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STATE OF CALIFORNIA -- THE RESOURCES AGENCY GRAY DAVIS, *Governor*

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Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-00-127

APPLICANT: California Department of Parks and Recreation

PROJECT LOCATION: 4.6 mile long segment of Malibu Creek north of Pacific Coast Highway, Malibu; Los Angeles County

PROJECT DESCRIPTION: Implement a 5-year riparian habitat enhancement program. The program will involve eradication of Arundo donax and other invasive vegetation using a non-surfactant glyphosate herbicide (*Rodeo*) and revegetation with native riparian vegetation.

LOCAL APPROVALS RECEIVED: N/A

SUBSTANTIVE FILE DOCUMENTS: Lower Malibu Creek and Barrier-Lagoon System Resource Enhancement and Management Report by University of California, Los Angeles dated February 1999; Ecology and Management of Arundo Donax Report by Gary P. Bell of the Nature Conservancy dated 2000; and Glyphosate Environmental Assessment Report by United States Environmental Protection Agency dated September 1993.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends **approval** of the proposed project with three (3) special conditions regarding: submittal of a Riparian Habitat Enhancement and Revegetation Plan and Monitoring Program; Project Monitoring and Responsibilities; and Timing of Riparian Habitat Enhancement Activities.

Malibu Creek and its surrounding riparian habitat is designated as an environmentally sensitive habitat area (ESHA) by the previously certified Los Angeles County Malibu/Santa Monica Mountains Land Use Plan. The spread of the highly invasive Arundo donax (*Giant Reed*) plant in the Malibu Creek ESHA has resulted in the displacement of critical habitat for native vegetation and wildlife (including the endangered Steelhead Trout), as well as increasing the potential for hazards such as flooding and wildfire. The proposed project is for eradication of Arundo donax and other invasive vegetation and the enhancement of the riparian habitat along a 4.6 mile segment of Malibu Creek. Special Condition One (1) has been required to ensure that riparian habitat within the project area is adequately revegetated with appropriate native riparian species. Special Condition Two (2) requires that a qualified environmental monitor be on site during all eradication activities to ensure that any potential impacts to existing native vegetation are minimized. In addition, Special Condition Three (3) has been required to ensure that the use of herbicides on site do not occur during the anticipated rainy season in order to minimize potential adverse effects to habitat and water quality from contaminated runoff.

I. STAFF RECOMMENDATION

MOTION: *I move that the Commission approve Coastal Development Permit No. 4-00-127 pursuant to the staff recommendation.*

STAFF RECOMMENDATION OF APPROVAL:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO APPROVE THE PERMIT:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Interpretation. Any questions of intent or interpretation of any term or condition will be resolved by the Executive Director or the Commission.

4. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. Special Conditions

1. Riparian Habitat Enhancement and Revegetation Plan and Monitoring Program

Prior to issuance of a coastal development permit, the applicant shall submit a riparian habitat enhancement and revegetation plan and monitoring program, prepared by a qualified resource specialist, for review and approval by the Executive Director. The plan shall incorporate the following criteria:

A. Riparian Habitat Enhancement and Revegetation Plan

(1) Invasive and non-native plant species shall be removed from the stream channel/riparian vegetation corridor. Any native vegetation which is inadvertently sprayed with herbicide or otherwise destroyed or damaged during implementation of the project shall be replaced in kind at a 3:1 or greater ratio. All disturbed areas on the subject site which do not naturally revegetate with native riparian plant species within one year after the existing vegetation has been removed or eradicated, shall be planted and maintained with native riparian vegetation (as listed by the California Native Plant Society - Santa Monica Mountains Chapter in their document entitled Recommended List of Plants for Landscaping in the Santa Monica Mountains dated February 5, 1996). Invasive, non-indigenous plant species which tend to supplant native species shall not be used.

