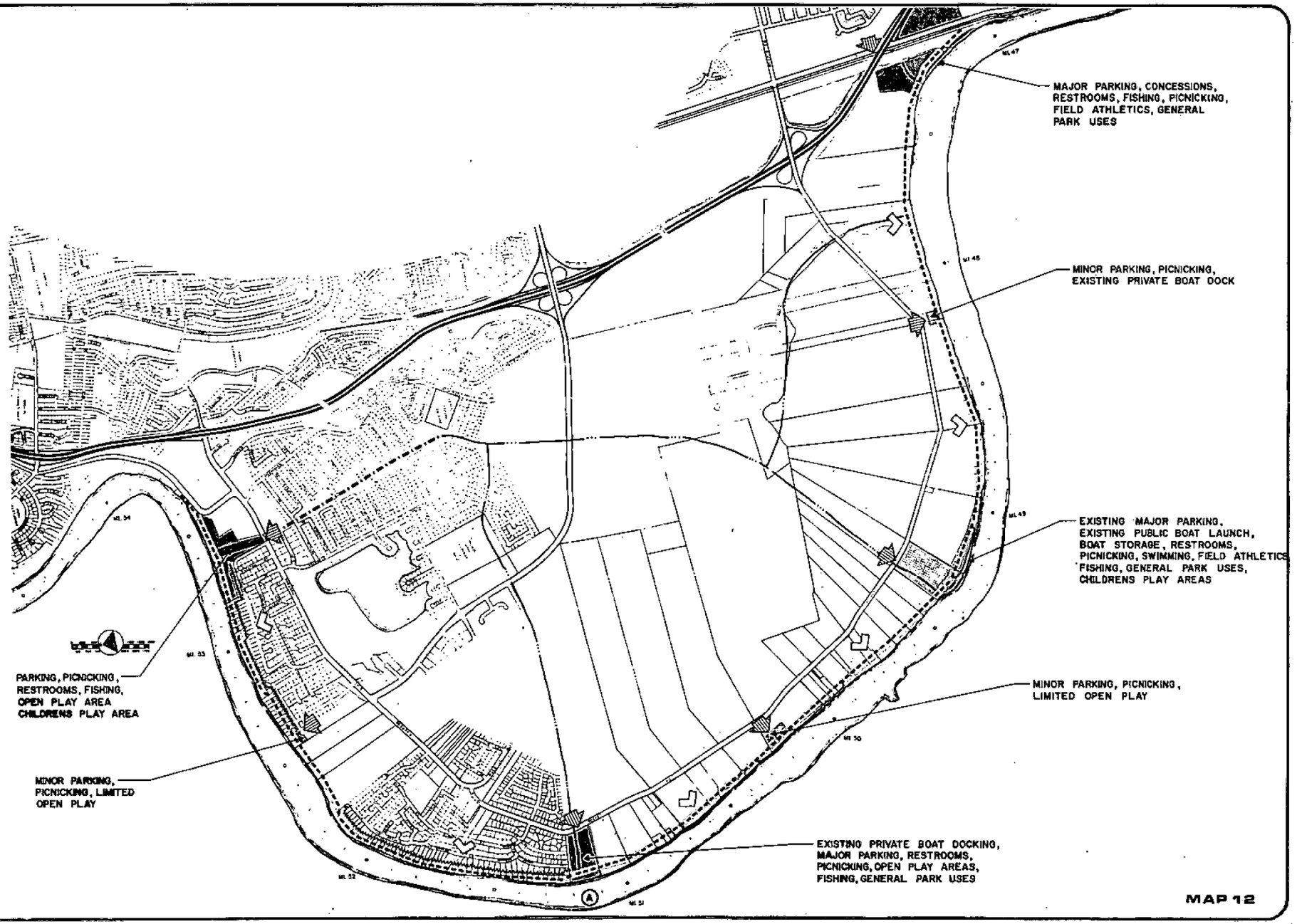
A minor access to the Parkway is recommended through Seamas Avenue. This will provide the neighborhood with a reasonable entry into the Parkway. The heavily vegetaged segment of the berm in this area, similar to Study Area "C", is designated as a natural area to preserve the wildlife habitat. A trail will, however, be developed to provide access to the sandy beach area. It is also recognized that this beach area is popular with boaters and will therefore require close supervision to ensure that the natural aras are protected from overuse.

Da Rosa Marina and an area with potential for some intensive use is located on the southerly portion of this area. A major access to the Parkway is proposed through this marina. The Parkway trail north of the marina returns again to the crown.

5. Study Area "E" - 35th Avenue to Freeport

Study Area "E", composed of the North and South Pocket Areas, constitutes by far the longest segment of the Parkway, approximately seven miles. The primary elements included in this study segment are the existing and proposed adjacent park lands. These include the development of City owned properties at Seymour park extension, Garcia Bend Park, Meadowview Sewer Treatment Plant and an adjacent city property across Freeport Boulevard. Located between these areas are numerous minor Parkway extensions and access points. The most significant additional park area is the proposed development called Arabella Way which would require acquisition.

The crown and berm area development here is similar to Study Area "D". The primary trail generally follows the crown except in areas adjacent to residences. Where berm width allows, the trail drops down to the berm area. In some instances a secondary trail on the berm is also proposed paralleling the primary trail on the crown. Where residences abut the levee, a 6 foot security fence is proposed to provide greater privacy and protection to home owners. Depending on the location of the trail, these fences may be located on the crown or on the riverside slope of the levee.




