Coronado Butterfly Preserve

Management & Enhancement Plan

Land Trust for Santa Barbara County
February 2000

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TABLE OF CONTENTS

I. Summary & Goals 1

II. Phase One Objectives 4

III. Phase Two Objectives 5

IV. Phase One Implementation Plans 7

V. Site & Project History 9

VI. Habitat Management & Enhancement 11

VII. Public Safety, Access & Education 17

VIII. ATTACHMENTS 21

A. Parcel Map
B. Aerial Photo – Coronado Preserve & Adjacent Land
C. Aerial Photo – Project Area & Other Coastal Lands
D. Grant Deed
E. "Creation of Monarch Aggregation Sites at the Coronado Preserve in Ellwood," Dr. Adrian Wenner, May 27, 1999.
F. Existing Plant Inventory
G. Animals Observed at the Coronado Site
H. Concept Master Plan & Master Plant List

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Coronado Preserve Advisory Committee 1999-2000

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Coronado Butterfly Preserve
Management & Enhancement Plan

I. SUMMARY

For many years, the Ellwood Shores community has appreciated and sought to protect from development impacts several biologically rich, undeveloped coastal properties in west Goleta. One such property is 9.3 acres in three parcels owned by Goleta Union School District (GUSD) from 1973-1998. This land was declared surplus by the school district, and had been offered for sale to private developers at various times. In 1996, district received serious purchase offers residential developers.

Long attached to this area's environmental value and the monarch butterfly habitat, the neighbors rallied and appealed to the GUSD board of trustees to save the site from development. In Spring 1997, the school board approached the Land Trust about a potential acquisition, and the parties negotiated a purchase option and bridge financing from the school district to allow time for the neighbors and the land trust to raise funds.

The Land Trust's involvement, strong community support, and the potential for the property to become an outdoor education resource for local schools all helped convince the school board to sell the property at a favorable $600,000 price to the Land Trust.

On April 30, 1998, this property was purchased from the GUSD by the non-profit Land Trust. On April 20, 1999, the Land Trust paid off the bridge loan, using public and private grants and over $50,000 in community donations. State Senator Jack O'Connell and Supervisor Gail Marshall were instrumental in securing state and local grants.

Because the Coronado Butterfly Preserve now is held for conservation purposes in perpetuity, thoughtful planning and management are necessary to maintain the land's value as a natural open space; to enhance its utility as an aggregation and foraging habitat for the monarch butterfly; and to promote ecologically compatible public access and environmental education activities.

The Land Trust envisions the Coronado Butterfly Preserve as a gateway to existing and future protected coastal resource areas, via trails linking the Ellwood Main Monarch Grove, the Ellwood Shores coastal bluffs, Santa Barbara Shores County Park, the Devereux Slough and the beach.

This Management Plan describes generally the goals and objectives for restoration, enhancement and maintenance to make this site a model urban nature preserve. Specific goals, objectives and implementation measures (e.g. habitat enhancement/restoration projects, trails, signage, environmental education features, fire risk management, volunteer activities, etc.) are described and listed in one of two proposed phases.

Phase One projects are those which the Land Trust plans to accomplish within the first year of the Management Plan, and for which funding, in-kind and volunteer services have been secured. Project details, budgets and work specifications are being developed by the Land Trust, with site work planned for November 1999 –October 2000.

Phase Two projects are those which may be completed in future years, subject to the availability of funds and community participation. These components are more generally described, and may be modified as further scientific study and management experience occur at the preserve.

The plan describes specific needs for **Stewardship and Maintenance** in light of the Coronado Preserve's location, popularity and environmental sensitivity, and recommends that an endowment fund be raised to cover annual property maintenance costs. The Land Trust will be responsible for fulfilling land stewardship needs, and has established the Coronado Butterfly Preserve Advisory Committee to coordinate these efforts. Additional fundraising and partnerships with community volunteers, scientists, schools and public agencies are needed to protect and enhance the natural resource and educational values of the preserve and surrounding protected areas.

The Land Trust views this management plan as a "living document" to be updated and improved based on its management experience, further scientific study, and the on-going input of neighbors, educators, environmentalists and visitors. Comments or concerns about the Coronado Butterfly Preserve and this plan should be directed to:

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The goals of the Coronado Preserve Management Plan are:

1) To preserve and enhance the habitat value of the site, including protection of the existing eucalyptus grove, for the monarch butterfly and other wildlife.

2) To provide for public access and safe, quiet enjoyment of the land, while promoting understanding, responsible use and stewardship of the preserve and nearby natural areas.

3) To pursue opportunities to plant and sustain native grasses, flowering plants and trees, especially those beneficial to the monarch butterfly.

4) To promote environmental education, scientific study and improved cooperative management to benefit the preserve and nearby environmentally sensitive lands.

5) To manage the preserve in a way that respects the concerns of adjacent residents and maintains the historic support for the land and its environmental values.

II . PHASE ONE OBJECTIVES

With approved public and foundation grant funds, well supplemented by donations of money, labor and expertise from supporters of the Coronado Butterfly Preserve, these site improvements and programs will be implemented in the period November 1999 – October 2000:

Objectives:

A. Write and distribute draft management and enhancement plan to interested community members, organizations and funding agencies.

B. Prepare landscape grading and revegetation plans, permit applications, contractor specifications and volunteer instructions/training.

C. Within meadow area on western (Newport Drive) edge of preserve, complete neighborhood-led clean-up, ice plant removal and planting of native plants including coast live oak, ironweed, manzanita, toyon, western redbud, wild cherry and other shrubs and wildflowers. Install temporary irrigation lines.

D. Install a main preserve sign, trail markers, trash cans and minor trail improvements to encourage safe and responsible public access.

E. Complete landscape grading to develop approximately 50,000 square feet southeast of the main trail as a visitor gathering and environmental education area and native plant demonstration garden, including interpretive displays and informal seating (log benches, grass berm),.

F. In and around the graded area, clear existing vegetation, hydroseed with nurse crop mix recommended by landscape architect, and over time replant the area as a demonstration garden of native grasses and flowering plants, including local seed stock to the extent practical. Install temporary irrigation system.

G. Complete enhancements to eucalyptus grove recommended by Dr. Adrian Wenner (Attachment E) to improve value for monarch roosting and aggregation:

- plant 66 eucalyptus seedlings and saplings within the existing grove, primarily west of Devereux Creek. Trees to be installed and maintained for three years as a mitigation project by the Goleta West Sanitary District (GWSD).
- plant native trees such as oak, along with understory vegetation such as toyon, hollyleaf cherry lemonade berry, coffeeberry, California wax myrtle and other native species along the northeastern edge of the eucalyptus grove.
- plant approximately 45 native trees and shrubs including western sycamore, California sunflower, coastal buckwheat, coast goldenbush, Santa Barbara honeysuckle, lemonadeberry and toyon along west edge of the main meadow, east of the GWSD easement road and the creek. Plants to be installed and maintained for three years a s a mitigation project by GWSD.

- thin small eucalyptus trees (<4 in. diameter) within two existing small clearings of about 30 feet in diameter along the east creek bank. Selectively prune overhanging branches above clearings to improve sunlight penetration.

H. Initiate a plant survey and incorporate biologists' recommendations for protecting and expanding sensitive native plant communities in future planning, educational and volunteer projects. Include procedures for gathering and propagation of local seed to the extent feasible. Contract for an arborist's evaluation of the health and maintenance needs of the eucalyptus grove.