(2) The plan shall specify methodology to be used for revegetation, preferable time of year to carry out the restoration, and describe the supplemental watering requirements, if any, that will be necessary. The plan shall also specify specific performance standards to judge the success of the revegetation and enhancement effort. The performance standards shall incorporate ground and canopy coverage and survival rates typical to riparian areas in the Santa Monica Mountains and shall be adequate to provide 90 percent coverage within five (5) years after the completion of all non-native and invasive vegetation removal activities;

(3) Plantings will be maintained in good growing condition throughout the life of the project and, whenever necessary, shall be replaced with new plant materials to ensure continued compliance with applicable revegetation requirements;

B. Monitoring Program

A monitoring program shall be implemented to monitor the project for compliance with the specified guidelines and performance standards outlined in the approved Riparian Habitat Enhancement and Revegetation Plan required by Part A of this condition. The applicant shall submit, on an annual basis for a period of ten years, beginning after the initial eradication effort of Arundo donax and other non-native and invasive vegetation is completed (Year 1 of the project - but no later than December 31st each following year), a written report prepared by a qualified resource specialist, for the review and approval of the Executive Director, evaluating the extent of the success or failure of the restoration project. This report shall include further recommendations and requirements for additional revegetation activities in order for the project to meet the specified criteria and performance standards. These reports shall also include photographs taken from pre-designated sites

(annotated to a copy of the site plans) indicating the progress of recovery at each of the sites.

At the end of a ten year period, a final detailed report shall be submitted for the review and approval of the Executive Director. If this report indicates that the revegetation program has in part, or in whole, been unsuccessful, based on the approved performance standards, the applicant shall be required to submit a revised or supplemental program to compensate for those portions of the original program which were not successful. The revised, or supplemental revegetation program shall be processed as a coastal development permit.

2. Project Monitoring and Responsibilities

Prior to the issuance of the permit, the applicant shall retain the services of an environmental resource specialist with appropriate qualifications acceptable to the Executive Director. The resource specialist shall be present on site during all vegetation removal and eradication activity. In the event that non-native or invasive vegetation to be removed or eradicated is located in close proximity to native riparian vegetation or surface water, the applicant shall either: (a) remove non-native or invasive vegetation by hand (Arundo donax shall be cut to a height of 6 inches or less, and the stumps painted with Glyphosate *Rodeo* herbicide), or (b) utilize a plastic sheet/barrier to shield native vegetation or surface water from any potential overspray that may occur during use of herbicide. In no instance shall herbicide application occur if wind speeds on site are greater than 5 mph or 48 hours prior to predicted rain. In the event that rain does occur, herbicide application shall not resume again until 72 hours after rain. All Arundo donax material that is removed by hand, rather than sprayed with herbicide and left in place, shall be removed from the riparian corridor and deposited on site above the highest high water mark and allowed to disintegrate naturally. Alternative methods of disposal may be allowed pursuant to approval by the Executive Director if consistent with the intent of this condition.

The resource specialist shall immediately notify the Executive Director if unpermitted activities occur or if any native vegetation is removed or impacted (including impacts to native vegetation from overspray). This monitor shall have the authority to require the applicant to cease work should any breach in permit compliance occur, or if any unforeseen sensitive habitat issues arise. If significant impacts or damage occur to any native riparian flora/fauna on site, the applicant shall be required to submit a revised, or supplemental, restoration program to adequately mitigate such impacts. Any native vegetation which is inadvertently sprayed with herbicide or otherwise destroyed or damaged during implementation of the project shall be replaced in kind at a 3:1 or greater ratio consistent with Special Condition One (1).

3. Timing of Riparian Habitat Enhancement Activities

Prior to the issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, a Riparian Habitat Enhancement Program Schedule which provides that no vegetation removal or use of any herbicide shall occur during the rainy season (November 1 – March 31), after the year 2000, unless otherwise allowed by the Executive Director for good cause. Vegetation removal, herbicide use, and other activities may occur until December 31, 2000, provided that all work in the project area (including vegetation removal and/or herbicide application) must cease 48 hours prior to predicted rain and may not resume again until 72 hours after rain.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description and Background

The proposed project is a 5-year riparian habitat enhancement program. The program will involve the eradication of Arundo donax (*Giant Reed*) and other invasive vegetation using a non-surfactant glyphosate herbicide (*Rodeo*) and revegetation with native riparian species along an approximately 4.6 mile segment of Malibu Creek north of Pacific Coast Highway (Exhibit 1).

