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By the Board of Directors of
The Metropolitan Water District
of Southern California
at its meeting held

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METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Dawn Cain
EXECUTIVE SECRETARY

September 18, 1998

To: Board of Directors (Engineering and Operations Committee--Information)
(Special Committee on Real Property Management--Information)
(Special Committee on Water Quality, Desalination, and Environmental Compliance--Information)

From: for General Manager

Submitted by: Chief of Operations

Director of Water Quality

Subject: Lake Skinner Water Quality Protection Plan and Cooperative Implementing Agreement with Southwestern Riverside County Multi-Species Reserve Management Committee

RECOMMENDATION(S)

For information only.

EXECUTIVE SUMMARY

The Lake Skinner Water Quality Protection Plan (Attachment 1) provides for acquisition of lands in the watershed, on a voluntary basis, that contribute to meeting the following water quality protection criteria: (1) potential for the acquisition to result in reduction and/or control of pollution draining directly to Lake Skinner itself or to Lake Skinner via one of its main drainages, (2) potential to enhance fire management, and (3) potential to control illegal dumping. Acquisitions would be accomplished through an agreement with the Southwestern Riverside County Multi-Species Reserve Management Committee which would continue its efforts to protect lands around Lake Skinner and the Multi-Species Reserve.

Staff are assessing the acquisition of key sensitive properties as part of the Lake Skinner Water Quality Protection Plan. This issue will be brought back to the Board in the near future to approve the Lake Skinner Water Quality Protection Plan, authorize an agreement with the Reserve Management Committee, and to appropriate funds to acquire key sensitive properties.

JUSTIFICATION

Property development in the watersheds of drinking water reservoirs results in increases in levels of: (a) sedimentation, (b) pollution and associated pathogens from residential and commercial uses, (c) potential for wildfire which increases sedimentation problems and runoff of organic compounds, and (d) illegal dumping. There is a significant potential for these problems to occur

at Lake Skinner. The County General Plan for the watershed emphasizes 5-to-20-acre equestrian ranchettes and septic tanks. Such development often results in loss of soil integrity due to grazing and construction (leading to increased runoff and sedimentation), significant pollutant runoff from equestrian facilities and septic tanks, wildfires from activities such as mowing and outdoor cooking, and illegal dumping.

These impacts to water quality can be substantially prevented by acquisition of lands, easements, and rights-of-way within the watershed of Lake Skinner which meet the following criteria:

(1) Potential for the acquisition to result in reduction and/or control of pollution draining directly to Lake Skinner itself or to Lake Skinner via one of its main drainages. This potential can be assessed based on proximity to the lake or its drainages, level of potential development, type of development permitted by current or proposed zoning, slope of the land, soils, and other factors.

(2) Potential to enhance fire management. This potential can be assessed based on topography, habitat type, and proximity to natural fire breaks such as ridge lines, roads, and stream courses.

(3) Potential to control illegal dumping. This potential can be assessed based on inspections that document illegal dumping or, if inspections are not feasible, based on factors such as the proximity of the site from a well-used road, topography, and similar measures of accessibility.

CEQA COMPLIANCE/ENVIRONMENTAL DOCUMENTATION

This proposed action is exempt from the provisions of the California Environmental Quality Act (CEQA) because it will have no significant effect on the environment. No facilities other than trails are currently planned on the lands in question. Any future facilities would be subject to CEQA review.

DETAILED REPORT

Protection of water quality in Metropolitan's primary reservoirs is critical to meeting the needs of Metropolitan's customers in a cost-effective manner. Recognizing this, the Board recently appropriated $33,900,000 for a drainage water quality management plan for Lake Mathews. At Lake Mathews, construction of a series of detention basins has been necessitated by increased pressure for development in the watershed.

The Lake Skinner watershed comprises approximately 51 square miles (32,600 acres) of land, with private ownership of about 33 square miles (21,000 acres). Private property is subdivided into approximately 1500 privately-owned parcels, which average about 15 acres per parcel. About 250 parcels are currently developed; all of these parcels are on septic tanks and about 50 percent have horses on the property.

Protection of water quality is typically less costly at the source than at the treatment plant. Watershed protection prior to construction of major access roads into the watershed may also be

less costly than construction of facilities. Recognizing this, the Board has already provided for acquisition of the entire watershed of the new Eastside Reservoir Project. At Lake Skinner, where development has not occurred to the extent it has at Lake Mathews, and where land prices are still comparatively low, acquisition of lands in the watershed with a high potential for generating high levels of pollutants, pathogens, and nutrients in waters flowing to Lake Skinner will likely be less costly than development of detention basins or other control facilities.

The Director of Water Quality has documented significant problems related to pollution from equestrian ranchettes and illegal dumping. If only 50 percent of the 1500 privately held parcels in the Lake Skinner watershed develop equestrian facilities, with only 1 horse per equestrian facility, total manure and urine production would be more than 10 tons per year. Septic tanks, particularly on lands within several miles of Lake Skinner, would also introduce thousands of tons of nutrients into the groundwater flowing to Lake Skinner. Illegal dumping is also a significant concern. A recent cleanup of a 120-acre parcel to the east of Lake Skinner yielded 40 cubic yards of trash and debris, including trash from illegal drug-making operations.

To address these problems, potential acquisitions include fee acquisition of lands with high potential to be significant sources of pollution and acquisitions of easements which provide for the maintenance of a riparian vegetation zone between sources of runoff and the streams draining to Lake Skinner. Properties and or easements will be acquired based on an analysis of the three criteria.

(1) The first criterion would be the potential for the acquisition to result in reduction and/or control of pollution draining directly to Lake Skinner itself or to Lake Skinner via one of its main drainages. This potential can be assessed based on a combination of the following criteria:

a. Proximity to the lake or its drainages. Other factors being equal, property close to the lake or its drainages would be given priority for acquisition.

b. Level of potential development and type of development permitted. High density development (on septic tanks) creates high-nutrient groundwater flows to the Lake; equestrian ranchette development creates surface flows with high nutrient and pathogen levels.

c. Slope of the land and intervening vegetation. Given time, pollutants and pathogens are reduced by environmental exposure. Steep and sparsely vegetated slopes reduce the time for bio-remediation.

d. Soils. Development on unstable soils may greatly increase the sediment runoff to the lake, bringing nutrients and pollutants into the lake rapidly.

e. Width and health of the riparian corridor. A wide band of riparian vegetation along the main drainages will reduce the rate of pollutant inflow and allow for biological breakdown of pollutants before they enter the drainage.

(2) The second criterion would be the potential for illegal dumping. This potential can be assessed by site inspections that document illegal dumping and the proximity of the site from a well-used road.

(3) The third criterion would be the potential for acquisition to enhance fire management. Frequent wildfires both increase organic compounds in runoff and expose soils to rapid erosion. Effective fire management is therefore essential to protection of water quality. This potential can be assessed based on topography, habitat type, and proximity to natural fire breaks such as ridge lines, roads, and stream courses.

Based on these factors, and factoring in a cost-to-benefit analysis, Metropolitan and the Reserve Management Committee would cooperatively acquire lands and easements within the Lake Skinner watershed and provide for their long-term management per the attached Lake Skinner Water Quality Protection Plan. Proposed acquisitions will be presented to the Special Committee on Real Property Management for review and approval.