MAP 12

## LEGEND

**LAND USE:**

- DEVELOPED AREA
- NATURAL AREA
- SECURITY FENCING
- SAFETY BARRIER
- (A) AREAS REQUIRING MAJOR ACQUISITION

**ACCESS:**

- AUTOMOBILE ACCESS AREAS
- PEDESTRIAN / BICYCLE ACCESS, SPECIFIC LOCATION
- PEDESTRIAN / BICYCLE ACCESS, GENERAL LOCATION

**TRAILS:**

- EXISTING TRAIL
- PRIMARY TRAIL
- SECONDARY TRAIL
- TEMPORARY BYPASS TRAIL
- ALTERNATE TRAIL
- POTENTIAL FUTURE OFF-STREET MULTI-PURPOSE TRAILS

# SACRAMENTO RIVER PARKWAY

SACRAMENTO, CALIFORNIA

## STUDY AREA - E

Environmental Assessment and Resource Planning

Major access points are located in conjunction with high and moderate use areas while minor access points occur generally between the major access points.

Additionally, this segment includes an extensive greenbelt/off street multi-purpose trail. This trail links the residential areas to each other and provides easy access to the River Parkway for local residents.

## I. RECOMMENDATIONS FOR ADJACENT AREA DEVELOPMENT

Adjacent to the Sacramento River there are additional opportunities for developments that are directly related to the recreational uses of the Parkway. These are general considerations which are recommended here to enhance the overall quality of this regional resource and to provide for the maximum conformity of adjacent land uses.

### 1. New Pocket Area Development

It is recommended that proposed new residential development between the Sacramento River and Pocket Road be reviewed to insure that densities are consistent with Parkway goals. For new residential development between Pocket Road and Florin Road it is recommended that housing densities should be lowest (three to five dwelling units per acre) near the River, with the inclusion of pockets of medium to medium-high densities near neighborhood shopping centers at the major intersections in the interior of the Pocket. This graduation of residential densities will maximize the interrelationship of the Parkway to the Pocket area, as well as establish a suburban-rural transition between the highly urbanized areas to the north, and the open space/agricultural lands to the south of the City boundaries.

### 2. Pocket Road

It is recommended that Pocket Road be maintained as a minor street to preserve a low intensity of land use and traffic near the Sacramento River.

### 3. Greenbelt/Trail System in Pocket Area

It is recommended that a greenbelt/trail system be incorporated into the Community Plan currently being prepared for the undeveloped portion of the Pocket area. This greenbelt/trail system should extend the Seymour Park trail concept and connect the various parts of the community to the Sacramento River Parkway and other related public facilities.

### 4. Lake Greenhaven

It is recommended that the water quality of Lake Greenhaven be upgraded and maintained in a safe and healthful condition in conformance with County and State standards. Although this lake is privately owned,

consideration should be given in the future to establishing a trail link between the area and the Parkway.

5. Additional Access to Parks and Schools

It is recommended that additional on-street bicycle parths or off-street recreational trails to public parks and schools which are within approximately one-half mile of the Parkway be established to link these facilities to the Parkway.

6. Southern Pacific Railroad Tracks

It is recommended that negotiations be immediately undertaken to abandon the S.P.R.R. track and holdings within and immediately adjacent to the Parkway area. Such lands should either be incorporated into the Parkway or developed for uses which are compatible with recreation oriented activities.

7. Crocker Art Gallery Expansion

Early development of the proposed outdoor facilities at the Crocker Art Gallery should be encouraged to expand the activities and exhibit areas of the gallery. The expansion of this type of culturally-oriented facility can be appropriately linked to the recreational attraction of the Parkway.

8. Development of the Sacramento River

It is recommended that the development of the river-oriented commercial/cultural facilities and activities which will positively affect Parkway uses be encouraged at appropriate and compatible points along the Parkway. These may include boat tours to and from the Bay Area with stops at various interest points, water oriented sports activity, sea food restaurants, public marinas, etc.

# IV. IMPLEMENTATION

Due to the scope of the Sacramento River Parkway, its funding needs, and land acquisitions involved, in contrast to other city priorities, completion of the entire Parkway development may extend over ten years or more. Consequently, it is essential that a development approach and direction be formulated. This segment therefore discusses the development approach, direction, priorities and some available mechanisms for land acquisition and control.

## A. DIRECTION OF DEVELOPMENT

For the reasons enunciated below, the general direction of the Parkway development should proceed from the northerly end to the southerly end:

1. Segment "A" is connected to the Discovery Park and the American River Parkway and would provide a recreational linkage to Old Sacramento and Central City.
2. Parkway segment "A" has already received funding for its initial development.
3. Parkway segments "A" and "B" pose the least amount of problems, obstacles and development costs of any other segments of the Parkway.
4. Parkway segments "A", "B", and "C" are generally within the jurisdiction of the City or other public agencies, and present a lesser number of obstacles to development.
5. The area of the Parkway facing greatest pressure of encroachment and environmental degradation is the northerly half as compared to the southerly half.
6. Intensity of development to satisfy recreational needs is greater on the northerly areas rather than the southerly area.