Arundo donax is a highly invasive, bamboo-like, plant species which thrives in riparian habitat areas creating dense stands of vegetation up to 25 ft. in height. Displacement of native vegetation and loss of riparian habitat by Arundo donax has been identified as a primary concern for Malibu Creek by the California Department of Parks and Recreation. This project is proposed by the California Department of Parks and Recreation, in cooperation with the United States National Park Service and the Mountains Restoration Trust, in order to control Arundo donax and restore degraded riparian habitat in the lower Malibu Creek area.

The proposed riparian habitat enhancement program will be implemented over a period of five years. The first year of the project will involve the initial eradication of Arundo donax and other invasive vegetation during the months of September to December 2000 using a non-surfactant glyphosate herbicide (*Rodeo*). The herbicide will be applied to invasive vegetation using backpack sprayers with wand and flat fan nozzles to ensure accurate application and minimize overspray. Larger sprayers (with similar wand and flat fan applicators) will be transported, when terrain permits, by one to two small All-Terrain Vehicles (ATVs). The ATVs will only be operated in areas of the creek where dry terrain is available and will not be used on terrain that is wet or where surface water is present. Ladders will be used, as necessary, to access upper foliage. The Arundo donax vegetation will be left in place after spraying and allowed to disintegrate naturally. In the event that any Arundo donax or other invasive vegetation is located in close proximity to any surface water or native vegetation, the invasive vegetation will be eradicated by either: (a) removing non-native or invasive vegetation by hand (Arundo donax shall be cut to a height of 6 inches or less, and the stumps painted with Glyphosate *Rodeo* herbicide), or (b) utilizing a plastic sheet/barrier to shield native vegetation or surface water from any potential overspray that may occur during use of herbicide.

The California Department of Parks and Recreation estimates that 95% of the Arundo donax will be successfully eliminated during the initial eradication effort (Year 1). To ensure that the eradication effort is successful, follow-up spraying of the remaining or resprouting Arundo donax and other invasive vegetation with Glyphosate *Rodeo* herbicide will continue during the 2nd – 5th years of the project. Revegetation with native

riparian plant species will also be implemented as needed during the 2nd – 5th years of the project as the herbicide-treated Arundo donax and other invasive vegetation are eliminated.

B. Environmentally Sensitive Habitat Area

Section **30230** of the Coastal Act states that:

> ***Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.***

Section **30231** states:

> ***The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.***

Section **30240** states:

> ***(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.***
>
> ***(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.***

Sections 30230 and 30231 of the Coastal Act require that the biological productivity and the quality of coastal waters and streams be maintained and, where feasible, restored through among other means, minimizing adverse effects of waste water discharge and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flows, maintaining natural buffer areas that protect riparian habitats, and minimizing alteration of natural streams. In addition, Section 30240 of the Coastal Act states that environmentally sensitive habitat areas must be protected against disruption of habitat values.

The proposed project is a 5-year riparian habitat enhancement program. The program will involve the eradication of Arundo donax (*Giant Reed*) and other invasive vegetation

using a non-surfactant glyphosate herbicide (*Rodeo*) and revegetation with native riparian species along an approximately 4.6 mile segment of Malibu Creek north of Pacific Coast Highway (Exhibit 1). Malibu Creek and its surrounding riparian habitat is designated as an environmentally sensitive habitat area (ESHA) by the previously certified Los Angeles County Malibu/Santa Monica Mountains Land Use Plan (LUP). Although convention is to treat drainage headwaters first, the California Department of Parks and Recreation has indicated that the proposed project area was chosen due to the severity of impact from Arundo infestation and the significant ecological benefits that will be derived from Arundo removal.

Arundo donax is a highly invasive plant species which thrives in riparian habitat areas. This invasive species can grow at a rate of 3 inches/day and can reach a maximum height of more than 25 ft. Arundo donax spreads laterally to form dense, continuous stands of monotypic exotic vegetation which, over time, can potentially displace all native vegetation with a riparian system. As a colonizing invader, this plant is well adapted to the high disturbance dynamics of a riparian system. Flood events which result in breaking up root clumps or individual stems of the plant spread the pieces downstream where fragments of the original plant then root and establish new plant clones. Once established, the new plant clone will continue to spread forming large, continuous root masses and stands of dense vegetation.