Acquisition of lands and easements in the Lake Skinner watershed will have several additional benefits. First, they will enhance trails for the Eastside Reservoir Project, making it feasible to site equestrian trails outside of the immediate watershed in many places, or far enough away from the lake to minimize impacts. Finally, it will help Metropolitan control illegal access to the watershed.

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Attachment 1--Lake Skinner Water Quality Protection Plan

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Attachment 1
to Board Letter 9-9
September 18, 1998

Lake Skinner Water Quality Protection Plan

September 1998

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Attachment 1

to Board Letter 9-9
September 18, 1998

Lake Skinner Water Quality Protection Plan

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Lake Skinner Water Quality Protection Plan

I. Introduction

A. General

Maintaining water quality in Metropolitan's drinking water reservoirs is critical to meeting Metropolitan's service obligations to its member agencies and their customers. Once remote from development, Lake Skinner is now in one of the fastest-growing areas of Riverside County. The 51-square-mile watershed of the lake includes about 33 square miles of private lands, dominated by equestrian ranchette tracts with lot sizes of from 1 acre to 40 acres (See Figures 1-6). Development of these parcels as provided for in the County General Plan could result in a significant increase in toxics, pathogens, and nutrients reaching Lake Skinner in the relatively near future.

The 1991-1996 recession in housing somewhat depressed development, and land prices currently remain below their peak levels of 1989-1990. There is thus an opportunity to implement a water quality protection plan in the Lake Skinner Watershed while costs are low and it remains feasible to act without affecting extensive existing development. In the absence of such a plan, development pressure, combined with the enticement of new recreation at Eastside Reservoir Project, will probably result in development of the watershed, beginning in the areas immediately to the east and northeast of Lake Skinner. For example, the Multi-Species Reserve recently had to act to acquire 12 parcels to the north and east of Lake Skinner to prevent imminent development within the Lake Skinner watershed.

B. Goals, Objectives, and Scope of Report

Metropolitan's Lake Skinner is located to the northeast of the City of Temecula, in a basin that drains approximately 51 square miles (34,000 acres) of predominantly rural and rural residential property (Map 1). About one third of this watershed (16-17 square miles) is protected by open space, most of it the Southwestern Riverside County Multi-Species Reserve (Reserve), which surrounds the reservoir on three sides and extends north to the Eastside Reservoir Project. There are approximately 1500 private parcels in the Lake Skinner watershed, covering about 21,000 acres.

In "The Colorado River Watershed Sanitary Survey," Metropolitan's Water Quality Division recommended "Acquisition of sensitive land areas within the watershed. This would include property such as a 120-acre parcel off East Benton Road which has been the site of illegal dumping in the stream bed" (See Figure 7) and "Development of a fire management plan with the California Department of Forestry."

The overall goal of the Lake Skinner Water Quality Protection Plan is to carry out the recommendations of this survey, and thereby reduce the potential for significant contamination from adjacent lands within the watershed. The specific objectives of this program are:

1. Reduction in the potential for toxicants and pollutants to enter Lake Skinner;

2. Reduction in the potential for organic pollution and associated pathogens in the immediate watershed;

3. Enhancement of habitat capacity to retain and bioremediate pollutants and pathogens;

4. Reduction of potential for fire and associated runoff to create turbidity with associated taste and odor problems and increased treatment costs;

5. Alternative-alignment of equestrian trails and more adaptive control of visitors; and

6. Enhanced control of access to Metropolitan property.

These objectives can be achieved through a program of selective land acquisition and easements. The general strategy for this program will be:

1. To work with the local community in a program of voluntary land acquisition in areas with a high potential to contribute to pollution, pathogen, and nutrient loading problems at Lake Skinner,

2. To enlist the cooperation of landowners in the community in a program of easements which will protect the integrity of the beneficial vegetation along the main streams draining to Lake Skinner, and

3. To manage lands and easement areas to enhance the ability of native habitats to retain and bio-remediate toxics, pathogens, and nutrients before they reach the reservoir.

This report outlines a plan to meet these objectives. It first outlines the watershed problems at Lake Skinner, from both a water quality and an operational perspective. It describes a feasible and cost-effective management response to these problems and outlines the steps needed to implement this program.

II. Problems and Opportunities

A. Illegal dumping of trash and toxics

An immediate threat to water quality and ecological integrity in the watershed is illegal dumping of toxics. Metropolitan has documented incidents of such dumping on a 120-acre parcel on Tucalota Creek between East Benton Road and Lake Skinner. This 120-acre parcel has recently been cleaned up, fenced, and gated, although as of August 1997, the fence had been cut and there was new dumping (See Figures 8, 9 and 11). This most recent dumping incident consisted primarily of containers and small quantities of the chemicals probably associated with the manufacture of methamphetamines.

To control dumping it is necessary to acquire, fence, and patrol parcels which invite dumping. Such parcels generally share the following characteristics: they are undeveloped; they are relative flat; they are fronted by a paved road. Such parcels can be surveyed and identified rapidly and acquired in fee or a fencing and patrol easement can be acquired from the owners until such time as the site is developed.

B. Potential for organic pollution, associated pathogens, and nutrients

Organic pollutants from septic tanks, fertilizers, and stables affect nutrient loads and plant and bacterial growth in the reservoir. Of primary concern is the conversion of vacant land to small equestrian ranchettes. As of 1990, only about 1.4 square miles of the total watershed was developed, primarily in low density ranchettes. The Multi-Species Reserve and other public holdings protect about 16-17 square miles from future development and agricultural use. Private land, much of it subdivided into 2-40 acre parcels for ranchette development, constitutes the remaining watershed. There are approximately 400 such parcels, about 20% of them currently developed, within 2 miles of the Lake Skinner/Multi-Species Reserve boundary.

Housing development near the reservoir or along the two main creeks raises the potential for fertilizers, manure, and seepage from septic tanks to enter the watershed. Manure and trash have been documented along side of a road in Oakridge Ranches, near a stream crossing that drains to Middle Creek (See Figure 10). Note that trash was also found near the stream bed. These photos, taken in late August 1997, suggest that the problem of dumping is not confined to the immediate vicinity of Lake Skinner. The manure pile shown in Figure 10 was approximately 4 feet wide, six feet long, and 2 feet deep (at its deepest).

Equestrian development of the 1500 undeveloped parcels in the Lake Skinner watershed could result in significant input of organic pollutants and nutrients from manure and urine. A single horse produces 18 tons of manure and urine per year (source: American Society of Agricultural Engineers). Assuming 50% of lots will have

an average of 1 horse per lot, annual manure/urine production from horses alone would be over 13,500 tons.

Impacts from this volume of manure runoff would depend on:

1. Proximity to Lake Skinner and/or main watercourses. Manure and urine, and the pathogens they may contain, are converted to simple fertilizers and incorporated into plant material. This conversion process requires time. Sources near Lake Skinner itself or near a major watercourse will therefore contribute more pollutants and nutrients and pathogens to the lake than sources at a distance.

2. Timing and amount of rainfall. A heavy, quite rapid rainfall could bring large amounts of manure into the reservoir. Gentle rains would distribute the manure into adjacent natural vegetation, reducing the threat of pollution because the manure would be absorbed into the soil and captured by plants.

