

# **ARCATA CREEKS MANAGEMENT PLAN**

**Adopted – August 21, 1991**

## **Introduction**

Past and present land uses have radically altered the condition of Arcata's creeks from their original condition. Tidegates prevent or severely limit access for anadromous fish to all but Jacoby and Jolly Giant Creeks. Except for Jacoby Creek, the riparian forests have been completely removed from at least half of each stream channel. Pollutants from a variety of sources degrade the appearance and the health of the creeks. Fish are rarely observed. Through most of their lower reaches, creeks have been relegated to the status of “drainage ditches.”

With good planning and management, Arcata's creeks can provide a wide range of unique benefits. Without good planning and management these benefits are lost and the costs associated with flood damage, erosion, sedimentation, and water pollution increase and are passed on to the community.

## **Purpose**

The purpose of the Arcata Creeks Management Plan is to provide guidance for management of creeks that flow through Arcata in order to provide the fullest realization of the creeks' beneficial uses.

The beneficial uses of Arcata's creeks are as follows: flood control, fresh water habitat, riparian habitat, scenic enjoyment, water quality, education, public safety, fish habitat (fish spawning, fish migration), open space, recreation, marine habitat, and ground water recharge.

Opportunities to restore and protect Arcata's creeks fall into two broad categories:

### **1) New and Modified Development Along Creeks**

The potential impacts of new development represent the most urgent set of issues. Therefore, this plan emphasizes recommendations for protection and management of undeveloped creek corridors and erosion and grading control ordinances.

In addition, the management plan gives guidance for review of proposed new activities with potential impact on Creek Zones. For purposes of this plan, a Creek Zone defined as follows:

- a) A Creek Zone shall be the area that is 25 feet outward from the top of bank, or the area bounded by the FEMA 100 year flood plain line whichever is

greater; except in no case will the creek zone on either side of a creek be wider than 100 feet from the average low flow line of that creek.

b) The top of the bank shall be the furthest break in slope of the bank to each side of a creek. Where the top of the bank is not clearly defined obvious break in slope, the City Engineer shall verify the top of the bank.

## 2) Existing Development and Practices in the Creek Zones

The management plan encourages the elimination, or minimization, of impact to creeks from existing uses and conditions through education, technical assistance, and in some cases, new ordinances. The City may also initiate projects-and encourage voluntary restoration and enhancement of degraded stream resources.

The management of creeks in the Community Forest and Jacoby Creek Forest are described in the Forest Management Plan.

### **Arcata's Creeks**

The creeks governed by this management plan are shown in Figure 1. These creeks are as follows: Janes Creek (including North Fork South Fork and McDaniels Slough), Sunset Creek, Jolly Giant Creek (including Butchers Slough), Campbell Creek, Fickle Hill Creek, Grotzman Creek, Beith Creek, Jacoby Creek and Washington Gulch. Also included are Liscom Slough, Mad River and Gannon Slough. The Arcata City Council may consider additions to this list at any time. Although the community is concerned about all of these bodies of water, it is recognized that the City does not have the authority to regulate activities outside the City limits.

A creek is a channel for water that flows from higher to lower points within a basin of land. These basins are known as watersheds. The condition of Arcata's creeks is a direct result of the conditions in their watersheds. Arcata's watershed boundaries are shown in Figure 2. Upstream or upslope activities can significantly affect the creek resources. Erosion control recommendations in this plan apply throughout all watersheds. .

### **Implementation of this Management Plan**

(See Policies and Implementation section for additional details)

This plan sets forth policies and implementation measures. The implementation measures provide a checklist for measuring progress. Some implementation measures require immediate attention. Some implementation measures, such as fish habitat restoration, will be accomplished over a number of years; while others, such as creek maintenance, will be ongoing.

Overall, the implementation measures create a long list of “things to do.” The greatest benefits will be obtained from this plan if responsibility for its implementation is assigned.

### **Urgent Recommendations:**

1. Establish creek zone combining districts in City's Land Use and Development Guide, to apply to creek zones which will require special management considerations.
2. Prepare and adopt an erosion control ordinance and amendments to the existing grading ordinance.
3. Install creek name signs at major points where city roads cross a creek to give immediate identity to Arcata's creeks.

## **POLICIES AND IMPLEMENTATION**

Under each of the following topic headings, one or more policies are followed by implementation measures.

### **I. CREEK ZONE MANAGEMENT**

**1. Policy:** The City shall manage creek zones to minimize risks from flood hazards while maximizing the benefits to the natural environment. It is noted that well managed creek zones provide adequate space for the movement of flood waters, fish and wildlife habitat, open space and recreational opportunities while minimizing public expense.