In addition to displacing native vegetation, the dense stands of invasive reed also displace native animal species (including birds, mammals, and fish) through the loss of available habitat. The Commission notes that Malibu Creek provides important habitat for Steelhead Trout, federally listed as an endangered species and that the majority of the project area is designated as critical Steelhead Trout habitat. The dense stands of Arundo donax can clog waterways, isolating upstream portions of the creek from downstream areas, effectively eliminating available habitat for Steelhead Trout and other native aquatic species. Further, the invasive plant provides extremely poor food and cover for terrestrial and avian wildlife and has high water consumption relative to native vegetation. The Ecology and Management of Arundo donax Report by Gary P. Bell of the Nature Conservancy dated 2000, states that:

> ***All evidence indicates that A. donax provides neither food nor habitat for native species of wildlife. Arundo donax stems and leaves contain a wide array of noxious chemicals...and numerous other alkaloids which probably protect it from most native insects and other grazers. Areas taken over by A. donax are therefore largely depauperate of wildlife. This also means that native flora and fauna do not offer any significant control mechanisms for A. donax.***

As such, the areas of the project site where the proposed vegetation eradication activities will occur are expected to contain few, if any, native wildlife (birds, mammals, and fish) and; therefore, adverse effects to fauna from the project are not expected. Beneficial effects to faunal species will include the restoration of native habitat previously occupied by Arundo donax and other invasive vegetation.

The proposed project will involve the use of a non-surfactant glyphosate herbicide (*Rodeo*) to eradicate Arundo donax and other invasive vegetation in the project area. All best management practices will be used to minimize overspray and adverse effects to water quality and the surrounding environment. Backpack sprayers with wand and flat fan nozzles will be used to ensure accurate application and minimize overspray. Larger sprayers (which will also be used with wand and flat fan nozzles) will be transported, when terrain permits, by one to two small All-Terrain Vehicles (ATVs). The ATVs will only be operated in areas of the creek where dry terrain is available and will not be used on terrain that is wet or where surface water is present. Ladders will be used, as necessary, to access upper foliage. Herbicide will not be applied in the event of high wind conditions in order to minimize overspray. In the event that any Arundo donax or other invasive vegetation is located in close proximity to any surface water or native vegetation, the invasive vegetation will be eradicated by either: (a) removing non-native or invasive vegetation by hand (*Arundo donax* shall be cut to a height of 6 inches or less, and the stumps painted with Glyphosate *Rodeo* herbicide), or (b) utilizing a plastic sheet/barrier to shield native vegetation or surface water from any potential overspray that may occur during use of herbicide. Two to three weeks after foliar treatment, the leaves and stalks brown and soften and have little or no potential for rooting. The Arundo donax vegetation will be left in place after spraying and allowed to disintegrate naturally.

The California Department of Parks and Recreation has indicated that the proposed use of the non-surfactant Glyphosate herbicide (*Rodeo)* is the least environmentally damaging herbicide that will be effective against Arundo donax. In addition, the Commission notes that non-surfactant Glyphosate herbicide (*Rodeo*) is the only herbicide currently labeled by the United States Environmental Protection Agency (EPA) as suitable for use in wetland areas. Glyphosate is registered by the EPA as a non-selective herbicide of relatively low toxicity suitable for use in riparian areas where vegetation control is necessary. The Glyphosate Environmental Assessment Report by the EPA dated September 1993 states:

> ***Based on current data, EPA has determined that the effects of glyphosate on birds, mammals, fish and invertebrates are minimal. Under certain use conditions, glyphosate may cause adverse effects to nontarget aquatic plants....Glyphosate adsorbs strongly to soil and is readily degraded by soil microbes...to carbon dioxide.***

The California Department of Parks and Recreation has submitted an analysis regarding alternatives to the proposed use of herbicide to eradicate the Arundo donax infestation in Malibu Creek which indicates that the proposed method of foliar spraying with a Glyphosate herbicide is the environmentally preferred alternative. The submitted Alternatives Analysis identifies three potential alternatives to the proposed project: (1) mechanical removal (no herbicide), (2) hand removal (no herbicide), and (3) hand removal/cut-stem method (in conjunction with stump painting with herbicide).