I. Develop maintenance procedures for new plantings and trails. Hire qualified contractor as necessary to supplement volunteer program to perform watering, mulching, weeding, and plant replacement as recommended in landscape plan.

J. Recruit elementary school teachers and trainers for environmental education pilot program, conduct initial training and begin developing curriculum package.

III. PHASE TWO OBJECTIVES

This section describes long term ideas and objectives for the Coronado Butterfly Preserve which may be pursued subject to further study, funding availability and volunteer energy. The Land Trust and project supporters should develop these objectives based on their experience in Phase One, and pursue grants to implement them over time.

Objectives:

A. Update and refine management plan as needed based on experience, future scientific study and community input.

B. Develop plans for environmental enhancement projects which may include:

- gradual removal of non-native invasive plants in the large meadow areas, and seed gathering, propagation and replanting with native grasses and flowering plants.
- ways to improve wildlife habitat value in the Devereux Creek corridor.
- additional minor grading (i.e. berms, swales) to enhance rainwater retention and promote habitat health and diversity, including possible creation of new demonstration vernal ponds in the meadow area.

C. Consider potential improvements to the existing trail system. Changes to trails through and around the meadow area may need to provide appropriate access to the future aggregation site or meadow areas to be planted with natives.

D. Involve teachers, school classes and university students in future field research, habitat enhancement and environmental education opportunities.

E. Make the Coronado Preserve available to and encourage further scientific study of its natural resource values. In particular, work with scientists studying the monarch butterfly at the preserve and nearby areas.

F. Actively pursue more coordinated and comprehensive study and management of all the environmentally sensitive areas of the Devereux Creek watershed, working with County of Santa Barbara, University of California, private landowners, area homeowner associations and interested conservation groups.

IV. PHASE ONE IMPLEMENTATION MEASURES

May 1999 – March 2000

1. Write draft management plan with the assistance of consulting and volunteer biologists, engineer, landscape architect, park planners and neighbors.
2. Conduct public workshop to present draft plan invite comment from state and local public agencies, neighbors, donors, UCSB scientists, local teachers, environmental groups, etc.
3. Present final management plan and budget for approval by the Land Trust Board of Trustees. Submit the completed management plan to the County Energy Division and the State Resources Agency.
4. Prepare permit applications, schedules, plans and specifications for construction bids and instructions/training for volunteers.
5. Complete initial teacher training and site visit with teachers involved with pilot environmental education program.
6. Design and order educational interpretive signs, trail markers, and main preserve sign recognizing major project funding sources.
7. Clear creek bed and property of miscellaneous concrete rubble, pipes, signs, etc.
8. Remove patches of ice plant from Newport meadow. Plant approximately 80 native trees, shrubs and wildflowers and plants attractive to butterflies. Install temporary irrigation system.
9. Plant approximately 60 native trees and understory shrubs as "Edge Planting" for the eucalyptus grove to create potential future monarch overwintering habitat. Install temporary irrigation system.
10. Coordinate and oversee Goleta West Sanitary District mitigation planting of eucalyptus saplings within existing grove and other native plants in designated area east of Devereux Creek. Confirm and monitor GWSD maintenance plans.
11. Obtain an arborist's evaluation of the existing eucalyptus trees with recommendations for maintaining the health of the grove.

April 2000 – October 2000

12. Finalize permits, complete contractor and material arrangements; plan and schedule field work, assign volunteer jobs.
13. Eradicate and clear exotic grasses, weeds and ice plant in the entire area to the southeast of the main trail. Grading contractor to raise floor of assembly area by 4-6 feet; eliminate gullying along existing berm; channel runoff toward the creek and away from trails and adjacent residence; contour trails.

14. Landscape contractor prepare slopes within and around gathering area, and westward to the edge of the eucalyptus grove for revegetation and native plant demonstration garden.
15. Install improvements to gathering and environmental area: decomposed granite in assembly and main paths, log benches, berms, interpretive displays, trail markers.
16. Plant nurse crop and native grasses and shrubs seeds, seedlings or saplings on cleared area around assembly area and toward eucalyptus grove edge. See Concept Master Plan & Master Plant List (Attachment H).
17. Make minor trail improvements and install main preserve sign at Coronado Drive trailhead, smaller preserve identification signs at two other trail entrances, bicycle rack and trash receptacles.
18. Install low post and rail fencing, using eucalyptus stems and trunks salvaged from recent channel clearing work on adjacent Flood Control property, in limited locations to protect new plantings from trampling and to deter bicycle jumping.
19. Complete site plant inventory and management/enhancement recommendations.
20. Consider planting additional native trees on the site which may be donated or purchased by the Land Trust.
21. Install the educational interpretive signs; design, test and produce educational CD-ROM and prepare curriculum packets for teachers to use in classroom study and field trips to preserve. Schedule pilot field trips and arrange resource experts to make presentations.

V. SITE DESCRIPTION & PROJECT HISTORY

Location

The 9.3–acre Coronado Preserve is located in the Coastal Zone, between Coronado Drive and Newport Drive, approximately 550 meters south of Hollister Avenue in Goleta—an unincorporated region of Santa Barbara County, California. (Attachment A, parcel map). A west branch of the middle fork of Devereux Creek bisects the preserve from north to south. To the north, east, and west of the site is suburban residential development. Immediately to the south of Coronado is a 1.14 acre parcel owned by the Santa Barbara County Flood Control and Water Conservation District, which is low-lying and densely populated with eucalyptus trees. The site is one of the few undeveloped coastal areas of the urban South Coast that are highly valued for their open space, habitat, scenic and recreational value (Attachment C).

To the south of the Flood Control property is the large eucalyptus forest known as the Ellwood Main Monarch Grove, part of a 135-acre property owned by the Santa Barbara Development Partnership. This property includes important natural resource features including vernal pools, native bunch grasses and coastal bluff scrub. The grassland bluff top, known as Ellwood Mesa or Ellwood Bluffs, is currently proposed for residential development and has been the object of intensive government review, litigation and public controversy over development plans, circulation and environmental protection.

While the primary aggregation site at the Ellwood Main Monarch Grove is not on the Coronado property, butterfly aggregation(s) are known to change in size and location over time. The Coronado Preserve site has been previously been identified as a wintering colony site and called "Ellwood Newport" (C.D. Nagano, 1987), and monarchs have been observed to use the eucalyptus grove on Coronado for autumnal roosting, and use the large meadow on Coronado for foraging. While these sites are ecologically linked, in terms of management and ownership the Coronado Preserve is separate from Ellwood Main.

Historical Land Uses

From a review of aerial photography conducted as part of a Phase I Hazardous Materials Site Assessment (Interface Planning & Counseling, 1995), the Coronado property appears to have been vacant since as early as 1928, and has never been subject to urban development. In 1928, the site was part of a 110-acre parent parcel, which over the years was subdivided and sold to various private owners. The Coronado property (now 4 legal parcels) was owned by the County Flood Control District from 1963-1973, and after that by the Goleta Union School District. This public ownership, plus the site topography and presence of the creek, is why the property was not developed along with the adjacent residential neighborhood in the 1960's.

While the historic Ellwood Oil Fields exist one-half mile to the west, there is no indication that oil drilling or storage occurred on the Coronado site. Prior to urbanization of west Goleta in the 1960's and 70's, aerial photos show that land in this area was used

primarily for grazing and dry farming, although no specific agricultural record for the property is available.