#### **Implementation:**

- A. Establish Creek Zone combining districts in City's Land Use and Development Guide, to apply to creek zones which will require special management considerations. Include provisions to assure that each legally created lot within a stream zone contains a building site, unless Federal Emergency Management Agency requirements render the entire lot unbuildable.
- B. The City's policy shall be that residential structures shall not be sited in the Creek Zone. An exception to the policy may be made only if a residence cannot be sited on a legally created parcel unless it is sited in the Creek Zone.
- C. Establish a process for identifying creek zone boundaries on individual lots. Where necessary to analyze a proposed development project, require the applicant to provide top of bank or FEMA 100 year flood plain delineations.

D. Develop specific criteria for optimum stream channel configuration and capacity, habitat restoration, recreation, and access for creek zones.

E. Activities prohibited within Creek Zones will include:

1. Excavating or grading placing fill or debris;
2. Construction of any structure;
3. Removal, destruction or significant alteration of the natural vegetation; and
4. Fencing that crosses through a creek channel, that acts as a barrier to anadromous fish, or that acts as a collector of debris.

Exceptions to prohibited activities will include:

1. Construction or maintenance of utility lines crossing a creek zone;
2. Maintenance by a public agency or adoptors of recognized Adopt-A-Creek projects: including but not limited to removal of sediment buildup in creek beds for flood control purposes and removal of vegetation for flood control purposes;
3. Resource restoration projects;
4. Maintenance of existing roads, driveways and structures; or
5. Maintenance of existing trails or the construction of new foot trails as provided in the Park and Recreation Master Plan.
6. Agricultural operations.
7. Removal of hazardous trees.
8. Forest practices as permitted by the state of California.
9. Existing aggregate extraction concerns operating under permit from applicable agencies.
10. Construction of uses permitted by the base zoning, on legally created lots. Provided, however, that such construction would be required to meet all federal flood insurance requirements and provided that the ordinance implementing the Creeks Management Plan may specify the maximum buildable area on such lots.

F. Develop a program to acquire Creek Zone easements. Where possible, these easements are to be acquired at the time of new developments. As used in this plan, "Development" refers to any work for which discretionary land use approval, a grading permit or building permit is required by the City of Arcata, excluding the construction of a single family dwelling on an existing legally created parcel. Construction of a second unit shall be considered to be "Development" 'per this definition. In other cases they could be acquired through donations by land owners. Such easements should specify the activities which could occur within the affected stream zones in order to support the purposes of this management plan.

G. Consider providing incentives for developers of parcels which may include:

- Density bonuses in exchange for Creek Zone maintenance or enhancement.
- Inclusion of Creek Zone areas within required space for the development, thereby resulting in a net increase in permitted density. This could be done one of the following ways:

- By allowing the Creek Zone to serve as 100% of the required open space (rather than the current limit of 50% for multi-family projects); or
- By calculating stream zone open space with a multiplier (e.g. 125%) to allow for a density bonus or an increase in the permitted floor area of a development.
- By allowing for exceptions from solar design requirements for buildings where necessary to encourage the planting and maintenance of trees for riparian shading.

**2. Policy:** The City recognizes the importance of the remaining unculverted sections of creeks as providing the beneficial uses defined earlier. The City shall not approve any additional culverting of creeks unless such culverting is found to be necessary to control flooding or it is determined by the City Engineer that, without culverting, any development of properties adjacent to the creek is not possible.

**Implementation:**

A. Where a culvert with a cross-sectional area greater than 452 square inches is used to cross a creek, the invert of the pipe shall be placed below the silt line of the creek to a depth that is equal to 20% of the depth of the pipe.

B. In reviewing plans for proposed creek crossings, the aesthetic benefits of bridges, when compared to culverts, will be considered.

**II. FLOOD HAZARD MANAGEMENT**

**1. Policy:** The City shall minimize damages and hazards due to flooding in accordance with FEMA (Federal Emergency Management Agency) guidelines.

**Implementation:**

A. At a minimum, new development shall be in accordance with FEMA requirements.

B. Identify appropriate overall flood hazard reduction strategy and action by the following:

- a. Require developers to analyze and mitigate major increases in runoff from new development;
- b. The City shall develop a regular stream channel inspection and maintenance schedule;
- c. Any major modification or maintenance of channel capacity should be reviewed by the Planning Commission in a public hearing forum;
- d. Identify potential flood levels as accurately as possible;

e. Analyze the hazards posed by a range of flood levels (such as 25, 50, 100 year return intervals);

f. Assess the costs and benefits of possible actions to avoid, reduce or mitigate those hazards. Actions may include:

1. Relocation or flood proofing of existing structures that are at risk;

2. Modification and maintenance of channel capacity;

3. Development of a regular stream channel inspection and maintenance schedule.

g. Requiring developers to analyze potential increases in runoff from new development.

h. Avoiding, or mitigating the impact of, the increased runoff from new development.