## B. PHASED DEVELOPMENT

The phased approach to development is a method of organizing in sequence the various stages of Parkway development in a logical and orderly manner. The phased approach for this Parkway is divided into three steps which will be termed "immediate", "short range", and "long range.":

- Immediate - those actions and proceedings which may be initiated immediately following adoption of this Master Plan and within two years thereof.
- Short range - those actions and proceedings relative to implementation of the Parkway which may take place from two to five years following adoption of the Master Plan.

- Long range - those actions and proceedings relative to the implementation of the Parkway which may extend beyond five years following the adoption of this Master Plan.

1. Study Area "A" - Jibboom Street to Old Sacramento:

Immediate

- Develop necessary access points, and provide a parking facility and landscaping at Jibboom Street area.
- Construct the Parkway trail between Jibboom Street and Old Sacramento, install protective barriers, construct underpass under "I" Street Bridge, provide proper signs and directions, generally clean up debris and remove hazardous conditions from the Parkway.
- Provide a drinking fountain and sanitary facilities at the Jibboom Street area.

Short Range

- Continue with the development of the Jibboom Street area.
- Cooperate with the State in the development of the parking lot at the Historic Railroad Museum. Parking area to be jointly used for the Museum and the Parkway.

Long Range

- Complete those aspects of the Parkway which have not been finished in earlier stages.

2. Study Area "B" - Old Sacramento to Miller Park:

Immediate

- Designate a primary and alternate trail through Old Sacramento:
  - Alternate trail will use City streets and will circumvent Old Sacramento, but will allow mounted bicycling.
  - Primary trail will take a direct route through Old Sacramento, but it will require bicyclists to dismount and walk through the area.
- Provide safe bicycle locking facilities at Old Sacramento.
- Provide a public restroom facility in Old Sacramento area
- Provide shade trees, grassed areas, seating areas and colorful landscaping within Old Sacramento.
- Provide outdoor eating facilities to accommodate transitory users of the Parkway as well as the tourists.
- Designate and develop with the appropriate improvements Front Street from "N" Street to Broadway as a temporary bypass route for bicycle users until the levee crown along this stretch can be utilized as a recreational trail. Begin serious negotiations with

Southern Pacific Railroad for public use of the river's edge.

- o Determine the feasibility of developing tourist and river oriented activities directly south of the Capitol Bridge on the river bank, possibly utilizing the existing piling with necessary new reinforcement for foundation.

Short Range

- o Continue with the improvements to the Old Sacramento area.
- o Begin development of river edge commercial/ tourism facilities.
- o Begin planning and development of the Parkway between "R" Street and Broadway.

Long Range

- o Continue with or complete river edge development.
- o Complete Parkway between "R" Street and Broadway. Include in the Parkway railroad right-of-way if no longer needed by Southern Pacific.

3. Study Area "C" - Miller Park to 25th Avenue: Immediate

- o Adopt and develop the extension of Front Street from Broadway into Miller Park as temporary by-pass route for bicycle users until the recreational trail can be built.
- o Develop and provide the appropriate improvements for the Fifty Street - Vallejo - Riverside temporary bypass as an interim on-street bicycle route.
- o Begin construction of a new berm starting at the southern end of Miller Park and extending approximately 4/10 of a mile south. The berm should be a minimum of 15 feet wide at the top, rip-rapped for erosion protection, with the berm top of equal elevation to the parking lot at the southern end of Miller Park.
- o Following completion of the new berm, immediately begin construction of the Parkway trail on this berm to connect Miller Park to the existing trail on the crown constructed by the Department of Transportation.
- o Construct safety barriers to prevent Parkway users from falling into the river or over the edge of the levee along narrow portions of the Parkway.

Short Range

- o Continue and complete the development of the new berm, trail and safety barriers south of Miller Park.

- o Remove debris and hazardous items from berm areas, construct nature trail to points of interest with the berm areas.
- o Provide access into the Parkway from Sutterville Road by the time Parkway development reaches that point.
- o Develop a Parkway trial extending from Area "B" directly into Miller Park paralleling the railroad tracks.

Long Range

- o As Southern Pacific Railraod abandons the track along the Parkway, extend the Parkway along the railroad right-of-way and provide a direct linkage with William Land Park.

4. Study Area "D" - 25th Avenue to 35th Avenue:

Immediate

- o Develop the Riverside Boulevard temporary bypass route as an on-street bicycle route until the recreational trail can be built.
- o Initiate area planning and investigate methods of gaining public access and use of the Parkway between 25th Avenue and 35th Avenue.
- o Initiate proceedings to obtain City use or ownership of excess freeway property west of Riverside Boulevard, north of Rio Lane and South of Marina at Captain's Table (triangular property). This property would provide an ideal major access area into the Parkway and could also function as a neighborhood park.

Short Range

- o Develop the triangular property south of Captain's Table as a neighborhood park and major access area into the Parkway.
- o Develop a pedestrian access from Bahnfleth Park area into the Parkway using the property at the end of Seamas Avenue.
- o Through a process of easement, right-of-way or purchase, gain access to and use of the levee and berm area within this segment. Thereafter, install Parkway trail, undertake minimal clean-up of area and construct nature trail to points of interest. Preserve the area for passive recreational use.
- o Provide necessary security fencing to ensure the privacy and protection of adjacent property owners.
- o Arrange for greater public use of the Da Rosa Marina, or acquire and manage the marina for maximum public use.