The portion of the property west of Devereux Creek is 6-8 feet lower in elevation than surrounding properties, representing likely erosion and meandering of the creek channel. The main parcel east of the creek is a raised ridge, also a relic of erosion processes in the area. There appears to have been some cut and fill on the property for adjacent home lots, although it is not been determined to what extent the elevated ridge is a natural versus man-made feature.

In the mid 1800's, the United States (particularly California) imported eucalyptus from Australia to replace native timber sources which were becoming a scarce resource near developing communities. Ellwood Cooper, an early proponent of eucalyptus, planted the Ellwood grove in the 1870's (Calvert 7), remnants of which now populate the Coronado Preserve.

Acquisition by the Land Trust

In 1996, neighbors concerned about the Goleta Union School District's proposed sale of the Coronado school site rallied to save the land from development. Starting then, the school district received serious purchase offers from developers. Citizens appealed to the school board not to sell because of the site's environmental value, especially as monarch butterfly habitat. In spring 1997, the school board approached the Land Trust for Santa Barbara County about a possible sale for conservation purposes.

In June 1997, the Land Trust negotiated a purchase price of $600,000, and entered into a purchase agreement with Goleta Union School District. This price represented a significant discount from the previous asking price, and a price below prior offers from private developers. The Land Trust and the community are grateful to District Superintendent Richard Shelton and GUSD Board of Trustees for setting a sale price within reach of our conservation campaign. The total budget for this acquisition was approximately $624,000, including land cost, interest on a one year bridge loan, title and escrow costs and direct fundraising expenses.

On April 30, 1998, the Land Trust closed escrow on the property, using $250,000 in grants and community donations plus a $350,000 bridge loan from the school district. On April 30, 1999, the Land Trust made the final principal payment, along with interest accrued at 7.5%, and now owns the Coronado Butterfly Preserve free and clear.

Without the early and on-going fundraising, careful planning, and staying power of the neighborhood and environmental activists who championed this project, it could not have succeeded.

The Land Trust appreciates funding support to purchase the Coronado Preserve from these government, foundation and corporate grants:

California Wildlife Conservation Board (Proposition 70)..... $ 200,000

County Habitat Mitigation Trust Fund	125,000
Goleta Valley Land Trust	110,000
County Coastal Resource Enhancement Fund	64,505
State Coastal Resources Grant (AB1431)	32,000
The Lennox Foundation	30,000
The Looker Foundation	10,000
Hollis Norris Foundation	1,000
Venoco, Inc.	1,000
Computer Motion, Inc.	250
TOTAL	$ 578,875

The Coronado Preserve acquisition was completed with the support of over 300 families and individuals who donated $50,972 as of April 30, 1999.

Permanent Conservation Restrictions

As required by public grants used to acquire the property, the Grant Deed (Attachment D) includes permanent deed restrictions, by which the Land Trust and any future owner of the property must abide. The deed states:

> "This Grant Deed is specifically subject to the restriction in perpetuity that the real property be used for wildlife habitat preservation, restoration and management; wildlife oriented education and research; public access to the coastal trail system connecting to adjacent public parks, nature preserves and the beach; and public uses (trails, picnic areas, restrooms and limited parking) compatible with wildlife habitat preservation."

Any improvements or activities occurring within the Coronado Preserve must be consistent with these restrictions. In addition, the grant deed references provisions of the California Wildlife Conservation Board and Coastal Resources Grant agreements which require that any sale or transfer of the property be approved by those agencies, and that any future owner be capable of carrying out the conservation purposes for which the grants were awarded.

VI. HABITAT MANAGEMENT & ENHANCEMENT

This section discusses near and long term considerations raised by biologists, neighbors, public agencies and others which should be considered by the Land Trust in its management and improvement plans for the Coronado Preserve.

Enhancement Versus Restoration

Because the Coronado property is small, surrounded by development, and appears to have been disturbed and partially covered by fill, the concept of restoration to a presumed natural condition is not feasible or appropriate.

Rather, the focus of this management plan is environmental enhancement. Specific ecological enhancement objectives will focus on improving the attractiveness of the site

for monarch butterfly foraging, roosting and aggregation; maintaining the existing eucalyptus grove; controlling non-native grasses and weeds; and planting appropriate native grasses, flowering plants and trees to enhance the creek and meadow environments.

Native and Non-Native Plants

A significant point of discussion in managing this and other open space land revolves around native versus non-native vegetation. Most of the Coronado site's trees (eucalyptus), understory plants and grasses are non-native. The management plan favors the planting of native trees, grasses and flowering plants, with the notable exception that maintaining the health and regeneration of the existing eucalyptus is a long-term objective. Some non-native species may be used if they are considered beneficial for monarchs or other butterflies or have other environmental benefits.

It is the intent of the Land Trust to preserve and sustain the eucalyptus grove along Devereux Creek. These trees are an important part of the regional monarch butterfly habitat. Phase One objectives include obtaining an arborist's evaluation of the health of the eucalyptus grove, and also the planting and maintenance eucalyptus saplings within the grove on the Newport Drive side of the creek. There are few young trees growing in this area.

The eucalyptus grove along the east bank of the creek is regenerating strongly and expanding to the east. The Phase One design includes planting native trees and shrubs in selected areas just beyond the eastern edge of the existing eucalyptus grove. These new, lower growing trees are intended to provide a wind break and retain moisture within the central eucalyptus grove, conditions deemed favorable for monarch aggregation sites. Border plantings of toyon and berry bushes can help retain soil moisture and deter visitors from trampling any monarchs in the central grove.

Additional Tree Planting

The Land Trust may consider planting additional trees such as oak, sycamore or poplar, in a few locations such as around the assembly area and in selected areas along the creek. These additional trees may not contribute to the monarch habitat, but would offer benefits for aesthetic and shade purposes, and provide nesting or roosting sites for birds. Neighbors who may be affected by new trees will be consulted before planting occurs.

Water Supply

Some planting projects will require temporary or seasonal irrigation, and this will be provided by water truck initially. An existing water well on the site could be activated for irrigation use, however the cost to provide electric power to the site, install a pump and run irrigation lines across the property makes this impractical within the budget for Phase One. The Land Trust may contract for trucked water on a schedule recommendation by the landscape architect. An alternative is to run hoses or temporary irrigation lines from adjacent residences. Should the scale of planting and irrigation needs expand, the water well could be activated to serve a temporary or permanent irrigation system in the future. No restroom or other facilities requiring potable water are planned.

Meadow Management & Enhancements

A preliminary biologist survey has identified seven species of native grasses on the site, which grow in primarily two areas: (1) on the south-east slope just above the creek, and (2) along the western (Newport Drive) mowed edge of the property. In addition, biologists identified seven other native plant species in various places around the site, but in small numbers, usually single plants (Attachment F).

In general, the non-native European species comprise the vast majority of the vegetation on site. The native salt grass appears to grow in all grassy areas of the site, but is completely invaded by wild oats. Biologists consider non-native species less preferable to natives because they can be very invasive, and out-compete numerous native species in the area. This invasion may reduce diversity of vegetation, which may influence the diversity of fauna that can utilize the site. Some examples of exotic, invasive species on site are wild oats, fennel, ice plant and pampas grass.

