

Two Rivers Trail: Written Comments re MND

Last Updated: December 5, 2018

Commenter	Date	
Organizations		
FOSL FORB	November 29, 2018	
Habitat 2020	November 30, 2018	
Save the American River Association	November 29, 2018	
Save Don't Pave	November 30, 2018	
Save Don't Pave Errata	December 4, 2018	

Two Rivers Bike Trail Phase II Proposed Project FOSL and FORB Comments

Mr. Tom Buford, Principal Planner

Attention: Adam Randolph, Project Manager, (916) 808-7803/

arandolph@cityofsacramento.org

Community Development Department

300 Richards Boulevard

Sacramento, California 95811

FOSL and FORB Comments on Two Rivers Bike Trail Phase II Proposed Project

I am writing on behalf of Friends of Sutter's Landing Park (FOSL) and Friends of the River Banks (FORB) to provide comments on the proposed Phase II Two Rivers Bike Trail. FOSL and FORB were actively involved in securing and developing the grant for restoration, improvements and interpretive information at Sutter's Landing Park which included construction of adjacent segment of the Two Rivers Bike Trail now in use. FORB and FOSL have been active in the project area and downstream at Sutter's Landing Park for over 10 years including hosting many outdoor environmental programs, wildlife counts and other activities. We have documented the presence of many wildlife species in the area and have worked to preserve, restore and expand the wildlife and habitat values in this section of the American River. We have also worked with others to develop a vision for Sutter's Landing Park as Sacramento's gateway to the American River Parkway. Recently, the city of Sacramento submitted state grant proposals identifying preserving, restoring and expanding Sutter's Landing Park as its top priority including more work on the Two Rivers Bike Trail.

FOSL and FORB support extending the Two Rivers Bike Trail as an important contribution to the American River Parkway and Sacramento city parks including Sutter's Landing Park and Glen Hall. Unfortunately we have significant concerns about the proposed location for this phase of the bike trail as currently designed. The currently proposed bike trail extension location would cause unnecessary impacts to existing natural resources including wildlife, habitat and passive recreation activities. These impacts are significant, not adequately assessed or mitigated and could be avoided by locating the trail on top of the levee as necessary to avoid tree and habitat loss. There are other existing segments of this trail now located on the top of the same levee.

FORB and FOSL strongly oppose the current proposal which would place a new paved bike trail at the toe of the levee slope and/or *incised into the levee bank between Sutter's Landing Park and H Street. This location for the new bike trail would impact wildlife and scarce sensitive riparian habitat present now. The original proposal for new bike trail location at Sutter's Landing Park was on top of the levee for the same reasons. When the American River Flood Control agency balked at this location late in the grant cycle claiming that it would interfere with their maintenance activities the trail was relocated rather than providing them access control when maintenance is necessary and requires it. A top of the levee paved bike trail is in place and appears to work adequately downstream on the same Two Rivers trail. The result for the recently constructed bike trail at Sutter's Landing Park included inadequately mitigated impacts to existing wildlife and habitat including sensitive plants such as elderberry, host for the endangered Valley Elderberry Longhorn beetle and other species. These impacts resulted from more foot and bike traffic that encroaches into existing vegetation now as a result of locating the trail off the levee top. This new footbike traffic increased off-trail activities in habitat areas. These impacts were not adequately evaluated or mitigated for in the previous project and they have not been considered in the proposed project. The same impacts would occur and be greater if the new extension of the bike trail is located off the top of the levee. This is unacceptable and the new trail project should be held back until another avoidance alternative is developed and has been fully analyzed.*

If the proposed project continues with a toe of slope design, it will be necessary to provide mitigation for impacts to existing vegetation including sensitive species habitat which serves as a wildlife corridor to adjacent areas of the American River Parkway and Sutter's Landing Park. This mitigation must include avoidance measures to limit off trail access into vegetation, restoration of vegetation and removal of invasive plant species. Maintaining an intact and functioning wildlife corridor will require locating the new trail so that it doesn't encourage off-trail activity in sensitive areas. The current proposal does not accomplish that. Further analysis and environmental studies are needed. The current environmental assessment and mitigated negative declaration (MND) are inadequate and incomplete regarding these issues. A full environmental impact report (EIR) will be needed for the bike trail project as proposed.

Sacramento County has initiated a Natural Resource Management Plan (NRMP) for the American River Parkway including the segment that this bike trail will be built in. As proposed, the bike project impacts natural resources that need to be fully evaluated and mitigated for and the project will need to wait for the completion of the NRMP. Likewise, the Lower American River Task Force has a Bank Protection Working Group that is currently evaluating flood control priorities and strategies including the project area. The current

bike project location could interfere with this work and must wait until it is finished next year so these results can be included in the proposed bike trail project. These needs will further increase the cost of the project. The flood control agency should be responsible for compensating for any impacts to trees, wildlife and sensitive habitat they cause as part of this bike trail project.

If Phase II of the bike trail is located on the top of the levee there will be much less impact to wildlife, trees and habitat and a lower overall cost to the project. If the flood control agency needs to control trail traffic on the levee this can be done with signs, barriers and a city street detour if necessary as is done elsewhere. Long time users of these levees for walking and bike riding including FOSL and FORB members have not seen any conflict or risk with flood control activities which are infrequent. There are other sections of existing bike trail in the Parkway that are located on the tops of the levee and conflicts have not been documented. It is especially important to locate the new bike trail on top of the levee in the section to the east of I-80 where there is very little room on the existing path at the toe of the levee. Project costs would also be less with a top of the levee design due to no need for levee incision design or construction.