Long Range

- o Complete development of triangular property for neighborhood park.

- o Complete the installation of the Parkway and nature trail plus incidental improvements and security measures.
- o Complete necessary improvements to Da Rosa Marina to expand public use in conjunction with the Parkway.

5. Study Area "E" - 35th Avenue to Freeport:

Immediate

- o Develop a community plan for the future development of the remaining North and South Pocket areas.
- o As new residential development occurs, insure that adequate access and along the levee are provided.
- o Develop the Pocket Road temporary bypass as an interim on-street bicycle route.
- o Acquire and develop park lands and other public facilities adjacent to the River Parkway.
- o Develop Parkway trails to link developed adjacent park lands.

Short Range

- o Continue to provide access points into the Parkway as adjacent lands are developed.
- o Continue to acquire, develop and connect adjacent parks and recreational facilities to tne Parkway.
- o Make necessary improvements to the levee and berm to utilize the Parkway, while protecting the levee system and adjacent property owners.
- o Continue to develop the green belt and trail system within the Pocket Area to link residential areas, provide an off-street trail, travelway, and access to the Parkway.

Long Range

- o Complete access points and trail system.
- o Develop adjacent park lands to complement the Parkway activities.
- o Complete the Pocket area greenbelt system/ trail to connect the residential areas and provide linkage to the parkway.

## C. MECHANISMS FOR LAND ACQUISITION AND CONTROL

The acquisition of land along the Sacramento River Parkway is an essential element in the development of the Parkway. The three primary methods for the City to acquire Parkway lands are through the outright purchase of land, the pruchase of certain rights of use on the land, or through land dedications. These and other methods for acquisition and land use control have been discussed in the assessment section and will not be repeated here in detail. The specific method the City should use will vary on an individual parcel basis due to the following factors:

a) market value of the land; b) the value of the portion of the parcel to be acquired relative to the value of the entire parcel and its improvements; c) the historical use of the property to be acquired; d) State ownership of the Sacramento River bed; and e) the actual timing of the acquisition relative to delays caused by negotiation or litigation. Therefore, within the context of this Master Plan, it is not possible to anticipate how and when each parcel of Parkway land will be acquired.

However, it has been recommended that before each segment of the Parkway is developed, the City shall prepare an acquisition plan to show the intended actions on each parcel of land. This plan should show acquisitions according to the following methods:

- o Dedications - Lands which are to be acquired according to the guidelines of the City of Sacramento Subdivision Ordinance and/or the California Subdivision Map Act.
- o Acquisition (Fee Simple) - Lands which are to be purchased in full by the City.
- o Acquisition (Less than Fee Simple) - Lands on which the City intends to obtain easements or purchase certain use rights.
- o Negotiation with Other Agencies - Lands which are presently owned by other governmental agencies and with which the City will enter into an agreement for use or direct purchase of land.

Areas of special concern may optionally be included in the acquisition plans. These would include the negotiations with Southern Pacific Railroad (Area Plans A, B, C and possibly E) and a sixteen to twenty-foot setback from the levee in the Pocket Area (Area Plan E). The latter may be acquired either through land dedication or establishment of a resource protection zone.

# V. COST OF PARKWAY DEVELOPMENT

It will be the direct responsibility of the City of Sacramento to fund the development of the Sacramento River Parkway so that the Master Plan may be implemented. These funds for the Parkway will have to come from the City's own funds, and from available outside funding sources. Some of these sources of grants or loans from federal, state and regional programs are discussed in the Appendix. The three main categories for which City or other funds will be necessary, are for the acquisition of lands for the Parkway, funds for the actual development of the Parkway, and funds for the maintenance and security required for the long-term use of the Parkway.

## A. ACQUISITION COSTS

The various methods available for the acquisition of Parkway lands have been detailed in previous sections, and therefore will not be repeated in depth here. The primary methods are acquisition of fee title, acquisition less-than-fee title, recreation and other easements, and finally, acquisition through direct dedication of lands. The latter method is the most desirable, and least expensive. It would not require capital outlay from the City, although it has a long-term cost due to the minor loss of taxable property from the tax rolls. The other methods will require large capital outlays of varying degrees.

Because each parcel of land will have to be considered on an individual basis with respect to all these aspects, it was not possible at this time to determine an accurate estimation of all the costs of acquiring Parkway lands.

B. DEVELOPMENT COST

1. Parkway Area

The Parkway areas to be developed, excluding the crown of the levee, include 17.0 acres of berm area, and 61.5 acres of adjacent landside area. Together this amounts to 78.5 acres. Additionally the natural berm areas, which are to remain basically undisturbed, except for a nature trail, total 37 acres.

The most prominent improvement proposed along the entire length of the parkway is the recreational trail. The primary trail, which will be 10 feet wide, of asphalt construction and designed to accommodate maintenance vehicles, will be some 55,750 lineal feet or 11 miles long. The secondary trail will be no wider than 8 feet, of asphalt construction and designed only to accommodate pedestrians and bicyclists. It will be 22,800 lineal feet or approximately 4 miles long. Together these two trails amount to more than 15 miles of new recreational trail for the area.