C. In the event of a flood: Map all high water lines along flooded watercourses, record observations of any problems created by the flooding, and assess the magnitude of the event.

### **III. EROSION CONTROL**

**1. Policy:** The City shall minimize soil erosion throughout Arcata's watersheds.

**Implementation:**

A. Prepare and adopt an erosion control ordinance and amendments to the existing grading ordinance.

B. Continue to monitor all Timber Harvest Plans within Arcata's watersheds.

C. Identify, analyze, prioritize and correct existing and potential erosion problem areas including: roads, trails, streambanks, and graded channels.

### **IV. SEDIMENTATION**

**1. Policy:** To reduce the need for dredging and to protect instream habitat the City shall minimize the accumulation of sediment in Arcata's creeks.

**Implementation:**

A. Identify, locate, quantify and correct sedimentation problems in Arcata's creeks.

B. Assess the effectiveness of sediment traps and construct more sediment traps, where appropriate.

C. Investigate opportunities to modify creeks to improve sediment routing consistent with other objectives of this Plan.

D. Encourage the reestablishment of a dense mature tree canopy over the creeks, in order to shade-out sediment trapping instream vegetation.

E. Encourage livestock exclusion fencing on all creekside agricultural properties.

## **V. RIPARIAN VEGETATION**

**1. Policy:** The City shall promote healthy riparian vegetation along Arcata's creeks. (Healthy riparian vegetation has trees and a variety of other native shrubs and plants which shade the creeks, stabilize the stream banks and filter sediment, maintain flood control and provide habitat and travel corridors for wildlife.)

### **Implementation:**

A. Identify and classify the condition of existing riparian vegetation.

B. Establish programs to promote healthy riparian vegetation.

C. The City shall review development to minimize the disturbance of riparian vegetation.

**2. Policy:** The City shall promote restoration of degraded riparian vegetation within Arcata's Creek Zones.

### **Implementation:**

D. Require restoration as a condition of approval for new development of parcels in Creek Zones.

E. In already-developed areas, promote and encourage reestablishment and protection of native riparian species.

F. Restoration and maintenance of riparian habitat shall integrate considerations for solar access and fire safety.

## **VI. FISH AND WILDLIFE**

**1. Policy:** The City shall promote restoration of creeks to a healthy condition for fish and wildlife.

### **Implementation:**

A. Conduct baseline habitat inventories and assessments.

B. Conduct surveys of abundance and distribution of fish and wildlife.

C. Identify restoration objectives for each creek.

D. Prepare habitat restoration plans for each creek.

E. Consider the feasibility of establishing a sportfishing management program which will include any fishing areas, stocking schedules and hatchery contributions and any refuge areas.

## **VII. WATER QUALITY**

**1. Policy:** The City shall protect and improve stream water quality.

### **Implementation:**

A. Establish monitoring program for stream water quality.

B. Identify point and non-point pollution sources.

C. Identify solutions to pollution problems by eliminating illegal sources where feasible and enforcing regulations.

D. Define proper emergency response by City and other agencies to be contacted.

## **VIII. WATER QUANTITY**

**1. Policy:** The city shall protect instream flows.

### **Implementation:**

A. Determine if actions are necessary to prevent future stream flow diversions.

## **IX. RECREATION AND PUBLIC ACCESS**

**1. Policy:** The city shall make optimum use of Creek Zones for recreation and public access.

### **Implementation:**

A. Identify, describe and make recommendations regarding:

1. Stream reaches suitable for public access/recreation;

2. Site-specific constraints and opportunities;

3. Relationship of specific sites to corridor as a whole;

4. Appropriate types of use;

5. Means to incorporate streamside public access/recreation into new subdivision plans.

- B. Integrate recreational use with floodplain and habitat management considerations.
- C. Make specific plans to acquire and develop the Janes Creek Linear Park and the Mad River Access as identified in the Master Plan of Parks and Recreation.
- D. Coordinate stream zone management with recreational management at existing and future public facilities."

