

**ATTACHMENT L**

Letter from WRA Environmental Consultants  
Re: Alameda Whipsnake Mitigation Cost Estimates



June 2, 2011

Darin Ranelletti  
Planning and Zoning Division  
City of Oakland  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA 94612

Re: Oakland Zoo Alameda Whipsnake Draft Mitigation Feasibility and Cost Estimates

Dear Darin,

As requested by the Zoo, WRA has reviewed the Alameda Whipsnake Mitigation and Monitoring Plan (MMP) prepared by Swaim Biological Inc. associated with the Zoo's proposed expansion into Knowland Park and the potential mitigation requirements for the Alameda Whipsnake (AWS), as well as performed a site visit and reviewed the project plans. This letter is presented in an attempt to quantify the two mitigation scenarios that may be available to the Zoo, independently or in concert, for impacts to AWS: 1) the purchase of credits at a mitigation bank or 2) the establishment of a conservation easement within Knowland Park. Because consultation with the agencies has not been formalized and the specific details of the conservation easement are not yet know, the costs presented in this letter are intended as preliminary estimates and are based on the information and data available at the time of this writing.

#### *WRA Background*

WRA is a full service environmental consulting firm with over 30 years experience with biological and environmental regulatory compliance in the San Francisco Bay Area. With over 40 professionals specializing in plant, wildlife, and habitat restoration ecology, WRA has planned and overseen dozens of habitat restoration and species mitigation projects, many of which are on the scale of the Oakland Zoo/Knowland Park project. Doug Spicher has an MA from San Francisco State University and more than 28 years of consulting experience as an ecologist in a variety of habitats. Mr. Spicher acts as Principal in Charge of projects, and in addition to managing projects and staff, he has taught courses in wetland delineation, salt marsh ecology, and habitat evaluation. He has published articles and advised public agencies concerning invasive non-native plants. He is affiliated with the Society of Wetland Scientists, Society for Ecological Restoration, and the California Invasive Plant Council. Bill Stagnaro has a BS in Wildlife Management from the University of California at Berkeley and over eight years of consulting experience. He has been involved in a number of agency consultations for state and federal listed species and holds a 10(a)(1)(A) Recovery Permit for Alameda Whipsnake as well as San Francisco Garter Snake, California Red-legged Frog, California Tiger Salamander and California Clapper Rail.

### *Mitigation Bank Option*

Swaim's MMP has calculated that the Zoo will have to mitigate for 44.94 acres of potential impacts to AWS habitat. This appears to be a relatively conservative number as secondary AWS habitat such as grassland and oak woodland have been assigned the same habitat value as primary AWS habitat, i.e. chaparral. In addition, the Habitat Enhancement Plan may improve habitat on site for AWS and thus reduce the amount of mitigation acreage necessary to offset impacts to AWS from the proposed project.

No mitigation banks currently service the Knowland Park area. However, one bank is pending, the Pinole Valley Mitigation Bank/Oursan Ridge Conservation Bank. Preliminary correspondence with this conservation bank indicate that credits may be available later in 2011 and that credits would sell for approximately \$18-22,000 an acre. If we can assume that 1) credits will be available for the proposed project, 2) that they will be attainable for \$20,000/acre and 3) that the Zoo will be responsible for 44.94 acres of AWS impacts, then the Zoo would be required to pay \$898,800 if a mitigation bank is chosen to offset impacts to AWS.

### *Conservation Easement Option*

Costs for conducting on site mitigation and establishing a conservation easement are typically accrued in three stages: Construction Costs, Performance Monitoring Costs, and Long-Term Management Costs.

- *Construction Costs* will be determined by the type of mitigation activities proposed; habitat enhancement activities can have a ballpark cost of about \$500-5,000 per acre. Construction cost may range from a low-end of minimal non-native species management to a high-end of hydro-seeding chaparral.
- *Performance Monitoring Costs* will vary based on the mitigation activities proposed and the requirements of the permits, but are usually conducted for 5-10 years. A rough estimate for vegetation performance monitoring (\$50,000) and AWS performance monitoring (\$200,000) for ten years is included in this stage for a total potential Performance Monitoring Cost of \$250,000.
- *Long-Term Management Costs* are typically funded through the funding of a non-wasting endowment account. Endowment costs are computed using a Property Analysis Record (PAR). Two scenarios were run using PAR software and differing assumptions. The High estimate assumes goats will graze all 45 acres every year and an additional cost of hand removal for invasive species will be necessary. Goat grazing is a large part of the the endowment calculation, but it is currently subsidized for fire control purposes and may continue to be so in the future, reducing costs. This estimate also assumes two site visits by biologists to map and monitor AWS habitat, a more detailed annual report and an expensive Conservation Easement Compliance fee. The Low estimate assumes only 10 acres will be grazed every other year and no additional hand removal would be necessary, it also assumes a single site visit, less detailed report and lower easement monitoring fee. Both estimates include the cost of trapping for AWS every three years in perpetuity. Actual trapping effort/costs would most likely be substantially reduced. In addition, if the enhancement is very successful, then the endowment for ongoing costs would be substantially less because there would be far less invasives to manage.