The management plan does not include large scale conversion of the meadow area to native species, primarily due to the expense of such a project. Smaller scale opportunities to control exotics and plant native grasses and flowering plants will be pursued with future grants and student or volunteer work projects. Environmental enhancements will occur gradually, based on desires of the neighborhood as well as funding and volunteer time limits. On-going opportunities for scientific study, volunteer field work and community input will be key project ingredients.

Prior to deciding on future management or enhancement plans for the balance of the property, the Land Trust should have a detailed plant inventory and recommendations prepared. This inventory could be done as a student research project through UCSB, and the results and recommendations incorporated into the environmental education program and future volunteer stewardship activities. It should include gathering and propagation of seed from plants found on the site or in the Devereux Creek watershed.

Newport Drive Native Plant Project

Neighbors living along Newport Drive proposed in October 1999 to organize and complete a planting project along the western meadow area of the Coronado Preserve. Their proposal, which was approved by the Advisory Committee to be completed in November 1999 – January 2000, is to plant a combination of oak, other native trees, shrubs and wildflowers in the area between the eucalyptus grove and Newport. In addition, a planting to enhance butterfly foraging is envisioned.

Approximately 10 coastal live oak trees (~2-4' tall), and 10 oak seedlings will be planted. Other natives may include: Catalina Ironwood (Lyonothamnus floribundus), Island Cherry (Prunus Ilicifolia and P. lyonii) and western redbud (Cercis occidentalis). Approximately half the trees will be placed on the slope to optimize water availability, and the remainder throughout the open area along Newport. All trees will be placed at least 10 feet from the street. The coyote broom drip line will be used in the placement of some of the seedlings to increase moisture and shade. Temporary irrigation lines will be installed if feasible. As an alternative, neighbors will be enlisted to water for the first 2-3

years to supplement dry winters, and to provide water for young plants during the summer. Oak trees and seedlings have been donated for this area by the Urban Creeks Council. Other native trees will be purchased commercially. New plants will be marked with a small stake or flag for identification and to avoid trampling.

A variety of native shrubs and wildflowers, will be planted as seedlings or small plants throughout the area. Shrubs include toyon (Heteromeles arbutifolia), manzanita (Arctostaphylos), ceanothus, goldenrod, sage, wild verbena, California beeplant (Scophularia californica), monkeyflower (Mimulus aurantiacus), figwort and mugwort. Some seeds from on site and adjacent areas have already been planted in trays for outplanting, and others will be purchased as larger plants.

Prior to planting, some of the invasive, non-native plants (e.g. ice plant) will be removed manually. Native and non-native flowering "butterfly" plants will be planted to enhance nectar availability for the monarch and other butterflies. These plants are milkweed (Asclepias fascicularis) and buddlia. A small grouping of fennel plants will be maintained, as this site historically has been a productive local site for swallowtail butterflies, but these plants will be pruned to remove flowers and seeds to prevent spread of fennel.

The Eucalyptus Grove

The eucalyptus grove (blue and red gum varieties) on the Coronado Preserve occupies approximately three to four acres, through which runs a branch of Devereux Creek. Eucalyptus trees send up young shoots which serve as understory, an important component of the monarch habitat. The largest, oldest trees grow closest to the creek, while the younger trees are advancing further up the north bank of the creek.

Monarch butterflies aggregate in eucalyptus groves primarily because they provide shelter from strong gusty winds, freezing temperatures, and prolonged exposure to direct sun (Bell iii).

Coronado Preserve as a Future Monarch Aggregation Sites

Based on observations and experience of Monarch biologists Dr. Adrian Wenner, Dr. Walter Sakai and the Monarch Project, the Coronado Preserve eucalyptus grove has potential to become another overwintering aggregation site for the Monarch butterfly.

Between the eastern edge of the eucalyptus grove and the creek bank, there are several features which may serve to attract Monarch roosting. This area is removed from the roadways, fairly well protected from wind, and features two ring-like configurations of trees (sometimes called the "Magic Circle," which are typical of existing aggregation sites. It also has a persistent surface water seep toward the middle of the slope, providing a ready water source.

The northern circular site (approximately 30 feet diameter) will be enhanced by selectively trimming eucalyptus limbs in order to create an opening in the canopy, an important characteristic of monarch aggregation sites.

The southern circle site will be enhanced by selectively trimming some of the young eucalyptus trees and suckers in order to create a larger and more open formation of trees. No trees whose trunks exceed four inches in diameter will be cut. The Land Trust should conduct an annual review of the eucalyptus grove to determine whether or not intentional removal of suckers is necessary to continue to enhance the potential aggregation sites.

Edge Planting

Dr. Wenner has suggested an "Edge Planting" scheme using toyon, oak trees, wild cherry and berry bushes along the grove in this area (Attachment H). This planting will serve to: (a) reduce wind and retain moisture within the grove; (b) provide a physical barrier to minimize human disturbance; and (c) increase the diversity of plant species, thus reducing the risk of catastrophic loss of all trees due to disease.

Although the overwintering butterflies prefer the tall trees for roosting, the understory layers of plants are important in viable roosting sites. Leafy, ragged, edge vegetation helps maintain the desired microclimate conditions (low wind, warmth and moisture) as well as providing sources of nectar in winter and fall for monarchs. In addition, edge vegetation can protect monarchs from being trampled. The monarchs can crawl into the low-lying vegetation when trapped on the ground by low temperature. In addition, edge vegetation increases air moisture content through transpiration, and by adding surface area available for condensation (Bell 5).

Currently, there is little edge vegetation (i.e. bushes or small trees) along the northeastern perimeter of the eucalyptus grove. In an experimental effort to make the Coronado more attractive as a potential winter aggregation site, edge vegetation will be planted along the top of the creek bank.

Volunteer work parties will plant native bushes like lemonade berry and coyote brush along the northern edge of the trail which parallels the eucalyptus grove. Saplings of scrub oak, toyon and wild cherry will be planted along the north and east sides.

As an on-going volunteer and student field opportunity, "plugs" (divisions or cuttings) of the existing bunch grasses may be taken and planted in other areas of the site. This work should be overseen by a qualified biologist.

Gathering Area & Outdoor Classroom

The first portion of the site to be vegetated with native grasses and plants will be the south facing slope of the assembly area. This area has been prioritized because educational activities will take place in the immediate assembly area. Enhancement in this area will provide a visual/aesthetic appeal where interpretive and educational activities will be centered. Through the interpretive signs and native plant garden, student and adult visitors may learn to distinguish native and non-native plants of the region.

The assembly area will be graded to establish meandering, gently sloped paths in and out of the area and through the planned native plant demonstration garden. Initially, the

graded area will be hydroseeded with a "nurse crop," consisting of a sterile non-native mix (e.g. sterile barley or sterile wheat) to provide a stabilizing cover that is compatible with future native grass and plant installation. This grass crop is intended to maintain soil moisture, and over time can be replaced with plugs of native grasses. Grading along this portion of the site is needed to create a level area in which students may congregate and observe the eucalyptus grove. Grading will also direct drainage away from the center of the assembly area (which is currently a bowl shape) and toward the creek. Establishment of native plants should prevent erosion and sedimentation into the creek below.

Within these planted areas, it is considered beneficial to mow the grassy meadow areas just before they go to seed to suppress seed generation by non-native species, as well as for fire prevention. Hand cutting may be appropriate where mowing might disturb significant native plant pockets. Whenever feasible, the Land Trust should schedule required fire mowing to suppress non-native seed production.