3. Slope. Most of the lands described in this report have slopes of 1V:2H or steeper, and many of the homesites in the area are on pads that lead to slopes of 1V:1H. Runoff would be quite rapid in these areas.

4. Time of year. Much of the manure and urine produced by horses will break down into primary nutrients during the summer and fall months, reducing the threat of bacteriological pollution. However, manure produced during the winter may be washed downslope rapidly in a heavy winter rain, with biologically active manure reaching the reservoir in a short time.

Septic tanks are also of concern, with their effects dependent to some extent on these same factors. Functioning septic tanks will generally provide for biological conversion of waste to simple fertilizers, but these nutrients enter the groundwater and flow into Lake Skinner. Depending on the depth of the groundwater, the riparian zones at the eastern end of the lake and along the main watercourses may intercept some of these nutrients.

Finally, the development of parcels in the eastern watershed of the Reserve and Lake Skinner may create sediment erosion problems. Typical equestrian facilities in the three developments have enclosed stalls and a 1-3 acre fenced pasture; horses are also put out to pasture on adjacent slopes. Both within and outside of their corrals, grazing rapidly removes vegetation and soil integrity is degraded. Equestrian ranch development in the watershed of Lake Skinner therefore may accelerate erosion and transport of sediments into the reservoir.

The impacts of organic pollutants and their associated pathogens can be managed (but not entirely eliminated) through a program involving:

1. Acquisition of lands which pose the greatest threat as sources of such pollution;

2. Acquisition of easements to maintain a vegetative barrier between development and the main watercourses leading to Lake Skinner; and
3. Cooperative community outreach programs to assist landowners in developing equestrian facilities in a manner that significantly reduces the runoff of manure and urine into Lake Skinner and the watercourses leading to it.

C. Fire and associated watershed erosion/runoff problems

Fire creates two potential water quality problems. First, when vegetation is removed from the landscape, erosion and sediment transport increase. Second, runoff may carry nutrient-rich topsoil and ash into the reservoir. Studies of water quality following removal of vegetation during logging, for example, show that nitrogen concentrations in receiving streams increase rapidly -- up to 50 times the pre-logging concentrations (Likens, 1992). Edith Allen of University of California at Riverside (personal communication) has found that the ash remaining after fires in southern California contains high concentrations of nitrates. Heavy rains following wildfires such as the October 1993 California Fire have the potential to wash this ash into local watercourses, contributing significantly to the nutrient load in Lake Skinner.

Frequent fire also has the potential to significantly alter the habitats of the Reserve, converting valuable coastal sage scrub (CSS) to non-native grasslands and affecting the viability of Metropolitan's mitigation for the Eastside Reservoir Project. Increased fire frequency would affect the long-term viability of CSS and other complex habitats. This conversion and loss of habitat diversity is evident throughout Riverside County.

Development within the watershed will increase the potential for wildfire as a result of activities such as barbecues, fireworks, machine operation (mowing has been a major source of fire in the Lake Skinner watershed), and electrical power lines. According to California Department of Forestry (Fire Captain Tim Walsh, personal communication), fire frequency generally increases as development increases within a watershed.

The Multi-Species Reserve is currently in the final stages of preparing a Fire Management Plan in cooperation with the California Department of Forestry and Fire Prevention (CDF). The Reserve's fire management strategies are:

1. Acquisition of lands to the ridge line surrounding the Reserve. This will enhance CDF's ability to prevent fire from crossing into the Reserve from adjacent development.

2. Division of the Reserve into 31 distinct Fire Management Zones. Each zone will be surrounded by appropriate fuel reduction corridors, from 10-50 feet in width, depending on topography. Under all but the most catastrophic conditions, this subdivision of the Reserve into zones will help CDF to contain fires within relatively small zones and will reduce the threat of large, catastrophic fires that could seriously threaten Lake Skinner water quality.

D. Illegal camping/uncontrolled access

On several occasions in the past 2-3 years, Reserve managers and Lake Skinner personnel have located illegal camping sites within the watershed, primarily northeast of Lake Skinner. These sites appear to have been used by undocumented immigrants as temporary living areas. There has been evidence of fires and sleeping areas. These illegal camps pose an unquantified threat to water quality, depending on the sanitation precautions taken by those using them. There is a potential that those camping illegally may carry pathogens of concern to water quality, such as cholera. However, the camping sites are primarily a threat because of the potential for increasing fire, with its associated erosion, water quality, and habitat quality impacts.

Illegal camping and access can best be controlled by ownership, fencing, and patrol of parcels which offer easy access to the Reserve and Lake Skinner.

E. Trail impacts

Equestrian trails within the existing boundaries of the Lake Skinner operations area and the Multi-Species Reserve pose a pollution threat, primarily because they are sited relatively close to the Lake and they cross Tucalota Creeks. In the future, equestrian trails are planned to extend through the Reserve to Eastside Reservoir Project. Once the two lakes are connected with a trail, usage is expected to increase dramatically. There are several management approaches to reducing impacts from equestrian use:

1. Close trails during the wet season and clean up manure. This option eliminates trail use during the cooler months of the year when public demand is highest and maintaining trails near Lake Skinner also has a high patrol and maintenance cost. The annual maintenance cost of the relatively short Lake Skinner Trail has been estimated at about $40,000, including semi-annual repair of the 100-120-foot bridge across Tucalota Creek.

2. Re-route trails outside of the immediate watershed of Lake Skinner and provide for positive drainage control (small catchment basins and diversion structures). This option may allow for year-round trail use and will still reduce annual patrol and maintenance costs.

An incidental benefit of the Lake Skinner Watershed Protection Plan will be acquisition of lands that will allow equestrian trails to be re-routed away from Lake Skinner, while enhancing the overall trail experience for Eastside Reservoir Project and Lake Skinner recreation programs.

III. Management Plan

A. Rationale

An effective water quality management strategy for Lake Skinner will involve three elements:

1. Acquire and protect lands which have a high potential to contribute to pollution and nutrient loading problems at Lake Skinner;

2. Acquire easements and other rights-of-way to protect the vegetative buffer between pollution sources and the watercourses that drain to Lake Skinner; and

3. Cooperate with the local community in the watershed to encourage landowners to properly manage pollutants and nutrients produced on their property.

B. Proposed Acquisition Program

1. Acquisition of Lands in Fee

Lands in the Lake Skinner watershed will be evaluated to determine their appropriateness for acquisition, using the criteria shown on (Table 1). Metropolitan would then enter into a cooperative agreement with the Reserve Management Committee to acquire lands under the Reserve's voluntary acquisitions program. (The Reserve uses a local real estate agent to explore land availability and negotiate willing-buyer/willing seller acquisitions.)

An on-going voluntary acquisition program can be implemented with an initial capital investment in a revolving account. As lands are acquired for water quality protection, they can be set aside for mitigation banking. When bank credits are sold, the funds from the sale can then be used to acquire additional lands and to provide an endowment for long-term management. Prior to setting aside lands for banking

purposes, Metropolitan can reserve needed rights on the land, thereby ensuring that the land can be managed effectively for water quality protection.