## **X. PUBLIC AWARENESS, EDUCATION AND INVOLVEMENT**

**1. Policy:** The City shall promote public awareness of creek resources and their benefits.

### **Implementation:**

- A. Establish and maintain Adopt-a-Creek Program.
- B. Provide clear identification of Arcata's creeks by installing creek name signs at all points where city roads cross a stream.
- C. Label all storm drains (determine color codes for each watershed).
- D. Paint street surfaces (i.e. with fish symbols) under which creeks flow.
- E. Produce an Arcata Creeks video.
- F. Continue to distribute the stream Care Guide.
- G. Establish and maintain an Arcata natural history and restoration section in City library and Marsh Center Interpretative Center.
- H. Provide descriptive list of desirable plant species, creekside native plant landscaping information, including habitat and channel capacity and stability considerations.
- I. Publicize examples of urban riparian vegetation.
- J. Promote pollution control and alternatives to pollutants.
- K. Continue to promote the work of Humboldt State University and Arcata High School students in improving local creeks.

## **XI. DATA BASE**

**1. Policy:** Maintain an Arcata creeks data base and reference collection.

**Implementation:**

A. Continue to locate and map open drainage channels within the City of Arcata.

B. Utilize the City's Geographic Information System mapping program to record and display site-specific information.

C. Establish on-going monitoring programs including streamflow, rainfall, sediment transport, water quality, channel morphology, and ecological characteristics. During and after large storms, every effort should be made to document the location of any flooding and other pertinent observations.