Low profile post and rail or rope fencing may be needed in strategic locations to protect plantings from pedestrian traffic and bike jumping.

Riparian Habitat

Currently, little native riparian vegetation grows along this portion of the Devereux Creek. Biologists identified a few rushes and a willow. The Land Trust should maintain the existing riparian habitat and identify ways to enhance it through grant funding or as a riparian impact mitigation site for a public agency or development project. Plans should be coordinated with up and down stream property owners, easement holders and the County Flood Control District. Periodic removal of excess dead and down matter and fallen limbs in the creek bed should accomplish this.

Other Wildlife

The Coronado Preserve is a nice place to see a variety of animals that frequent the southwestern Goleta coast. A preliminary list of animals observed (commonly or occasionally) in the Preserve is provided in Attachment G. Eucalyptus groves in the Preserve connect to those in Ellwood Main, the largest overwintering aggregation site for Monarch butterflies in Santa Barbara County (Meade 1999). Monarchs do not currently aggregate in the Coronado Preserve; however, they utilize the eucalyptus grove for autumnal roosting, temporary shelter, for basking on sunny branches, and for feeding when eucalyptus flowers are in bloom. The monarchs also obtain nectar from flowers throughout the Preserve meadows and drink the dew from grasses and shrubs.

Other animals inhabiting the Coronado Preserve include additional species of butterflies and moths (e.g., Anise swallowtails), Pacific tree frogs that aggregate for spawning when water fills Devereux Creek, several species of snakes and lizards, a variety of conspicuous birds, and some elusive mammals. Notable birds include bluebirds, egrets, crows, vultures, woodpeckers, great horned and barn owls, black-shouldered kites, and a pair of resident red-shouldered hawks. Mice and pocket gophers are preyed upon by the predatory birds and snakes. Bats emerge at night to capture flying insects. Raccoons and

skunks also are common nocturnal foragers. Less commonly seen in the Preserve are foxes, opossums, and coyotes.

VII. PUBLIC SAFETY, ACCESS & EDUCATION

Responsible Public Visitation and Stewardship

Planning and management for the Coronado Preserve must recognize that this property is in an environmentally sensitive resource area, and is also surrounded by homes. The popularity of the Ellwood/Santa Barbara Shores coastal trails and open spaces has grown along with Goleta's population and media attention. A wider public audience has learned about the monarch aggregation, the purchase of nearby property for county park and coastal open space use, and the housing development proposed on Ellwood Mesa. During the peak overwintering season, especially on weekends and during the holidays, the large volume of visitors may overwhelm this small area, causing impacts to the monarch aggregation area and creek habitat, as well as disrupting the neighborhood with traffic, noise and wandering visitors.

From both an environmental and neighborhood perspective, it is important that the Coronado Preserve be planned and managed to encourage visitors to come, observe and learn about the environment, and then move on. Visitors will often traverse the Coronado trails, enter the Ellwood Main Monarch Grove, and then walk the trails on Ellwood Mesa to Santa Barbara Shores, Devereux Slough or the beach. Planned improvements, signage and trails should be designed to keep visitors moving, and to discourage extended day use (e.g. parties, barbecues, sports activities). Signs and brochures can provide guidance about appropriate behavior within the butterfly grove and respect for other natural resources and the neighbors.

Entry and trail signs should encourage pedestrians, equestrians and bicyclists to remain on the paths. There are many small, informal paths which will remain and evolve naturally, although some realignment may be needed to protect and expand sensitive plant communities. In a few locations, low post and rail fences or logs may be employed to direct foot traffic or discourage bicycle jumping in sensitive or erosive areas.

Visitors can access the site from the traditional trailheads located : (1) at the northeastern corner along Coronado Drive; (2) at the southwest corner, along Newport Drive; and (3) from the coastal side – a trail that weaves through contiguous Ellwood Main Grove and the Flood Control District parcel.

It is generally preferable to encourage pedestrian access to the aggregation site and Ellwood Mesa through the Coronado Preserve, rather than at the southern end of Coronado Drive, because the east-west creek channel here is wide and often muddy.

The exception to this is access for people with disabilities. In this case, the monarch grove is most easily accessed at the southernmost end of Coronado Drive, although the Flood Control District's access gate passage here is narrow, and the creek bottom can be

quite muddy. When the Land Trust sponsors tours or events at the preserve, it should request Flood Control District permission to open the gate for access to people with disabilities.

In Phase One, the Land Trust plans to construct an all-weather path at the southern corner of the preserve, which will provide for disabled access to the public gathering/ environmental education area and native plant garden. However, disabled access to other portions of the preserve is problematic due to the slopes and terrain of the trails and the creek crossing.

The Land Trust will work with advisory committee of concerned neighbors and others to address these access and stewardship concerns over time.

Parking

There is adequate on-street parking along Coronado and Newport Drives to accommodate the historic flow of visitors to the site. No on-site parking is planned. Designing the public access improvements to encourage short visits rather than day use of the preserve will help control parking demand.

Since it is environmentally beneficial to keep bicycles out of the butterfly and creek habitats, a bicycle rack could be provided at main trailhead. A bicycle rack for the Newport trailhead could be provided, either on Flood Control or Land Trust property.

Public Utility Easements

The County Flood Control District owns an easement along the creek, and is the fee owner of the land to the immediate south of the Coronado Preserve. The Goleta West Sanitary District owns an easement for maintenance of it's sewer line along the western bank of the creek, and an access easement from Newport Drive. These agencies have the right to clear vegetation as necessary for required maintenance and emergency response, subject to the County Coastal Plan policies and the California Environmental Quality Act. The length of Devereux Creek through the preserve is flat and wide and does not pose a flood threat to any surrounding residence of public road; therefore, routine maintenance or channel clearing of the easement within the preserve is rarely required by the District.

The Land Trust should monitor accumulation of trees, brush or other debris in the creek which could cause channel movement that would impact trails, major trees or other resource features.

Fire Safety & Vegetation Management

Eucalyptus is very vulnerable to fire because of the abundance of oil within its leaves. William Calvert of the Center for Conservation Biology surveyed all of the monarch overwintering sites in Santa Barbara County, and noted evidence of fire at most of the overwintering groves along the California coast. Calvert estimates all of the riparian eucalyptus forests to burn an average of every thirty years.

Although fire may be beneficial to a eucalyptus grove, generating thick sapling growth, and eliminating non-native grasses, fire is obviously not compatible with a grove amidst a residential areas.

The County Fire Department requires that a minimum 10-foot perimeter swath along the public streets be mowed at least annually to minimize flammable brush. A 30-foot mowed area is required from the fence lines of the homes abutting the preserve on the north. This mowing is required when the grasses begin to dry out (typically June). The Fire Department may require mowing of a larger area, and the removal of downed limbs or trees within the tree groves, if significant fuel load has accumulated. Because live understory plants like young saplings are important in the monarch habitat, only the excess dead and down matter should be removed for fire suppression.

Periodic maintenance of native plant areas to remove dead plant material will also reduce the likelihood of fires and the fuel load.

Environmental Education Program

With funding from the California Department of Education's Environmental Education Program, the Land Trust and the Goleta Union School District are working together to develop a hands-on environmental education program at the site, which will include interpretive displays, field study, a curriculum package with CD-ROM for classroom use, developed specifically around the monarch butterfly, other plants and animals found in the area and coastal resource management concepts.