The mechanical removal of Arundo donax would involve the use of tractor equipment to rip the Arundo out of the ground. This method would result in significant adverse effects to the riparian habitat area due to increased erosion and sedimentation of the creek resulting from removal of the large Arundo root clumps (often 6 ft. or more in depth). Disturbance to native flora and fauna would also be expected to occur if heavy machinery is allowed in the riparian habitat area. In addition, Arundo stem and root fragments that are not successfully collected by the machinery may be spread to downstream areas where fragments of the original plant could then root and establish new invasive plant colonies. As such, the Commission notes that the use of heavy machinery to remove the invasive vegetation would result in greater adverse effects to the riparian habitat on site than the proposed project.

Hand removal of the Arundo donax and other invasive vegetation without use of an herbicide would eliminate any potential adverse effects to riparian habitat from herbicide overspray; however, such a method would be extremely time and labor intensive. This method would involve hand-cutting of the Arundo stems and hand-excavation of the root clumps. As such, the applicant has indicated that given the large size of the proposed restoration area (4.6 miles in length) in relation to the time and labor intensive nature of this method, hand removal of invasive vegetation without the use of herbicide is not feasible. In addition, the Commission notes that removal of the root clumps would result in increased erosion and sedimentation of the stream similar to removal by mechanical means. Because the cut stems and excavated roots would potentially resprout if left on site, all vegetative material would need to be removed from the riparian corridor to a suitable disposal location. The Commission notes that the above method would not feasibly allow for enhancement of the entire proposed project area due to its time and labor intensive nature.

Hand removal of Arundo donax utilizing the cut-stem method (in conjunction with stump painting with herbicide) is also an identified alternative to the proposed project. Similar to hand removal without herbicide, the cut-stem treatment is significantly more labor and time intensive than the proposed foliar spraying method and requires careful timing. Arundo stems are cut approximately 6 inches in height and the remaining stumps are treated with concentrated herbicide within one to two minutes. The chief advantages of this method is that it allows the root clumps to remain in place (decreasing time/labor costs) and requires the application of less herbicide which can be applied directly to the stem (minimizing overspray and inadvertent application to adjacent vegetation or aquatic habitat areas). However, because the cut stems (if left untreated with an herbicide) would potentially resprout if left on site, all removed stems (possibly 25 ft. in length) would need to be removed from the project site to a suitable disposal location. In addition, the applicant has indicated that although this method is suitable for smaller projects, given the large size of the proposed restoration area (4.6 miles in length) and the time and labor intensive nature of this method, the cut-stem method is not feasible in this case. Further, the Commission notes that current research appears to indicate that the cut-stem method may be less effective at controlling Arundo donax than the proposed foliar spraying. The Ecology and

Management of Arundo donax Report by Gary P. Bell of the Nature Conservancy dated 2000, states that recent trials on the Santa Margarita River "indicate that foliar application during the appropriate season results in almost 100% control, compared with only 5-50% control using cut-stem treatment." Although the cut-stem method is not feasible as an eradication method given the large size of the project area, the Commission notes that this method is appropriate as an alternative method of vegetation removal, as proposed by the applicant, in those specific instances where non-native or invasive vegetation is located in close proximity to native riparian vegetation or surface water in order to minimize impacts from unintentional overspray. Therefore, the Commission finds that the proposed method of foliar spraying (with the use of the cut-stem method as a secondary method of removal as appropriate) is the only feasible alternative given the large size of the enhancement area.

The Commission notes that the proposed project may result in some potential adverse effects to the environmentally sensitive riparian habitat area on site during the invasive vegetation removal and eradication phase of the program (resulting from unintentional misapplication of herbicide, unexpected disturbance to native wildlife or vegetation, etc.). In order to ensure that any potential adverse effects to riparian habitat are minimized, Special Condition Two (2) requires the applicant to retain the services of an environmental resource specialist to be present on site during all vegetation removal and eradication activity. In addition, Special Condition Two (2) also requires that in the event that non-native or invasive vegetation to be removed or eradicated is located in close proximity to native riparian vegetation or surface water, the applicant shall either: (a) remove non-native or invasive vegetation by hand (Arundo donax shall be cut to a height of 6 inches or less, and the stumps painted with Glyphosate *Rodeo* herbicide), or (b) utilize a plastic sheet/barrier to shield native vegetation or surface water from any potential overspray that may occur during use of herbicide. In no instance shall herbicide application occur if wind speeds on site are greater than 5 mph or 48 hours prior to predicted rain. In the event that rain does occur, herbicide application shall not resume again until 72 hours after rain. All Arundo donax material that is removed by hand, rather than sprayed with herbicide and left in place, shall be removed from the riparian corridor and deposited on site above the highest high water mark and allowed to disintegrate naturally. Arundo donax material placed outside the riparian corridor is not expected to resprout. Alternative methods of disposal may be allowed pursuant to approval by the Executive Director if consistent with the intent of this condition.