2. Construction Cost

On the basis of the proposed Master Plan, the present estimated cost of developing the various Parkway segments and adjacent park lands would be:

Estimated Parkway Development Cost - 1975

| Parkway Segment | Parkway | Adjacent Landside Devel. | Total |
|---|---|---|---|
| A - Jibboom St. to Old Town | 144,500 | 146,500 | 291,000 |
| B - Old Town to Miller Park | 97,000 | - | 97,000 |
| C - Miller Park to 25th Ave. | 318,000 | - | 318,000 |
| D - 25th Ave. to 3th Ave. | 337,000 | 134,000 | 471,000 |
| E - 35th Ave. to Freeport | 786,500 | 1,337,000 | 2,123,500 |
| | $1,683,000 | $1,617,500 | $3,300,500 |

As indicated on the chart, this is an estimate based on 1975 costs. From past experience, it would be safe

to assume a minimum of 10-15% inflation factor for each year the various development is postponed.

There are also additional factors which would greatly affect the cost of developing the Parkway including:

- Degree of development - the Parkway Plan and these cost estimates assume a high degree of development especially in the high use areas. Certainly the initial phases of development will be of minimal nature; thereafter, it may be decided for various reasons that many of the desired refinements may not be installed. This would naturally reduce the overall cost.
- Cost of adjacent landside development - although the Parkway greatly benefits from adjacent landside development, these improvements are intended primarily for neighborhood or community park use, and therefore should not be entirely included in the consideration of overall Parkway development cost.
- Force account and other public service - due to uncertainty, this cost estimate does not compensate for all possible services which may be rendered by city forces and other affected public and private agencies towards this Parkway development.
- Acquisition costs - the costs involved in gaining public access and use of privately-owned portions of the parkway, especially in Parkway segments "D" and "E", are presently the greatest uncertainty. Depending on the settlements agreed upon, the final cost of an easement or acquisition could be extremely varied.
- Private development - private development abutting the Parkway, commercial development of river edge and other private developments permitted within the Parkway, if properly planned, could significantly offset the cost of some of the proposed Parkway improvements.
- Revenue from commercial development - revenues received from commercial developments permitted on the river edge of the Parkway could also aid to defray portions of the total development cost.
- Outside assistance - the amount of outside assistance used for the Parkway development in the form of grants, services, or technical assistance can also defray some of the costs.
- Interjurisdictional cooperation - cooperation and coordination of improvements to be undertaken by public agencies with jurisdiction over the Parkway can aid in maximizing the benefit of public revenues expended in the Parkway area.

For these and other factors, the estimate of actual development cost is an educated guess. These above factors and others can greatly increase or decrease the ultimate cost. Certainly, a wise, orderly development which minimizes extra costs and maximizes benefits from outside sources would help to reduce the overall cost.

## C. MAINTENANCE AND SECURITY

### 1. Maintenance

The maintenance cost projection for the Sacramento River Parkway is the result of close consultation with the City Recreation and Park Department. This projection is based on the proposed Master Plan and assumes a full level of development as suggested in this report.

(a) Labor Requirement - The labor requirement for the five parkway segments are:

Area A - 1 1/2 maintenance person full-time
Area B - 1/2 maintenance person full-time
Area C - 1/3 maintenance person full-time
Area D - 2 maintenance person full-time
Area E - 1 2/3 maintenance person full-time

Total manpower requirements is therefore estimated at 6 maintenance person full-time, or two mobile crews.

(b) Labor Cost - The cost for the above labor force would amount to:

(1) Maintenance Person I $13,984 per year
(2) Maintenance Person II $13,107 per year

or $40,198 per year for each maintenance crew or $80,396 for the 2 crews. The labor costs mentioned here include a 30.5% overhead cost.

(c) Equipment Requirements and Cost - It has been determined that the most efficient method of maintaining the Parkway would be through the use of mobile crews. The cost of equipping one crew presently is:

| | |
|---|---|
| Tools, Safety and Rain Gear | $ 605.00 |
| Pickup | 3,500.00 |
| Trailer | 1,700.00 |
| Capital equipment | 840.00 |
| | $6,645.00 |

Assuming the life of this equipment to be five years, the yearly equipment cost would be $1,329. Since the use of the pick-up requires a charge of $.14 per miles or an average of $140.00 per month, the amount would have to be added to the equipment cost.

| | |
|---|---|
| Equipment | $1,329 |
| Pickup mileage | $1,680 |
| | $3,009 per year per crew |

(d) Cost of Labor and Equipment - Using the previously quoted costs for labor and equipment and these assumptions:

(1) Within the first five years following adoption of this Master Plan, Parkway segments "A" - "C" will be developed.

(2) General Maintenance Cost will continue to increase approximately at 8% per annum.