One objective of the curriculum is for students and teachers explore whether and how a environmentally sensitive lands can co-exist with a developed neighborhood. The intent is to complete a pilot program with a limited group of Goleta school teachers, and then to promote use of the curriculum package to other teachers in the Goleta and Santa Barbara schools who may wish to visit the Coronado Preserve and the Ellwood Main Monarch Grove as part of their science studies.

Placement and Design of Interpretive and Trail Signs

Approximately two to three signs will be directive, asking visitors to stay on trails for example. The remainder will be interpretive signs that will educate visitors (school groups, the general public, etc.) about various aspects of the Coronado Preserve, including but not limited to topics such as the monarchs, and the restoration in progress. One additional sign may be placed at the main entrance, along Coronado Drive, recognizing the community and all those who participated in the acquisition and preservation of the Coronado Preserve.

Restricted Activities on the Coronado Preserve

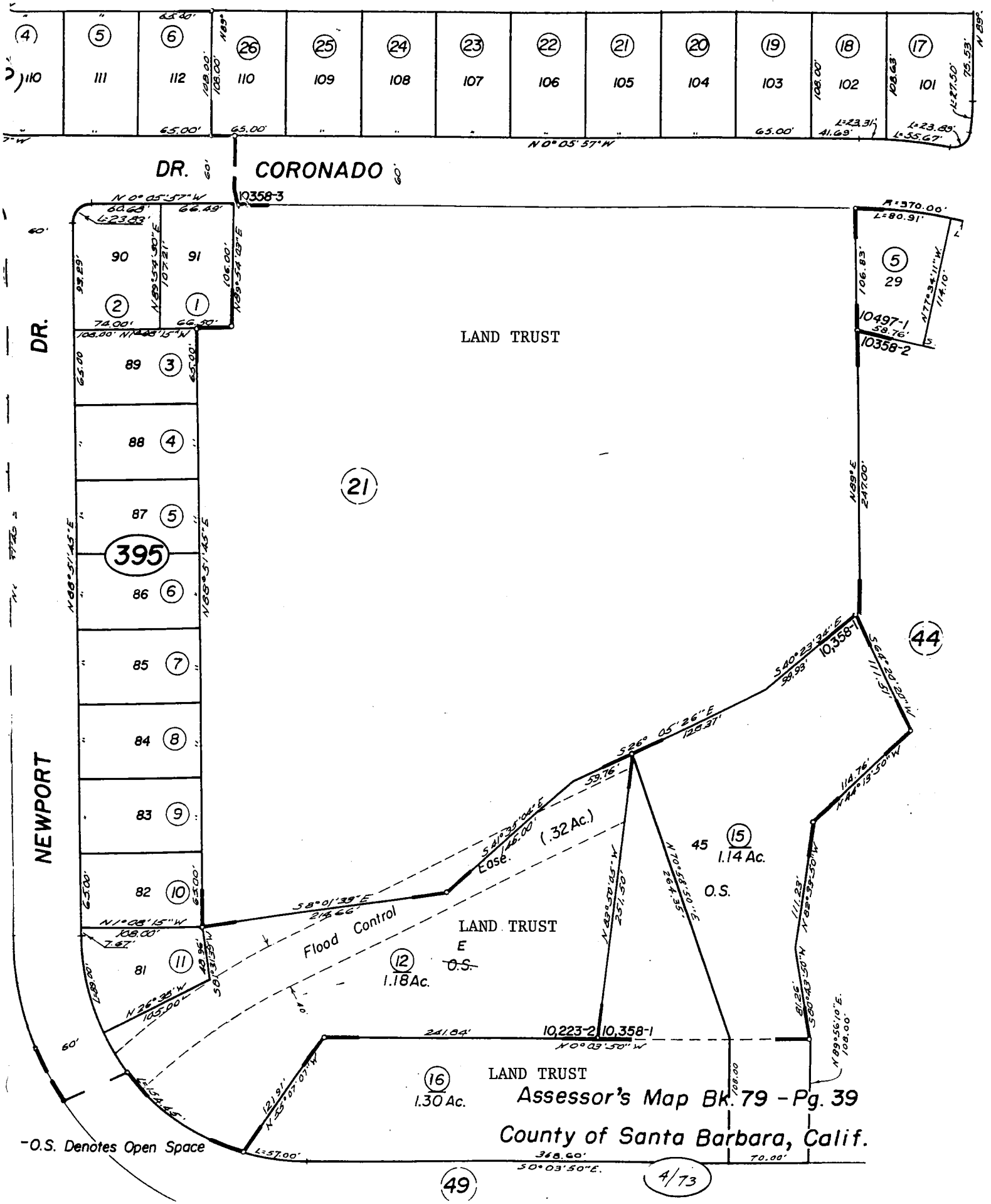
In order to maintain and enhance the health of the monarch grove and the surrounding habitat, the following activities shall not be allowed on the site:

a. Motor vehicle use, except as authorized by the Land Trust, on existing utility easements or during emergencies.
b. Unauthorized dumping, excavation, tree cutting, wood gathering, construction, and planting or removal of vegetation.
c. Camping and hunting.
d. Fires, fireworks and barbecues.
e. Bicycling off the established trails.

ATTACHMENTS

A. Parcel Map
B. Aerial Photo – Coronado Preserve & Adjacent Land
C. Aerial Photo – Project Area & Other Coastal Lands
D. Grant Deed
E. "Creation of Monarch Aggregation Sites at the Coronado Preserve in Ellwood," Dr. Adrian Wenner, May 27, 1999.
F. Preliminary Plant Inventory
G. Animals Observed at the Coronado Site
H. Landscape Plan – Phase One

ATTACHMENT A



ATTACHMENT B

ATTACHMENT D

RECORDING REQUESTED BY
FIRST AMERICAN TITLE

RECORDING REQUESTED BY

AND WHEN RECORDED MAIL TO:
Land Trust For Santa Barbara County
P.O. Box 91830
Santa Barbara, CA. 93190-1830

98-029851
Recorded
Official Records
County of
Santa Barbara
Kenneth A Pettit
Recorder
8:00am 30-Apr-98

Rec Fee	26.00
AU2	2.00
DOC	660.00
SUR	10.00
A.R.	698.00
FATC	MM E

Space Above This Line for Recorder's Use Only

A.P.N.: 79-210-45/79-395-12/79-395-16 Order No.: 1423296 Escrow No.: 1423296LAR

GRANT DEED

MONUMENT SURVEY - $10.00

THE UNDERSIGNED GRANTOR(s) DECLARE(s) THAT DOCUMENTARY TRANSFER TAX IS: COUNTY $660.00
[X] computed on full value of property conveyed, or
[ ] computed on full value less value of liens or encumbrances remaining at time of sale,
[X] unincorporated area; [ ] City of _, and

FOR A VALUABLE CONSIDERATION, Receipt of which is hereby acknowledged,
GOLETA UNION SCHOOL DISTRICT,

hereby GRANT(S) to **LAND TRUST FOR SANTA BARBARA COUNTY, a California non-profit public benefit corporation,**

the real property in the [ ] City of , or [X] **Unincorporated Area** of the, County of **Santa Barbara**, State of **California**, described as:

LEGAL DESCRIPTION DESCRIBED IN EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF;

This Grant Deed is specifically subject to, and incorporates herein by reference, the terms set forth in the Essential Conditions of the Wildlife Conservation Board Grant Agreement WC-0744 between the State of California/Wildlife Conservation Board and the Land Trust for Santa Barbara County for acquisition of lands within the Ellwood Ecological Reserve, Santa Barbara County, signed on 2-25-98 by Executive Director of the Wildlife Conservation Board, and signed on 12-19-97 by the President of the Land Trust for Santa Barbara County.