There are a number of factors which suggest that mitigation banking can be successful in the Lake Skinner watershed. First, the U.S. Fish and Wildlife Service (Service) is currently encouraging developers in the vicinity of the Multi-Species Reserve to use the Reserve's existing mitigation banks. The Reserve has made three small sales of such credits and has three larger sales pending final approval by the Service. Reserve policy is to recoup at least the cost of land plus a per-acre charge of $1,000 to $2,000 per acre for long-term management.

Second, the Reserve Management Committee, including the Service, have determined that a top regional priority for multi-species planning is to connect the Multi-Species Reserve to the National Forest to the east. Many acquisitions in the watershed of Lake Skinner will incidentally contribute to this goal, and should therefore qualify for banking credit under the proposed Riverside County Multi-Species Plan.

Steps in the acquisition process will be:

a. Identify lands available for acquisition. In cooperation with the Multi-Species Reserve, Metropolitan would review current listings of lands for sale and solicit acquisitions through the Reserve's real estate agent. Only lands offered for sale on a voluntary basis would be acquired.

b. Evaluate and select lands to be acquired. The criteria shown on Table 1, below, will be used to evaluate parcels.

c. Market analysis. Metropolitan and the Reserve will review comparable sales to determine an offer price. Table 2 presents the acquisitions made by the Reserve in the last 2 years, with 11 of 12 parcels in the Lake Skinner watershed.

d. Proposal to Special Committee on Real Property Management. The proposed acquisitions would then be submitted to the committee for approval.

e. Acquisition. If offers are accepted, Metropolitan would then acquire the lands in fee.

f. Mitigation Bank Establishment. Metropolitan would then prepare appropriate conservation easements for the land, reserving to itself necessary rights to operate on the land, and then include the lands in the Reserve's existing mitigation bank.

g. Management Plan. Once a year, Metropolitan would revise elements of the various management plans for these parcels (fire management plan, watershed management plan, trails plan) to reflect changes in land ownership.

Table 1: Criteria for Land Acquisition
Lake Skinner Water Quality Protection Plan

Criteria	Factors to be Considered	Score (10=highest)	Notes
Potential to reduce pollution	Proximity to lake drainage Level/type of development Slope of land Nature of intervening vegetation Soils stability Width of riparian corridor adjacent to land, if applicable		
Potential to enhance fire management	Topography Habitat Type Proximity to fire breaks		
Potential to reduce illegal dumping	Documented illegal dumping Proximity to roads/accessibility		

Table 2.
Reserve Management Committee acquisitions in Lake Skinner Watershed
Actual purchase price, including fees and commissions
All Parcels in the Lake Skinner Watershed except as marked *

Parcel # (acres)	Purchase Date	Price	Price/acre
470-320-030 (20)	1998	$73,756.00	$3,688.00
470-320-017 (20)	1997	$90,900.00	$4,545.00
470-330-029 (20)	1997	$58,300.00	$2,915.00
470-370-017 (20)	1998	$85,670.00	$4,283.00
915-370-011 (25)	1997	$101,100.00	$4,040.00
470-370-019 (20)	1998	$90,000.00	$4,500.00
915-020-023 (40)	1997	$120,000.00	$3,000.00
915-020-017 AND 915-020-023 (80)	1998	$209,000.00	$2,613.00
915-020-018 (40)	1998	$72,000.00	$1,800.00
915-020-024 (40)	1998	$77,850.00	$1,946.00
915-030-003	1998	$177,500.00	$1,479.00
TOTALS		$1,156,076.00	$2,598.00

2. Conservation Easements

Where acquisition is not warranted and pollution can be reduced by acquiring a conservation easement over the land between development and a watercourse, Metropolitan may choose this less costly option of providing protection for water quality. Easements would be developed on a parcel-by-parcel basis to reflect development, topography, soils, and other factors. Easements would typically contain:

a. Agreements not to remove vegetation a certain distance from the midpoint of a watercourse;

b. Agreements to construct and maintain drainage control structures, such as stock ponds or raised berms, between the source of pollution and the watercourse; and

c. Agreements to limit activities and construction in the watercourse (by fencing or other means), and to prevent dumping in the watercourse.

There are no formulas for determining the cost of conservation easements and their negotiation is rather an art than a science. Cost assumptions are based on the experience of The Nature Conservancy of California (Sabin Phelps, personal communication), which indicates that it seldom purchases easements and that the cost

of easements can be from 10% to 90% of the fee value of the land. A typical easement across an 80-acre rectangular parcel 100-feet wide would cover 18,000 square feet of vegetation (0.4 acres). Assuming payment of 50% of fair market value for the easement area and the average purchase price from recent Reserve acquisitions ($2,600/acre), such an easement would cost approximately $1,080.

C. Cooperative Programs

Where fee acquisition and easements are not pursued, Metropolitan in cooperation with the Multi-Species Reserve and local homeowner associations, would provide landowners in the Lake Skinner watershed with literature showing them how to prevent pollution of drinking water by controlling erosion, constructing and/or maintaining runoff detention structures, and otherwise managing their property in a manner which will help preserve water quality.

D. Land Management

The lands acquired may be managed cooperatively by Metropolitan and the Multi-Species Reserve Management Committee, as the current Reserve is managed. As mitigation credits are sold, the costs of management will be deferred through the required management endowments, which may be placed in the Reserve's management endowment account at Metropolitan.

IV. Metropolitan-Reserve Cooperative Agreement

The Multi-Species Reserve has an active land acquisition program, using funds from mitigation banking its management endowment. An agreement between Metropolitan and the Reserve to cooperate in land acquisition will have several benefits.

A. If time is of the essence, and the Special Committee on Real Property Management is unable to complete its review and approval process by the necessary deadline, the Reserve may act on its own to acquire a parcel. In doing so, the Reserve would be following its own acquisition priorities. If the acquisition is subsequently approved by the Committee, the Reserve can be reimbursed for its costs. If the acquisition is not approved, the Reserve will retain the property as part of its on-going mitigation bank.

B. The Reserve's acquisition program is on-going and the Reserve has established relationships with local real estate brokers. The Reserve has earned a reputation for making fair, but firm, offers; the Reserve does not enter into extended negotiations over price, and local agents recognize that the Reserve's offers are not subject to significant counter offers. As a result, and because Reserve acquisitions do not involve contingencies, the Reserve often acquires lands at well-below listing price.

C. The Reserve and Metropolitan may cooperate on the management of lands.

V. Benefits of the Lake Skinner Water Quality Protection Plan

The water quality protection plan would substantially increase Metropolitan's ability to protect drinking water quality at Lake Skinner. Specifically, it would:

A. Reduce potential for dumping in the nearby watershed;

B. Reduce the quantity of organic pollution, nutrients, and associated pathogens reaching Lake Skinner's waters;

C. Reduce the potential for wildfire, with its associated changes in erosion, runoff, and sediment and nutrient delivery to Lake Skinner;

D. Allow Metropolitan and the Reserve to consider alternative trail alignments, which would enhance recreational opportunities, reduce the potential for runoff of manure to the reservoir, and greatly reduce patrol and maintenance costs; and

E. Reduce illegal access and camping in the Lake Skinner basin by allowing for improved security fencing and patrol.

VI. References

1. Likens, Gene. 1992. "Ecosystem Ecology and Society" in The Ecosystem Approach: Its Use and Abuse. The Ecology Institute, Oldendorf/Luhe, Germany. 166p.