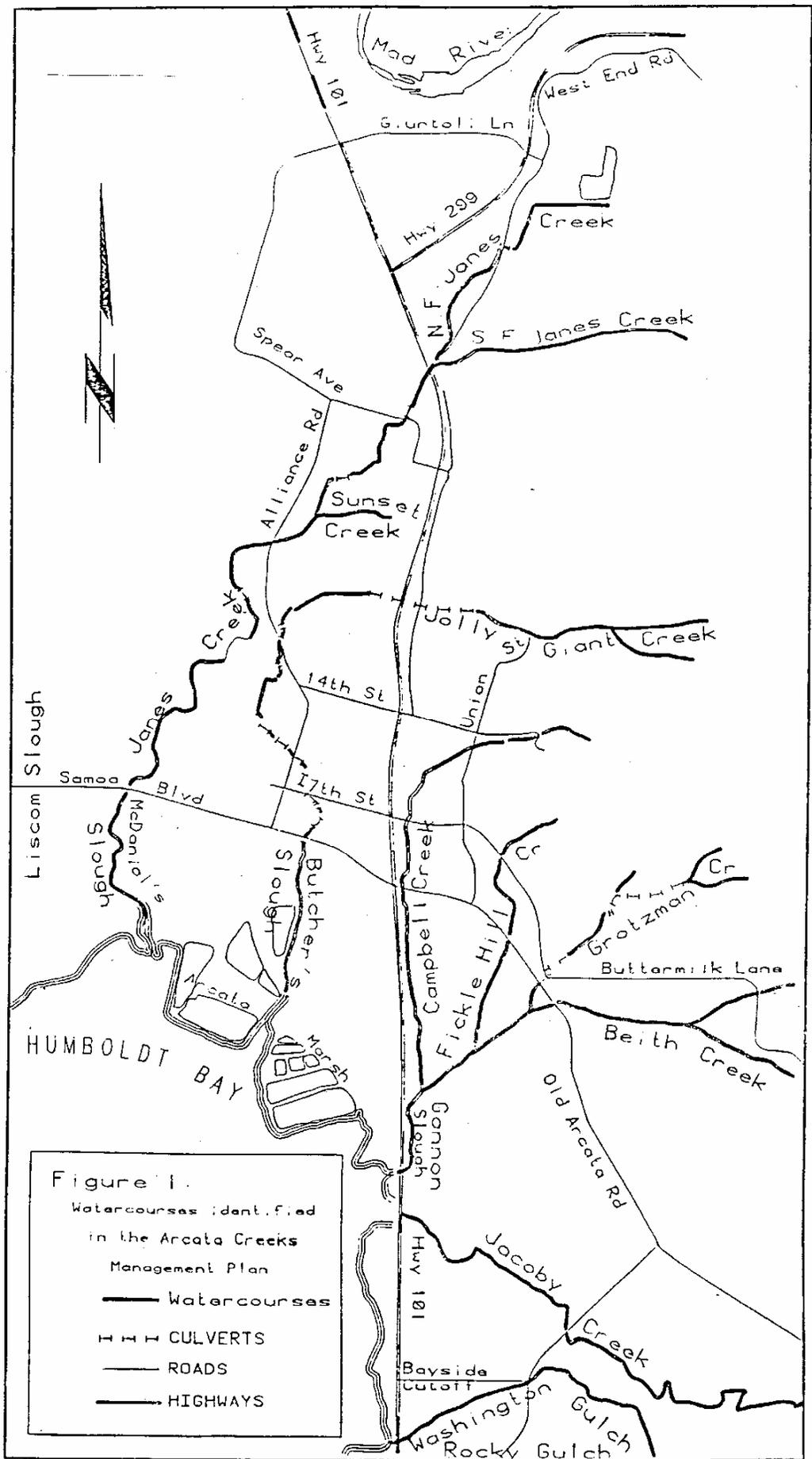
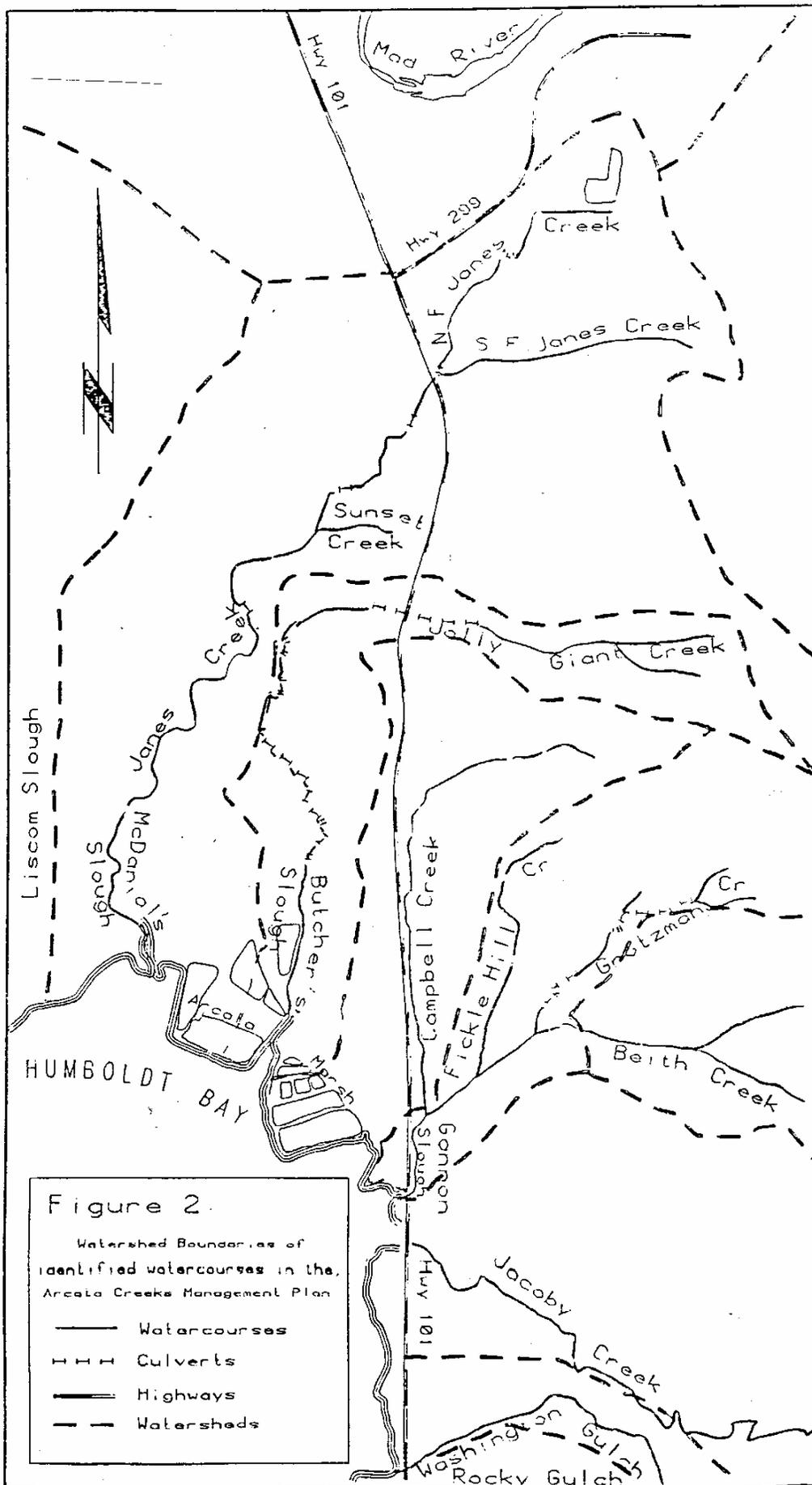


Figure 1.  
 Watercourses identified  
 in the Arcata Creeks  
 Management Plan



**Figure 2.**  
 Watershed Boundaries of  
 Identified Watercourses in the  
 Arcata Creeks Management Plan