This Grant Deed is specifically subject to the restriction in perpetuity that the real property be used for wildlife habitat preservation, restoration and management; wildlife oriented education and research; public access to the coastal trail system connecting to adjacent public parks, nature preserves and the beach; and public uses (trails, picnic areas, restrooms and limited parking) compatible with wildlife habitat preservation.

Dated: April 28, 1998

GOLETA UNION SCHOOL DISTRICT

BY: Richard B Shelton
Richard B. Shelton

Mail Tax Statements to: SAME AS RETURN ADDRESS ABOVE or Address Noted Below

ATTACHMENT E

27 May 1999

Creation of Monarch Aggregation Sites at the Coronado Open Space Preserve in Ellwood

The "Ellwood Main" monarch butterfly aggregation site exists just south of the **Coronado Open Space Preserve**. Despite successful community activitism to date, that site remains threatened by natural forces as much as by proposed development. That is, an appreciable number of eucalyptus at that site could topple if high winds came up shortly after ground saturation by heavy rains. In that event, the monarchs would have to aggregate elsewhere in the area.

Four separate issues with respect to plantings seem relative to enhancement of the Coronado Preserve for monarchs and community education:

1) Plantings to create an aggregation site(s)

Aggregation sites are dynamic, not static, and can be destroyed (e.g., anthropogenic, natural forces), enhanced, or created. However, creation of a site requires patience and much time (perhaps decades, not a few years). In my General Considerations handout, I wrote (point #6): "**The worst action is no action**" when it comes to management of aggregation sites.

In the northwest corner of the Coronado property, I recommend clearing two small adjacent areas of most saplings — those areas we visited in early April — providing clearings of about 30 feet diameter. Some pruning of overhanging limbs on larger trees would provide a clear view of the sky above (a characteristic of most aggregation sites).

An L-shaped planting of scrub oak, wild cherry, and toyon would eventually provide a windbreak along the north and east sides of the existing grove in that area. We can proceed immediately to pot up oak seedlings from our yards (derived from "plantings" by scrub jays). These can then be put into the ground just before next Fall's rains and watered until the rains actually occur.

Plantings should be about 15-20 feet apart in two separate rows. That would allow for some mortality and thinning later, if needed. Some toyon already exists, indicating that they can survive under eucalyptus trees (as few plants can). More toyon can be planted along the existing path that runs through the saplings currently on the east edge of the grove.

The oaks can form a row around the outer edge of the existing grove. Using the oaks we nuture ourselves would provide a great deal of satisfaction — we would feel more a part of the project that way than if we would simply plant purchased trees. (And remember, we are looking to many years in the future, not to only a year or two from now.)

Adrian M. Wenner

July 1984 (Modified 10/87; 7/94; 9/97)

MONARCH BUTTERFLIES: GENERAL CONSIDERATIONS

Besides the pleasure they provide, the monarch butterfly is almost symbolic. It is an original American animal (albeit insect), although it has now spread to other continents, including Australia. In fact, some have recommended that this species be designated the official state insect for California. Others have pressed for its designation as the national insect (vying against the honey bee, an introduced species). This symbolism has been expressed in various manners, perhaps the most famous being the annual butterfly festival in Pacific Grove, California. Ordinances even exist in some communities that make it a crime to molest monarch butterflies in winter aggregations (e.g., Pacific Grove) or cut down trees that harbor them (e.g., Santa Barbara County).

A less well known fact is that Santa Barbara County collectively apparently has a larger number of monarch butterflies and winter aggregations than the Pacific Grove area or elsewhere in California. Our aggregation sites have gone largely unnoticed because they have existed, for the most part, on private holdings. We who study these remarkable insects have welcomed the private protection afforded the monarchs. Only recently has the species been threatened by "progress" and development.

Winter aggregations are a vulnerable time, since monarchs cannot survive hard freezes in any life stage. As a consequence, the repopulation of interior regions in the spring depends on a reinvasion (dispersal) from winter aggregations found in coastal regions — notably sites along our South Coast and other areas to the north and south. Overlooked, however, is the rapid commercial and residential development of areas where milkweed plants grow (the host plant for the caterpillars).

Along the South Coast we have approximately 15-20 significant aggregation sites (and many minor ones), but this number has decreased since I arrived in Santa Barbara (1960). One such significant site near the Ward Memorial Freeway was destroyed during the 1970-71 season at the time that the Fess Parker trailer park was established between Goleta and the ocean. Straightening the stream bed through the Goleta Slough (Maria Ignacia Creek) included felling of large eucalyptus trees on one side of an "amphitheater" on the Pacific Gas and Lighting property (west end of More Mesa). That ring of trees normally and consistently sequestered perhaps the largest aggregation of monarch butterflies in the South Coast area, but it no longer exists (a less suitable set of trees to the east harbors a lesser number of individuals).

The Music Academy of the West formerly served as a significant location for the formation of winter aggregations. For many years I took UCSB classes to that site, because it was so accessible and dependable. (Dr. Demorest Davenport, Professor Emeritus at UCSB can vouch for the former dependability of that site.) However, Abravanal Hall was built just prior to 1980. Also, gardeners trimmed the lower branches of the pines and eucalyptus trees at the Music Academy after a storm. That site no longer has an active cluster area, but an aggregation did form at a nearby site (at the southeast corner of the Music Academy property) in November and December of 1984.

One of the more striking butterfly aggregation sites existed in the former Fleishman Estate on Lambert Road in Summerland. However, Perry Perkins trimmed the trees and removed the understory in that area in 1985 and thereby effectively destroyed the configuration necessary for aggregations to form. In doing so, he followed the letter — but not intent — of the Santa Barbara County ordinance.

The long established eucalyptus trees southeast of the Seaward Avenue overpass in Ventura also used to harbor a very large monarch aggregation. Shortly after Ventura began proclaiming itself the "Carmel of the South," however, one line of those trees was removed, and monarchs no longer cluster there.

ATTACHMENT F

Preliminary Plant Inventory on Coronado Preserve
(Compiled in March and May 1999 by Wayne Ferren, Jason Nelson, and Laura Brands)

Native Plant Species

Juncus occidentalis (Western Rush): occurs generally on the edge of vernal pools locally; found on upper mesa of site.

Lemus triticoides (Alkali Ryegrass): perennial hydrophyte; found at seasonal seep along oak/toyon revegetation area of site and in large colony on top of mesa .

Bromus carinatus (California Brome): Prefers shade of woodland areas, generally upland or seasonal wetland; found in same area as above.

Hordeum californicum (California Barley): found in mowed area of site, along western fence line.

Sisyrinchium bellum (Blue-eyed Grass): not a true grass, but a member of the iris family; purple flowers, bright yellow coloration along inner base of petals.

Pearly everlasting: Several species possible; native perennial with white flowers; one found off trail adjacent to Devereux Creek; considered part of the coastal sage scrub community.

Ambrosia Psilostachya (Western Ragweed): A native, herbaceous member of the sunflower family that forms colonies in grasslands and can cause hayfever in late summer and fall.