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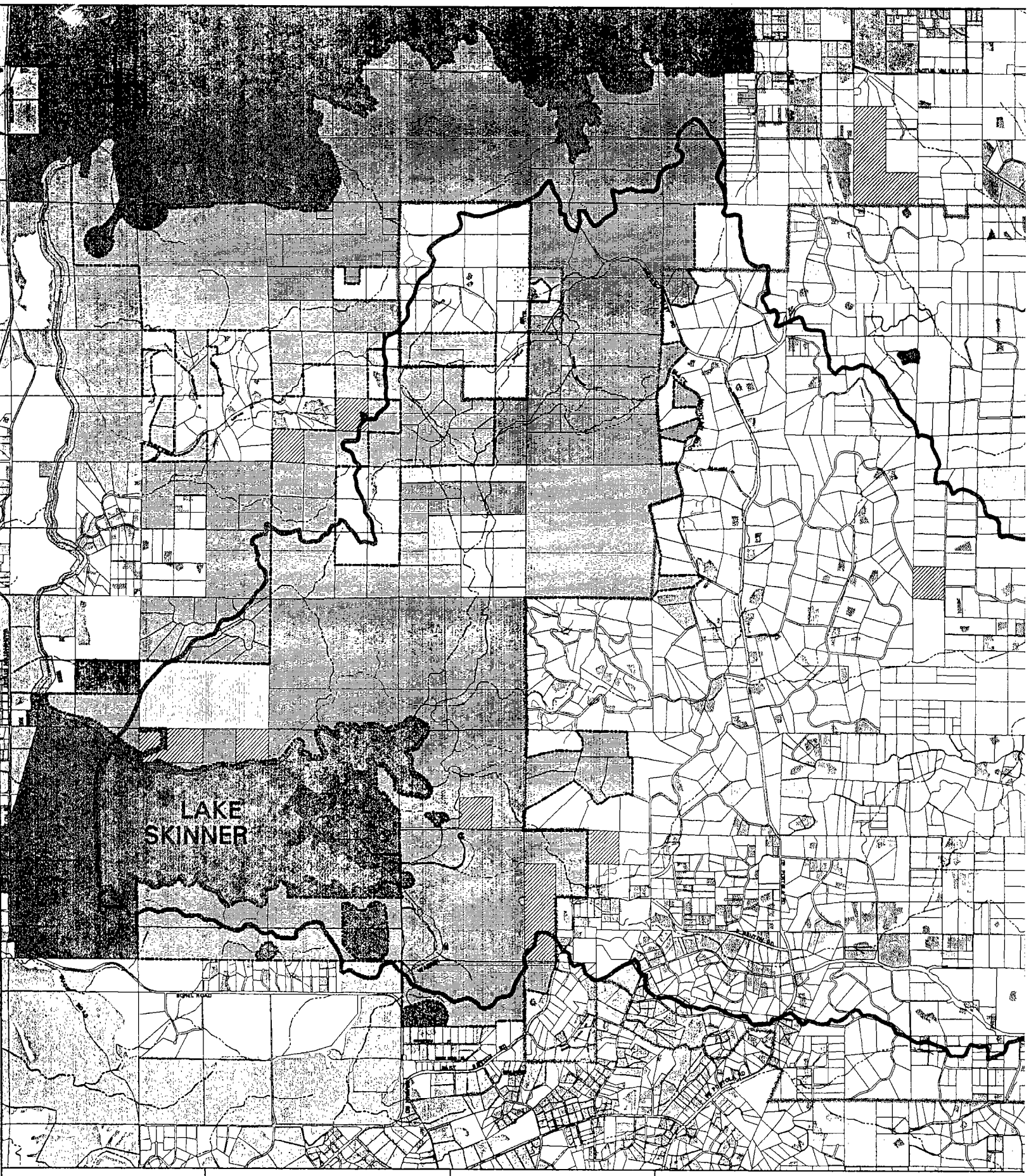

Location Map

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

aerial

N
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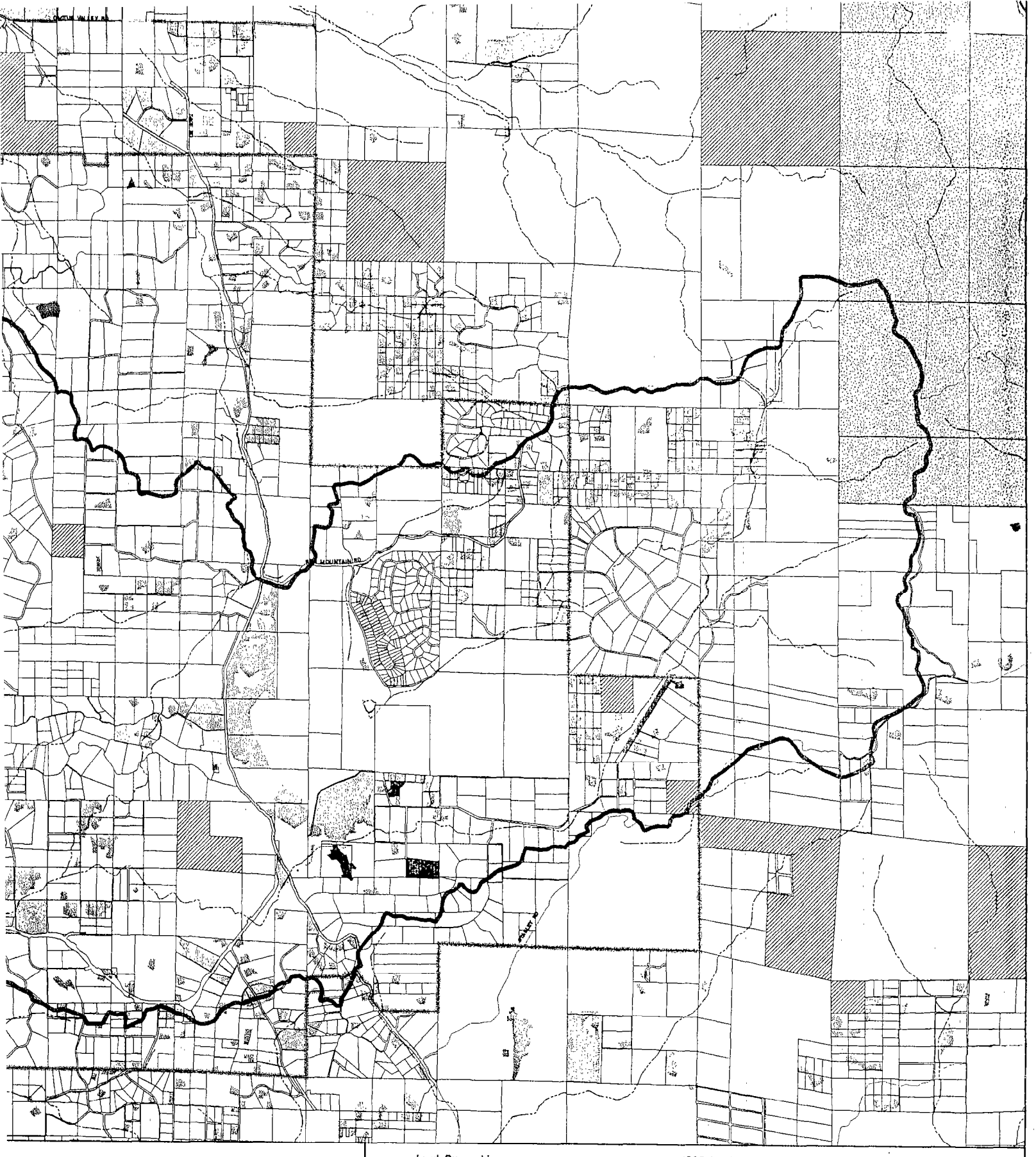
Lake Skinner Wa
Existing Land