The parkway maintenance cost for the first five years, therefore, will be approximately:

First Year

Area "A" - 1 1/2 men full-time

| | |
|---|---|
| Labor | $20,538 |
| Equipment | 2,869 |
| | 23,407 |
| | x 1.08% inflation |
| | $25,280 |

Second Year

Area "A" and "B" - 2 men full-time

| | |
|---|---|
| Labor | $27,091 |
| Equipment | 2,889 |
| | 29,980 |
| | x 1.16% inflation |
| | $34,776 |

Third Year

Area "A", "B" and "C" - 2 1/3 men full-time

| | |
|---|---|
| Labor | $31,460 |
| Equipment | 2,946 |
| | 34,406 |
| | x 1.24% inflation |
| | $42,663 |

Fourth Year

Areas "A", "B", "C" plus 1/2 "D" - 3 1/3 men full-time

| | |
|---|---|
| Labor | $44,567 |
| Equipment | 3,023 |
| | 47,590 |
| | x 1.32% inflation |
| | $62,818 |

Fifth Year

Areas "A" - "D" - 4 1/3 men full-time

| | |
|---|---|
| Labor | $58,507 |
| Equipment | 4,802 |
| | 63,309 |
| | x 1.40% inflation |
| | $88,632 |

The Parkway maintenance cost for the five-year period would therefore amount to approximately $254,170.

2. Security

The City Police Department, through its experience with policing eleven miles of the American River Bikeway,

anticipates that the patrolling requirements for the thirteen miles of Sacramento River Parkway would be similar to the American River Bikeway.

The estimate by the police department indicates that a patrol team of three officers and a jeep-type vehicle with emergency equipment would be required to conduct a seven-day a week patrol of eight hours each day. These patrols would be conducted during the heavy use, daylight hours.

The cost involved in this patrol, excluding overhead and expenses, would be approximately $60,000 per year if the entire parkway were presently developed.

Patrol Beat - Additional to the parkway patrol, there are four to five black and white patrol car beats adjacent to the parkway. These units would be available for emergencies and periodic Parkway patrols during evening hours.

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## FUNDING ASSISTANCE

Due to the magnitude of the proposed Parkway and the limited funds available within the City to undertake a project of this size, the City should actively apply for State and Federal assistance to plan, acquire and develop the Parkway.

Following is a listing of State and Federal park, recreation, and Historic financial assistance programs available to local jurisdictions. Though this is a partial listing of such assistance, most of these programs directly apply to the Parkway, or to supporting facilities, and therefore should be applied in the development of this Parkway. As other new programs and sources of assistance are identified, maximum advantage of these should also be made.

### STATE AND FEDERAL PARK, RECREATION, AND HISTORIC FINANCIAL ASSISTANCE PROGRAMS TO LOCAL JURISDICTIONS

(Partial List February 1975)

STATE PROGRAMS

| PROGRAM | PURPOSE | EMPHASIS | PLANNING REQUIREMENTS | PROJECT REQUIREMENTS | BASIS FOR FUNDING | ADMINISTRATIVE AGENCY |
|---|---|---|---|---|---|---|
| Navigation and Ocean Development Financial Aid to Counties | Boating safety and law enforcement | Reduce accidents and uniform enforcement | | Comprehensive boating safety and enforcement program | Reimbursement for accepted program minus personal property tax on boats | Department of Navigation and Ocean Development, 1416 Ninth Street, Sacramento, CA 95814 |
| Loans and Grants | Planning and construction loans for marinas; grants for launching facilities | Recreational boating | Engineering and economic feasibility studies | Feasible project | 100% grants; 10-year planning loans; 30-year construction loans | |
| Off-Highway Vehicle Grants Program | Acquisition and development of trails and areas for the use of off-highway vehicles | Trails and areas for off-highway vehicle use | Compliance with local government plans | Local agency willing to operate and maintain project; project feasible and in conformance with off-highway vehicle recreational demand | 75% grants | State Department of Parks and Recreation, Grants and Statewide Studies Division 1416 Ninth Street, Sacramento, CA 95814 |
| Wildlife Conservation Act of 1947 | Acquisition and/or development | Hunting and fishing access, boat ramps, fishing piers, lake construction; wildlife habitat preservation or improvement | Preliminary plans, cost estimates; engineering feasibility; fish or wildlife evaluation | State or regionwide significance; recreation related to wildlife; local agency willing to operate and maintain interest in land | WCB develops and retains proprietary interest in land for long term; provides 50%-100% development costs; local agency maintains project | Wildlife Conservation board, 1416 Ninth Street, Sacramento, CA 95814 |
| 1974 State Grant Program (Z'berg-Collier Park Bond Act) | Acquisition of beaches, parks, recreational facilities, and historic resources | Outdoor recreation or historical projects | Inclusion in an adopted plan and on county's priority plan for expenditure | All projects must provide for or support outdoor recreation, except historic projects | 100% grants; may not exceed funds allocated to applicant by county's priority plan for expenditure | State Department of Parks and Recreation, Grants and Statewide Studies Div., 1416 Ninth Street, Sacramento, CA 95814 |
| Bicycle Lane Fund (S.B. 38) | Acquisition and Development of bicycle lanes | Bicycle lanes for transportation or recreation | Project report | Exclusively for bicycle lanes on city streets and county roads | 2/3 grants | State Department of Transportation, Office of Planning and Design, 1120 N Street, Sacramento, CA 95814 |
| Sales tax on gasoline fund (S.B. 325, 821) | Provision of routes for pedestrians and bicycles | Recreational bikeways and walkways | Determined by regional transportation planning agency | | 2% of gasoline tax fund is available for such projects on a permissive basis | Regional transportation planning agencies |
| Environmental Education Grant Program | Community centered environmental education and resource programs | Teaching materials and training; development of facilities and improvements; internship programs | | Capital outlay limited to small amounts; applicants must be public agencies (apply by February 7) | 50% state grant; local match in either cash or services | State Department of Education, Environmental Education, 721 Capitol Mall, Sacramento CA 95814 |