If the Zoo were to propose a 45 acre on site conservation easement for AWS, and they were required to conduct performance monitoring for vegetation and AWS for 10 years, you could expect the total costs to be between \$22,500-\$225,000 for Construction Costs, \$250,000 for Performance Monitoring and between \$477,000-\$960,000 to fund the non-wasting endowment. Total high-end easement costs may be \$1,435,000. Total low-end easement costs may be \$750,000.

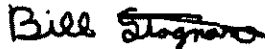
As mentioned previously, this is a preliminary estimate based on the information and data available at the time of this writing, and is subject to change, as consultation with the agencies has not been formalized and the specific details of the conservation easement are not yet known.

As stated in the May 27, 2011, letter to you from Geoff Smick regarding the Habitat Enhancement Plan for Knowland Park, approximately 10.5 acres of native grassland exist within the proposed Zoo perimeter fence that are suitable for habitat enhancement. These 10.5 acres would be located entirely within the potential conservation easement identified in Swaim's MMP. Conservation easement activities would also implement the Habitat Enhancement Plan. Therefore, to the extent that the Habitat Enhancement Plan treatment areas and conservation easement overlap, the cost of implementing the Habitat Enhancement Plan would be reduced due to activities funded through the conservation easement.

Sincerely,



Doug Spicher, MA  
Principal



Bill Stagnaro  
Wildlife Biologist

## Section 16 - Financial Summary

Property Title: Oakland Zoo Moderate

Date: 06/02/2011

1st Budget Year: 2011

State:

PAR Code: TBD

Item Descriptions	Total
<b>Initial &amp; Capital Financial Requirements</b>	
Revenues	\$0
Management Costs	\$46,891
Contingency Expense	\$6,344
<b>Initial &amp; Capital Management Total Costs</b>	<b>\$53,234</b>
Administrative Costs of Total Management Costs	\$4,309
<b>Initial &amp; Capital Gross Costs</b>	<b>\$57,543</b>
<b>Initial &amp; Capital Net Costs</b>	<b>\$57,543</b>
<b>Annual Ongoing Financial Requirements</b>	
Revenues	\$0
Ongoing Costs	\$11,411
Contingency Expense	\$1,947
<b>Ongoing Management Total Costs</b>	<b>\$13,358</b>
Administrative Costs of Total Management Costs	\$1,336
<b>Ongoing Gross Costs</b>	<b>\$14,693</b>
<b>Ongoing Net Costs</b>	<b>\$14,693</b>
<b>Endowment Requirements for Ongoing Stewardship</b>	
<b>Endowment to Produce Income of \$14,693</b>	<b>\$419,810</b>
<p><i>Endowment per acre \$9,329</i></p> <p><i>Stewardship costs are based on 3.50% of Endowment Earnings per Year</i></p> <p><i>Ongoing management funding per year is \$14,693</i></p> <p><i>Resulting in a per acre per year cost of \$327</i></p>	
<b>Total Funding Required</b>	<b>\$477,354</b>

## Section 16 - Financial Summary

Property Title: Oakland Zoo High

Date: 06/02/2011

1st Budget Year: 2011

State:

PAR Code: TBD

Item Descriptions	Total
<b>Initial &amp; Capital Financial Requirements</b>	
Revenues	\$0
Management Costs	\$124,011
Contingency Expense	\$19,778
<b>Initial &amp; Capital Management Total Costs</b>	<b>\$143,788</b>
Administrative Costs of Total Management Costs	\$13,789
<b>Initial &amp; Capital Gross Costs</b>	<b>\$157,578</b>
<b>Initial &amp; Capital Net Costs</b>	<b>\$157,578</b>
<b>Annual Ongoing Financial Requirements</b>	
Revenues	\$0
Ongoing Costs	\$21,694
Contingency Expense	\$3,599
<b>Ongoing Management Total Costs</b>	<b>\$25,293</b>
Administrative Costs of Total Management Costs	\$2,800
<b>Ongoing Gross Costs</b>	<b>\$28,093</b>
<b>Ongoing Net Costs</b>	<b>\$28,093</b>
<b>Endowment Requirements for Ongoing Stewardship</b>	
<b>Endowment to Produce Income of \$28,093</b>	<b>\$802,657</b>
<p><i>Endowment per acre \$17,837</i></p> <p><i>Stewardship costs are based on 3.50% of Endowment Earnings per Year</i></p> <p><i>Ongoing management funding per year is \$28,093</i></p> <p><i>Resulting in a per acre per year cost of \$624</i></p>	
<b>Total Funding Required</b>	<b>\$960,235</b>