To ensure successful implementation, Special Condition Two (2) specifies that the monitor shall have the authority to require the applicant to cease work should any breach in permit compliance occur, or if any unforeseen sensitive habitat issues arise. If significant adverse effects or damage to the habitat value of the site occur as a result of the proposed construction activity, beyond that allowed by this permit, the applicant shall be required to submit a revised, or supplemental, restoration program to adequately mitigate such adverse effects. The revised, or supplemental, restoration program shall be processed as an amendment to this coastal development permit. Any native vegetation inadvertently sprayed with herbicide or otherwise destroyed or

damaged during implementation of the project shall be replaced in kind at a 3:1 or greater ratio consistent with Special Condition One (1).

In addition, the Commission notes that the proposed project provides for revegetation of those areas where significant stands of invasive vegetation have been removed with native riparian vegetation on an "as-needed" basis (in the event that the area does not naturally revegetate). Areas where active revegetation is necessary will be determined in the field by the environmental consultant. Revegetation efforts will begin during the second year of the project, after the invasive vegetation treated in Year One has been eliminated. However, the Commission notes that the proposed project would result in potential adverse effects to the riparian habitat in the project area, in addition to increased erosion and sedimentation of the stream, if revegetation of those areas where all existing vegetation has been eradicated is not successful. Therefore, to ensure that the proposed riparian enhancement program is successful and that the subject area is adequately revegetated, Special Condition One (1) specifically requires the submittal of a revegetation plan which requires that all invasive and non-native plant species shall be removed from the stream channel/riparian vegetation corridor. Any native vegetation which is inadvertently sprayed with herbicide or otherwise destroyed or damaged during implementation of the project shall be replaced in kind at a 3:1 or greater ratio. All disturbed areas on the subject site which do not naturally revegetate with native riparian plant species within one year after the existing vegetation has been removed or eradicated, shall be planted and maintained with native riparian vegetation. Invasive or non-indigenous plant species which tend to supplant native species shall not be used.

To ensure that the above revegetation plan is successful, Special Condition One (1) also requires that the applicant submit, on an annual basis for a period of ten years, beginning after the initial eradication effort of Arundo donax and other non-native and invasive vegetation is completed (Year 1 of the project - but no later than December 31st each following year), a written report prepared by a qualified resource specialist, for the review and approval of the Executive Director, indicating the success or failure of the restoration project. This report shall include further recommendations and requirements for additional revegetation activities in order for the project to meet the specified criteria and performance standards. At the end of a ten year period (five years after completion of final vegetation removal activities), a final detailed report shall be submitted for the review and approval of the Executive Director. If the final report indicates that the revegetation program has in part, or in whole, been unsuccessful, based on the approved performance standards, the applicant shall be required to submit a revised or supplemental program to compensate for those portions of the original program which were not successful. The revised, or supplemental revegetation program shall be processed as a coastal development permit.

The Commission further notes that proper timing of the proposed riparian habitat enhancement program is both inherent to its success and an important factor in minimizing the potential for adverse effects to sensitive riparian habitat and water quality. The key to effective eradication of Arundo donax is killing the root mass. This

requires either the physical removal of the root mass or the chemical treatment of the plant with a systemic herbicide at appropriate times of the year to ensure translocation of the herbicide to the roots. The California Department of Parks and Recreation has indicated that Arundo donax is in its post-flowering and pre-dormancy state between July and December. During this period of time, the plants are actively translocating nutrients to the rootmass in preparation for winter dormancy. Application of a non-surfactant systemic herbicide (such as Glyphosate *Rodeo*), as proposed, during this period will result in effective translocation of the herbicide to the roots.

In addition, although the proposed project will incorporate all best management practices to minimize herbicide overspray, the application of herbicide prior to heavy rain may result in greater potential for contaminated runoff than application during dry season conditions. In past permit actions where the Commission has found that proposed development may result in greater potential impacts during the rainy season, such as the proposed project, the Commission has typically required that such activities be limited or halted between November 1 through March 31 in order to minimize potential impacts to water quality from contaminated runoff.