FEDERAL PROGRAMS

| | | | | | | |
|---|---|---|---|---|---|---|
| Land and Water Conservation Fund | Acquisition and/or development | Meeting regionwide needs | Master plan of park and recreation areas or recreation element of general plan | Projects must appear on applicant's master plan; must be regional in scope; must conform to State Outdoor Recreation Plan | 50% grant; on a reimbursable basis | Bureau of Outdoor Recreation through Department of Parks and Recreation, 1416 Ninth Street, Sacramento, CA 95814 |
| Disposal of surplus federal land – Federal Real Property Grants | Development | Park, recreation, and historic areas | Site plan | Review by U.S. Bureau of Outdoor Recreation | Land available at discounts of the fair market value for public recreation purposes. Historic sites – no charge | *Park and recreation purposes:* Bureau of Outdoor Recreation, 450 Golden Gate Avenue, San Francisco, CA 94102 *Historic Monument and other purposes:* General Services Administration, 450 Golden Gate Avenue, San Francisco, CA 94102 |
| National Historic Preservation Act of 1966 | Grants for history preservation, acquisition, and restoration | Preservation of local, regional and state historical sites and places | State plan | Project must be on the National Register or eligible for inclusion | 50% reimbursement of project costs | National Park Service through State Historic Preservation Officer, Department of Parks and Recreation, 1416 Ninth Street, Sacramento, CA 95814 |
| Housing and Community Development Act of 1974 | Physical community development activities | Provide funds not available through other programs to meet community needs | Long range community development plan | Only available to general purpose units of government | 100% grants (discretionary funding is available in excess of predetermined block grant amounts) | *San Francisco Area:* Director of Community Planning and Development, One Embarcadero Center, San Francisco, CA 94111 *Los Angeles Area:* Director of Community Planning and Development, 2500 Wilshire Boulevard, Los Angeles, CA 90057 |
| 701 Comprehensive Planning Assistance Grant; Housing Act of 1964 | Comprehensive community management and planning | Improve local management and planning capacity; including park and recreation component | Evidence of local planning capability | Statement of goals and principles | 2/3 grant; 1/3 local share; 3/4 grants in EDA or Federally impacted area (local share may be services or cash) | |
| "701" Planning Grant: Urban Planning Assistance | Comprehensive planning and management | Management and implementation of the comprehensive planning process | Recreation element may be separate | Statement of goals and principles; size and location | 2/3 federal, 1/3 local share; services or cash | HUD through Office of Planning and Research in care of Governor's Office, State Capitol, Sacramento, CA 95814 |
| Recreation and Public Purposes Act | Acquisition | Establishing recreation areas on public domain lands | Schedule of anticipated development or utilization of land | Project must be developed on a timely schedule | Public agencies may acquire BLM land at $2.50/acre or lease at $.25/acre/year for 25 years | Bureau of Land Management 2800 Cottage Way Sacramento, CA 95825 |
| Public Domain Grants for Historic Monuments Act of 1926: PL 69-386 with amendments | Transfer of public domain lands to political subdivisions and non-profit organizations for historic monument purposes | Historic sites only | Schedule of anticipated development or utilization of land | See "Land Sales Program" of BLM for requirements; only historic site and its features may be included in transfer | Transfer of land title without cost | |

FEDERAL PROGRAMS

| PROGRAM | PURPOSE | EMPHASIS | PLANNING REQUIREMENTS | PROJECT REQUIREMENTS | BASIS FOR FUNDING | ADMINISTRATIVE AGENCY |
|---|---|---|---|---|---|---|
| Small Watershed Act PL 566 | Planning, acquisition, and development for better watershed management | Conservation, recreation, reservoirs, and other multiple-purpose areas; basic facilities | Feasibility: technical and construction reports | Small watershed development projects (250,000-acre maximum) | 50% grants and loans | U.S. Soil Conservation Service, 2020 Milvia Street Berkeley, CA 94704 or Department of Conservation Division of Resource Conservation, 1416 Ninth Street, Sacramento, CA 95814 |
| Older Americans Act of of 1965, as amended: Title III | Coordinate services for the aged | Staffing and operating multi-purpose activity services | Comprehensive state plan for services to older people | State administers and supervises program; plan approved by state office on aging | 75% funds (no funds for facility construction) | State Office on Aging 455 Capitol Mall, Suite 500, Sacramento, CA 95814 |
| Aging: Older Americans Act of 1965, as amended, Titles IV, V, and VI | Training of persons working with aged or preparing for such work | Original research, conducting or expanding training | Comprehensive state plan for services to older people | Originality and need | To 100%; cost sharing preferred | Regional Office, Administration on Aging, 50 Fulton Street, San Francisco, CA 94102 |
| Economic Development Planning Grants; Public Works and Development Act of 1965 | Planning, technical assistance, business loans, public works | Public and private recreation | Must prepare an overall economic development program | Start in short time; reduce unemployment; long-term economic development | 50-80% grants, based on rate of unemployment; loans made when no alternate source is available | Economic Development Administration, 380 First Street, Oakland, CA 94607 |
| Community Action Program, Economic Opportunity Act of 1964; PL 88-452 | Help urban and rural communities mobilize their resources to combat poverty | Includes funds for recreation leadership, salaries, training, research, and recreation equipment | | All components of local anti-poverty programs must be focused on the needs of low-income individuals and families | 80% grant; private, non-profit or public agencies eligible | State Employment Development Department 555 Capitol Mall, Room 329 Sacramento, CA 95814 |
| N.E.A. Grants for the Arts | Grants to organizations and individuals for wide variety of art, dance, music and allied projects | Arts projects to perpetuate and enhance our cultural heritage | | Well-written proposal and formal application | 100% to individuals; 50% to organizations | National Endowment for the Arts, 1425 K Street, NW, McPherson Building Washington, D.C., 20506 |