Distichlis spicata (Salt grass): low growing, colonial grass, with grayish-green thin spiky leaves; resembles Bermuda grass, but flowers are distinguishable. often indicates wetland conditions.

Calystegia macrostEgia ssp. cyclostegia (Morning Glory): a native vine with white bell shaped flowers.

Nassella pulchra (Purple Needlegrass): perennial native bunch grass

Juncus patens (Indian Rush): native hydrophyte one specimen found growing in creek.

Quercus agrifolia (Coast Live Oak): grows among nasturtiums, on south side of creek.

Salix lasiolepis (Arroyo Willow): see above.

*Anagalis arvensis (*Scarlett Pimpernel): Low growing orange flowering plant; very small

Foeniculum vulgare (Sweet Fennel):

*Raphanus sativa (*Wild Radish): Aesthetic violet and white flowering plant; has grayish green stems and leaves; found through out mesa area.

Brassica sp. (Mustard): Bright yellow small flowers; very common on site.

Tropaeolum majus (Garden Nasturtium): low growing flowering vine; flowers are red, orange and yellow; plant spreads rapidly; found mostly south of creek on site.

Hordeum murinum (Foxtail Barley): tall grass with purple hued awns.

Acacia sp.: Tall hearty bush; yellow flowers with lots of pollen exposed.

List of other plants (All are non-native by name, including probably the circium) provided by community, not identified by biologists during site visits:

*Erodium sp. (*Filaree)
Convolvulus arvensis (Bind Weed)
Circium sp. (Thistle)
Medicago poymorpha (Burr-Clover)
Rumex angiocarpus (Sheep's Sorrel)
*Gernium Dissectum (*Wild Geranium)
*Lolium multiflorum (*Italian Ryegrass)

ATTACHMENT G

PRELIMINARY LIST OF ANIMALS IDENTIFIED AT CORONADO PRESERVE
(Compiled by various biologists community members)

- Invertebrates
  - Butterflies
    - Monarch butterfly
    - Anise swallowtail
    - Mourning cloak
  - Beetles
    - Darkling beetle
    - Eucalyptus beetle
  - Crustaceans
    - Crayfish
  - Mollusks
    - Snails
- Amphibians
  - Pacific tree frog
  - Salamander
- Reptiles
  - Gopher snake
  - Alligator lizard
  - Western fence lizard
- Birds
  - Herons
    - Great blue heron
    - Great egret
    - Snowy egret
  - Ducks
    - Mallard
  - Hawks and Vultures
    - Red-shouldered hawk
    - American kestrel
    - Black-shouldered kite
    - Turkey vulture
  - Doves
    - Rock dove
    - Mourning dove
  - Owls
    - Great horned owl
  - Hummingbirds
    - Anna's hummingbird
  - Woodpeckers
    - Acorn wood pecker
  - Flycatchers
    - Black phoebe
    - Say's phoebe
  - Swallows
    - Barn swallow
  - Jays and Crows
    - Scrub jay
    - American crow
  - Thrushes
    - Western bluebird
  - Shrikes
    - Loggerhead shrike
  - Mimic Thrushes
    - Northern mockingbird
  - Starlings
    - European starling
  - Sparrows
    - Rufous-sided towhee
    - Brown towhee
    - Oregon junco
  - Blackbirds and Orioles
    - Hooded oriole
  - Finches
    - House finch
- Mammals
  - Deer mouse
  - Botta's pocket gopher
  - Bat
  - Rabbit
  - Opossum
  - Raccoon
  - Red fox
  - Skunk
  - Coyote

ATTACHMENT H

MASTER PLANT LIST

11.18.99

BUFFER TREES & SHRUBS	
Prunus ilicifolia	Hollyleaf Cherry
Quercus agrifolia	Coast Live Oak
Rhamnus californica	California Coffeeberry
Rhus integrifolia	Lemonade Berry
Sambucus mexicana	Blue Elderberry
NATIVE SLOPE PLANTINGS	
Artemesia douglasii	Mugwort
Encelia californica	California Sunflower
Epilobium canum ssp. *canum*	California Fushia
Atriplex lentiformis ssp. *breweri*	Quail Bush
Isocoma menziesii	Coast Goldenbush
Leymus condensatus	Giant Ryegrass
Salvia spp. (*mellifera, apiana, leucophylla*)	Sage
Hazardia squarrosa	Spiny Goldenbush
Rhamnus californica	Coffeeberry
Rhus integrifolia	Lemonade Berry
GATHERING AREA	
Distichlis spicata	Lemonade Berry
Eschscholzia californica	California Poppy
Nassella pulchra	Purple Needlegrass
OPEN GRASSLAND	
Sisyrichium bellum	Blue-eyed Grass
Bromus carinatus	California Brome
Asclepias fascicularis	Narrow-leaved Milkweed
Lupinus succulentus	Arroyo Lupine
Lupinus bicolor	Miniature Lupine
Leymus triticoides	Alkali Saltgrass
OPTIONAL NEIGHBORHOOD BUFFER	
Buddleia davidi	Butterfly Bush
Artemesia californica	California Sagebrush
Achillea millefolium	White Yarrow
Coreopsis grandiflora	Coreopsis
Eschscholzia californica	California Poppy
Phacelia ramosissima	Phacelia
Gaillardia grandiflora	Blanket Flower
Rhamnus californica	California Coffeeberry
Ceanothus megacarpus	California Lilac

PHASE ONE

- NEWPORT DR. PLANTING:
  PLANTING TO AUGMENT EXISTING GROVE EDGE VEGETATION
- PLANTING TO CREATE AGGREGATION AREAS:
  14 ACORN SITES
  30 1GAL. PRUNUS ILICIFOLIA
  30 1GAL. HETEROMELES ARBUTIFOLIA
- ENTRY TRAIL IMPROVEMENTS
- GATHERING AREA
- EAST-SLOPE PLANTING
- INTERPRETIVE SIGNAGE

PHASE TWO

- EXISTING VEGETATION SURVEY FOLLOWED BY WEED ERADICATION AND PROTECTION OF SELECTED AREAS
- NORTH-SLOPE PLANTING

EUCALYPTUS & NATIVES
INSTALLED BY SANITARY DISTRICT

Encelia californica, California sunflower
Enogonum parvifolium, Coastal buckwheat
Isocoma mensiezii, Coast goldenbush
Lonicera subspicata ssp. Subspicata, Santa Barbara honeysuckle
Rhus integrifolia, Lemonadeberry
Heteromeles arbutifolia, Toyon
Platanus racemosa, Western sycamore

The Office of
Katie O'Reilly Rogers
ASLA
Landscape Architect
CA #2965

CORONADO PRESERVE

CONCEPT MASTER PLAN

GOLETA, CA

1" = 40'

REVISIONS	BY

DATE
SCALE
DRAWN
JOB
SHEET
OF SHEETS

ATTACHMENT C

1 **Douglas Family Preserve**
City of Santa Barbara

2 **More Mesa**
private investor-developer

3 **Goleta Slough & Atascadero Creek**
Santa Barbara Airport, UCSB, other agency, utility & private owners

4 **Campus Lagoon**
UC Santa Barbara

5 **Devereux Slough & Coal Oil Point Reserve**
UC Natural Reserve System

6 **Ellwood Mesa**
private investor-developer

7 **Coronado Butterfly Preserve**
Land Trust for Santa Barbara County

8 **Santa Barbara Shores Park**
County Parks Department