In this case, vegetation removal and eradication activities were originally proposed to occur between July and December 31 each year. However, staff noted that the above referenced timing schedule would allow for herbicide spraying in riparian habitat areas during a portion of the typically defined rainy season. In response to concern by staff, the applicant has agreed, that no vegetation removal/eradication activities will occur between November 1 and March 31 each year of the project. The applicant has also noted that although the project is proposed to begin this year, due to timing constraints of the permit process, it will not possible to initiate vegetation eradication on site until September 2000, and that, therefore, vegetation eradication efforts can not feasibly be completed prior to December 31, 2000 (unless initiation of the project is delayed until summer/fall 2001). The Commission notes that delaying initiation of the proposed riparian habitat enhancement project by an additional year would allow the highly invasive Arundo donax to continue spreading during the upcoming year. Therefore, in order to allow the proposed habitat enhancement project to proceed in a timely manner and ensure that potential adverse effects to water quality and habitat are minimized, Special Condition Three (3) requires the submittal of a Project Schedule which provides that no vegetation removal or use of any herbicide shall occur during the rainy season (November 1 – March 31), after the year 2000, unless otherwise allowed by the Executive Director for good cause. Vegetation removal, herbicide use, and other activities may occur until December 31, 2000, provided that all work in the project area (including vegetation removal and/or herbicide application) must cease 48 hours prior to predicted rain and may not resume again until 72 hours after rain.

Therefore, the Commission finds that the proposed amendment, as conditioned, is consistent with Sections 30230, 30231, and 30240 of the Coastal Act.

C. Hazards

Section **30253** of the Coastal Act states in part that new development shall:

> *(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The proposed development is located in the Santa Monica Mountains, an area which is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property.

Arundo donax (*Giant Reed*) is a highly invasive plant species which thrives in riparian habitat areas. This invasive species can grow at a rate of 3 inches/day and can reach a maximum height of more than 25 ft. Arundo donax spreads laterally to form dense stands of bamboo-like vegetation which, over time, can completely displace all native vegetation in riparian areas. Unlike native riparian vegetation, however, this invasive reed is highly flammable, causing formerly fire-resistant riparian communities to become fire-prone. The Lower Malibu Creek Resource Enhancement and Management Report by the University of California, Los Angeles dated February 1999 states:

> ***Arundo donax stands also provide a large biomass of highly flammable plant material. Under these conditions, chaparral fires which commonly jump over or stop along riparian corridors will burn intensely through these areas, seriously weakening or killing native species. Arundo donax, however, readily resprouts after fire to regain and expand it previous dominance.***

In addition to increased hazards from wildfire, the uncontrolled spread of Arundo donax can also result in increased potential for flooding. The dense stands of giant reed formed by Arundo donax colonies are significantly denser in mass than native vegetation. As the dense, invasive stands spread, stream flow becomes substantially impeded. Increased water volumes during the winter storm season in conjunction with the reduced stream flow capacity result in greater potential for flood event occurrence.

The proposed project to eradicate the Arundo donax and other invasive vegetation in the subject area will serve to reduce existing hazards from wildfire and flooding in the project area. Therefore, the Commission finds that the proposed project is consistent with Section 30253 of the Coastal Act.

D. Local Coastal Program

Section **30604** of the Coastal Act states that:

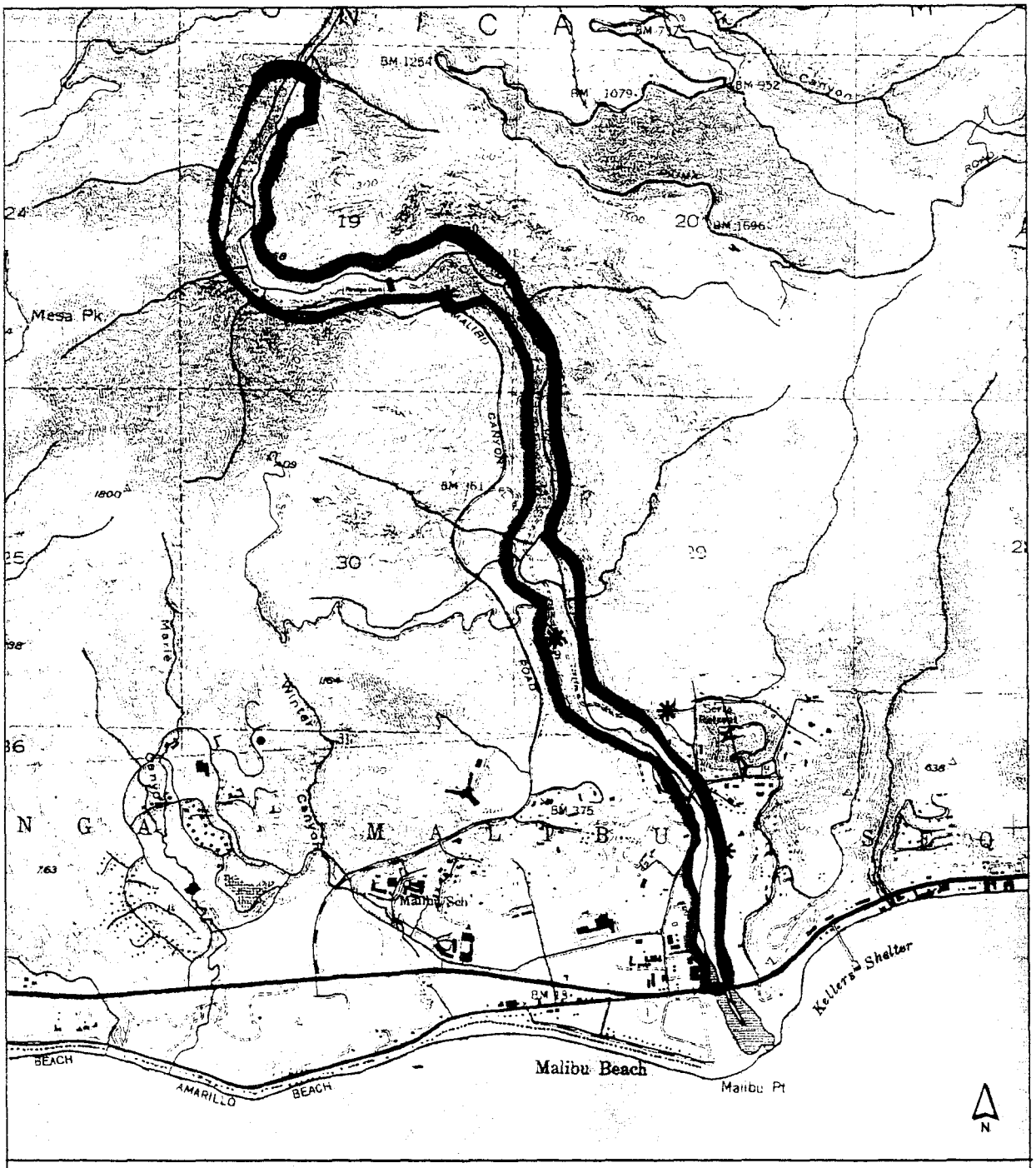
> ***a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a local program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).***

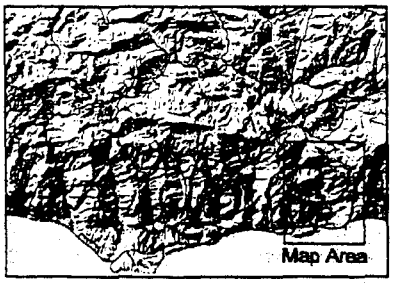
Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions of Chapter 3 if certain conditions are incorporated into the project and accepted by the applicant. As conditioned, the proposed development will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice either the City of Malibu's or Los Angeles County's ability to prepare a Local Coastal Program which is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

E. CEQA

Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Commission finds that, the proposed project, as conditioned will not have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.





Arundo Removal Project

- Staging Areas
- Project Boundary
- Streams
- Roads

0.25 0 0.25 Miles

Roads from Thomas Bros. Maps
Map produced by National Park Service
Santa Monica National Recreation Area
DRK0999-20 woodrat:d:\dafna\maps\arundo.apr

EXHIBIT 1
CDP 4-00-127 (State Parks)
Project Site/Area Map