Scale
1:60,000



nner Watershed
ng Land Use

Scale
1:60,000

12,000 24,000 36,000
Feet

eptember 01, 1998

Land Ownership
- Land Under Conservation Easement
- BLM Land
- RCHCA Land
- MWD Land
- MWD Operations and Recreation Areas Excluded from Core Reserve
- MWD Post Construction Reserve Areas
- Lakes Excluded from Core Reserve
- County of Riverside Land
- USFS Land

1993 Land Use
- Residential
- Agriculture
- Water and Water Facilities
- Other Developed Land
- Open Space and Recreation
- Lake Skinner Watershed Boundary
- Primary Access Roads
- Other Roads
- Parcel Lines
- Southwestern Riverside County Multi-Species Reserve Preliminary Boundary
- DLG Streams

1998 Data
- Permitted Improvements per County Records
- Limit Line of 1998 Data Search

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9/18/98
Map for Board Letter 9-9

Figure 1. View of Lake Skinner Watershed

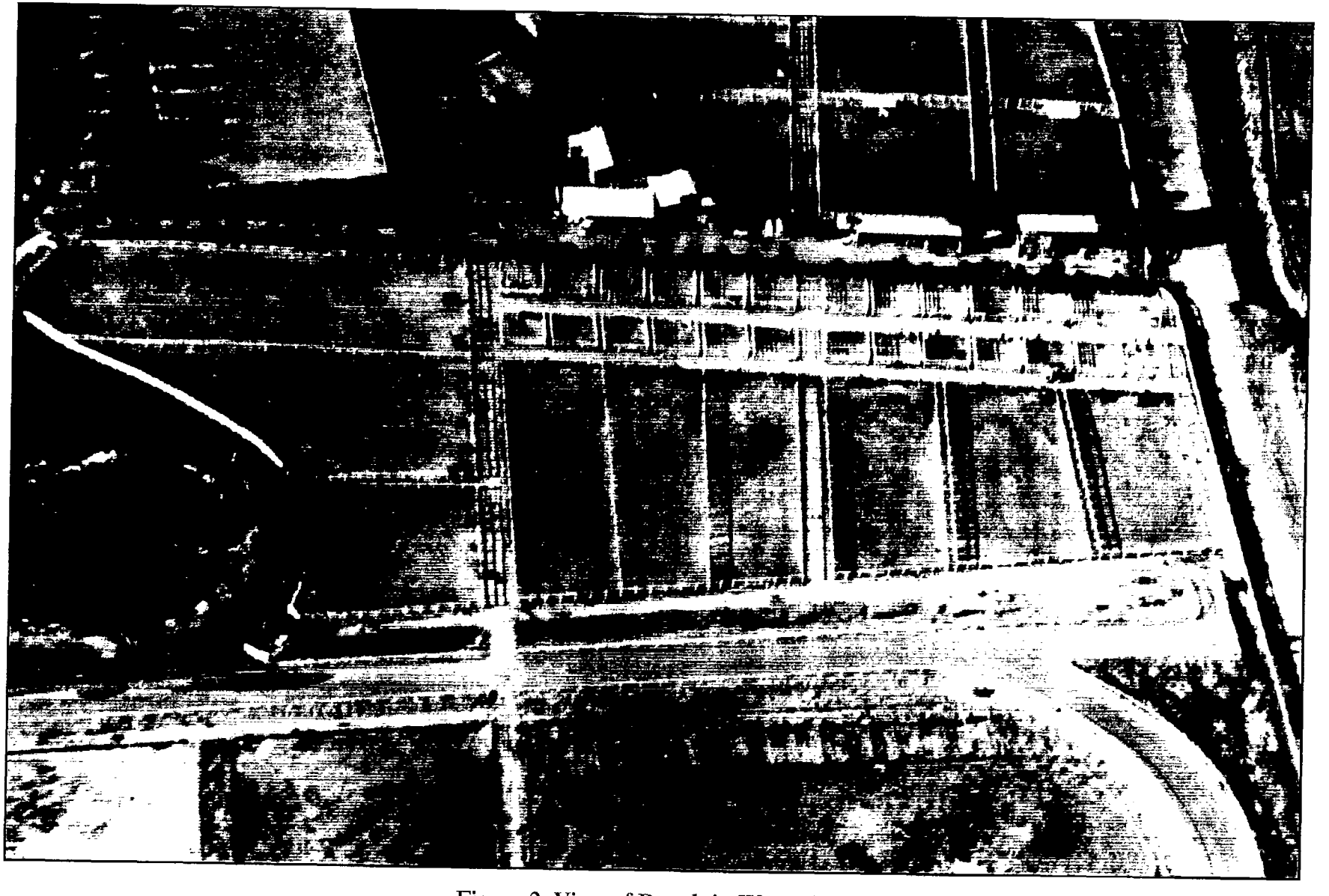

Figure 2. View of Ranch in Watershed

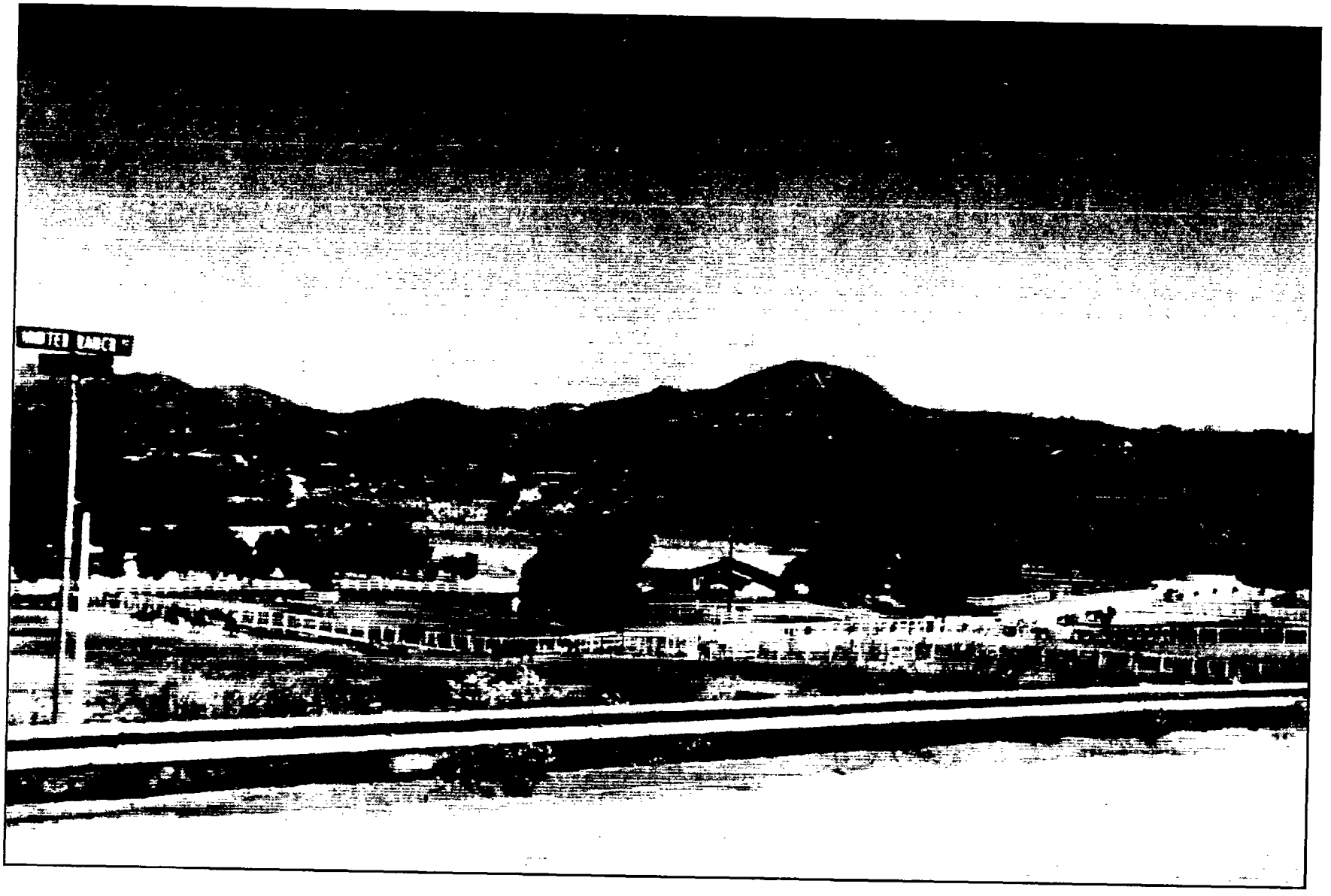

Figure 3. Typical Ranch within Watershed

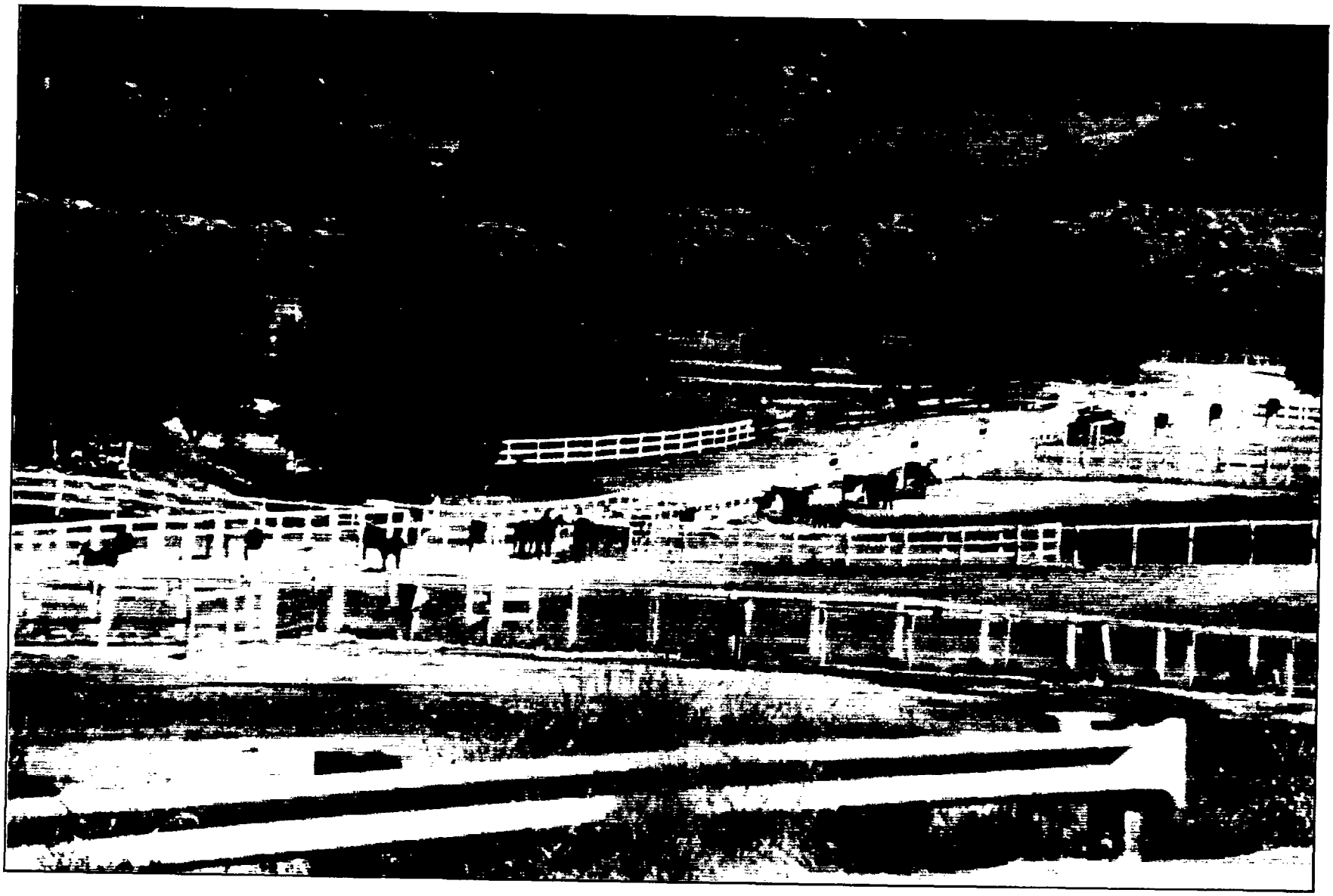