SOURCES OF ADDITIONAL INFORMATION:

1. "Federal Outdoor Recreation Programs," Bureau of Outdoor Recreation, 1970.
2. "Federal Assistance in Outdoor Recreation," Bureau of Outdoor Recreation, 450 Golden Gate Avenue, San Francisco, CA 94102, lists some 45 federal recreation assistance programs to State, local agencies, groups, and individuals.
3. The National Recreation and Park Association, 1601 North Kent Street, Arlington, VA 22209, and its Regional Service Center at Suite 102, 1225 Eighth Street, Sacramento, CA 95814, are additional sources of current assistance programs.
4. Office of Public Understanding of Science, 1800 G Street NW, Washington, D.C., 20550.
5. Bicentennial Coordination Office, Smithsonian Institution, S.I. 231, Smithsonian Institution, Washington, D. C. 20560
6. National Endowment for the Humanities, 806 15th Street, NW, Washington, D. C. 20506.
7. National Endowment for the Arts, 1425 K Street, NW, McPherson Building, Washington, D. C. 20506.

Source: Department of Parks and Recreation
State of California

## City of Sacramento Funding Sources:

Additionally to the state and federal programs, funding available within the City for the development of the Parkway includes:

- o City General Fund
- o Required Dedications
- o Capital Improvement Program Funds
- o Revenue Sharing

Other potential sources of funds:

- o General obligation bonds
- o User fees for special activities

## AESTHETIC AND FUNCTIONAL PLANTING

The planting of trees and other vegetative material like other aspects of the Parkway development, must be approved by the State Reclamation Board. Listed hereafter are the general requirements and conditions to be followed in vegetative planting of the Parkway, as required by the State Reclamation Board:

### 1. General

- o Application must be made for any vegetative encroachment and must be approved by the Reclamation Board.
- o All plants are to be kept trimmed to allow maximum visibility for inspection of the slope and toe areas.
- o Planting at the toe of the levee on the water side should not be allowed as it diverts flood waters into the levee and erodes the slope.
- o On stretches of the levee longer than 1/4 of a mile without vegetation, dense clusters of trees ranging 2,000 to 3,000 square feet in area are recommended for planting by the State Department of Fish and Game. Such clusters are needed as natural habitat for the continued existance of wildlife.

### 2. Trees

- o Only deciduous trees will be allowed on the levee slope.
- o Broadleafed evergreen and conifers may be permitted on the berm and on landward side of the levee.
- o Trees of 40' height or more may not be permitted on the levee but can be planted on the berm.
- o Trees on the slope must be kept pruned so that all branches are kept at least five feet above the ground level.
- o The following tree species have been found to be most acceptable through levee planting experiments:

  Catalpa species - Western Catalpa
  Casuarina stricta - Coast beefwood
  Fraxinus velutina - Arizona ash
  Zelkova serrata - Sawleaf zelkova
  Eucalyptus polyanthemos - Silverdollar gum
  Eucalyptus sideroxylon - Pink ironbark
  Grevillea robusta - Silk Oak
  Acacia retinoides - Water wattle
  Acacia melanoxylon - Blackwood acacia

### 3. Shrubs

- o Evergreen shrubs are not allowed on the levee,

but deciduous shrubs are allowed on the levee, on berms and land side.

- Large masses of shrubs are not allowed on the slope of the levee.

4. Groundcovers

- Groundcover plantings are normally permitted except for plantings which may unreasonably restrict inspection or other flood control maintenance activities.
- Good grasses for groundcovers are:
  Tifway bermuda
  Tifgreen bermuda
  Coastal bermuda
  Creeping wildrye (native - not sold commercially)

5. Unacceptable Vegetation for Planting on Levees

The following list of unacceptable plant material are excerpted from "Guide for Vegetation on Project Levees" adopted by California State Reclamation Board, December 1, 1967.

Trees

Cottonwoods
Willows
Sycamores
Nut trees
Blackwood Acacia
Deodar Cedar
Arizona Cypress
Silver Maple
Fig trees
Locust
Italian Stone Pine
Montery Pine
Bailey's Acacia
Box Elder
Chinese Elm
Black Locust
Blue Gum
California Pepper tree

Shrubs

Bamboo
Berry vines
Grape vines
Roses
Cactus species
Pyracantha species
Tobacco plant
Elderberry
Anise

Groundcover

Large Leaf Ivy
Halls Honeysuckle
Prostrate Rosemary
Periwinkle