Figure 4. Alternate View Typical Ranch within Watershed

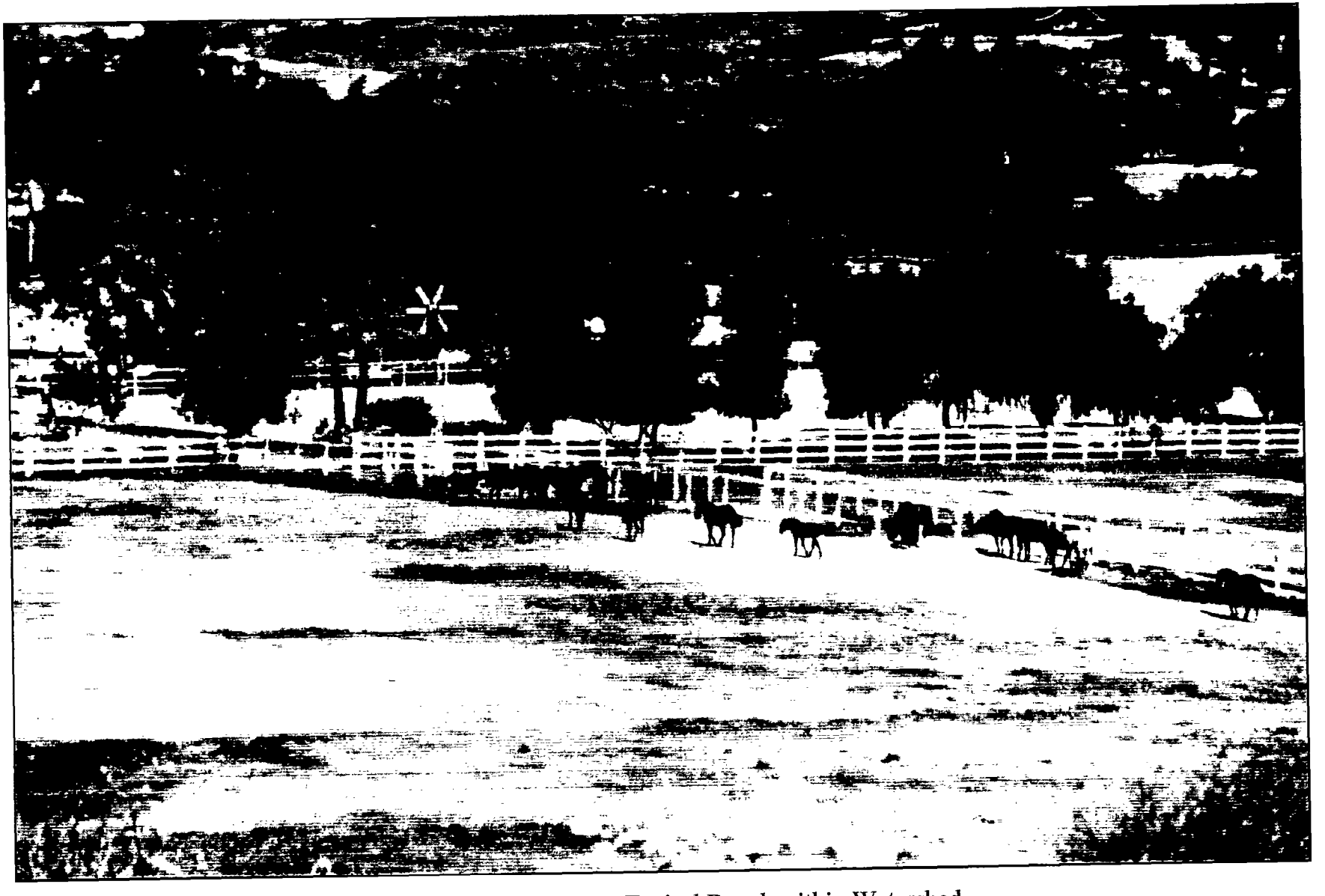

Figure 5. Alternate View Typical Ranch within Watershed

Figure 6. View of Typical Ranch

Figure 7a. Illegal Dumping in Tucalota Creek Near East Benton Road

Figure 7b. Illegal Dumping in Tucalota Creek Near East Benton Road

Figure 8. Container of Trash removed from recently acquired 120 acre parcel

Figure 9. Full Container

Figure 10. Manure Pile along Tucalota Creek drainage

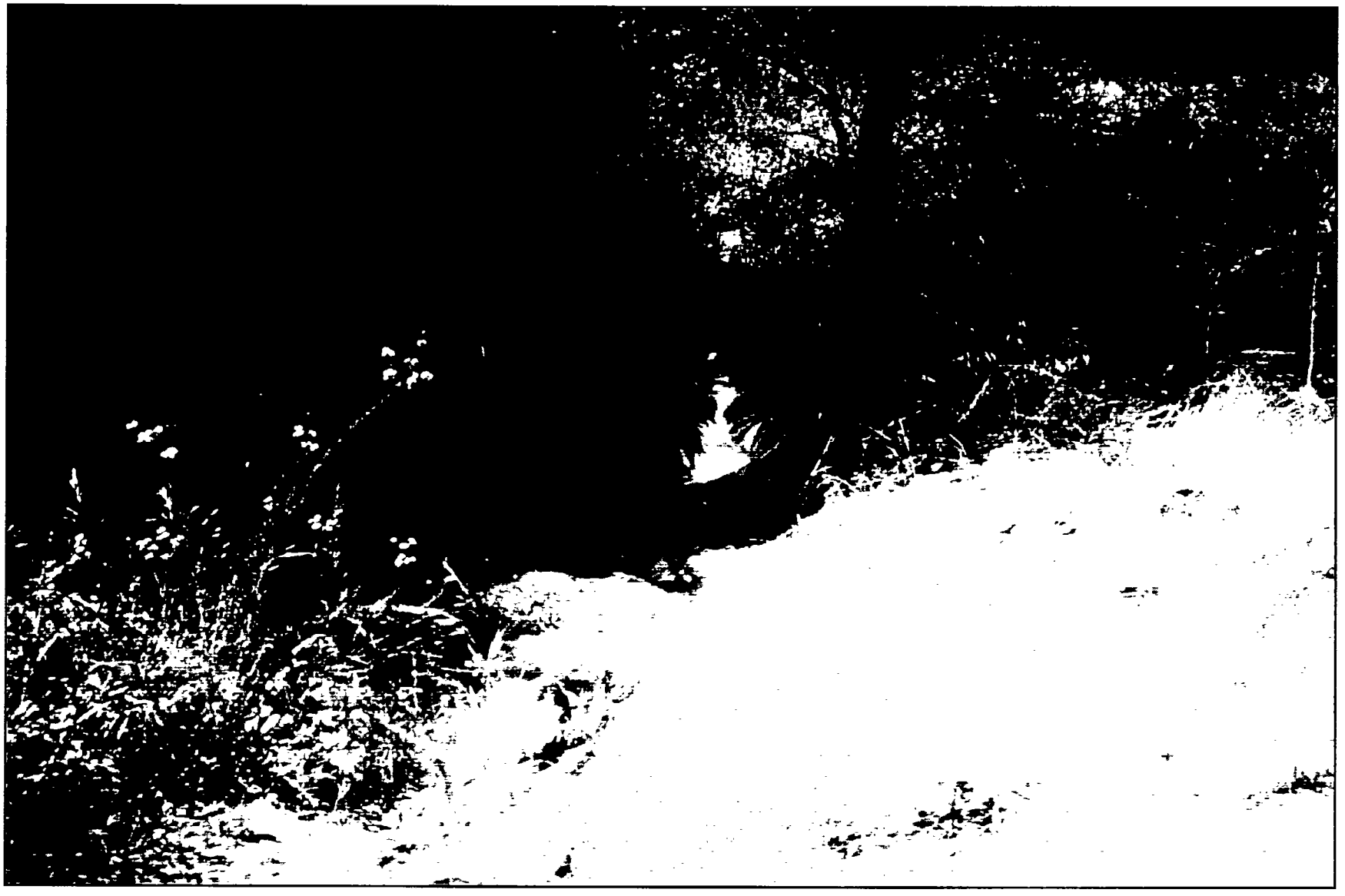

Figure 11. Illegal Trash Removed from Tucalota Creek