IS/MND Comments:

Offsite mitigation is NOT appropriate due to the necessity to maintain onsite wildlife corridor function and American River Parkway natural resource values.

The current bike trail location hasn't fully considered the pending work on the NRMP and BPWG which is necessary unless natural resource impacts are avoided.

Locating the new bike trail at the toe of the levee would make it vulnerable to high water flow flooding making the trail impassible. Under those conditions or for other preferences riders would continue to use the top of the levee instead.

Construction staging areas need to be outside the American River Parkway to avoid impacts.

Tree and vegetation removal is unnecessary with levee top construction. No specific mitigation has been proposed for the tree/vegetation losses identified.

White-tailed Kites and other raptors including state listed Swainson's hawk are known to nest and forage in the general project area but were not adequately evaluated or mitigated for.

Disturbance to riparian habitat was noted but not adequately documented, evaluated or mitigated. How will these disturbances during and after construction? Monitoring will be needed for this impact.

Valley Elderberry Longhorned beetle habitat and likely presence was identified. Since the flood control agency requirements are responsible for triggering these impacts, that

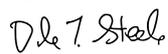
agency should be responsible for mitigation costs.

The proposed project needs to include complete analysis for a levee top alternative including identifying any impacts or avoidance that would result.

Post-construction impacts of increased recreation in an area of the Parkway that has had limited access previously must be included in an EIR. Any differences between these impacts from trail location at the toe or top of the levee must be included

In conclusion, Friends of Sutter's Landing Park and Friends of the River Banks support a properly planned Phase II extension of the Two Rivers Bike Trail that avoids unnecessary impacts and we are available to share our experience and knowledge of the area. We oppose the proposed project as planned because of unnecessary avoidable impacts that have not been properly assessed or mitigated. We urge the city to take appropriate steps now to avoid increasing impacts to scarce vegetation which serves as an important wildlife corridor and allows much passive wildlife viewing and passive recreation along the southern side of the American River Parkway.

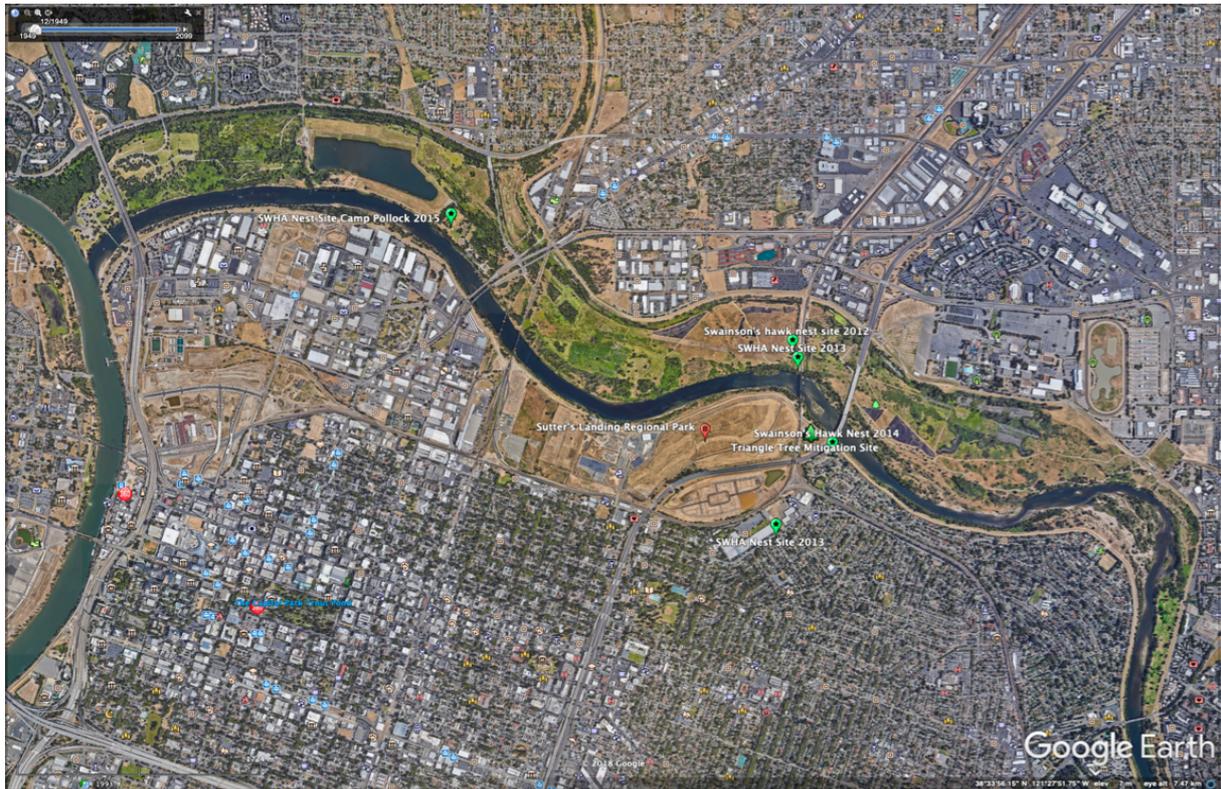
Signed,



Dale T. Steele, for FOSL and FORB

<https://www.friendsoftheriverbanks.org>

<http://www.sutterslandingpark.org>



Google Map of the Lower American River Parkway showing limited existing riparian vegetation and wildlife habitat on the south side of the river. Further tree/habitat loss must be avoided and fully mitigated on site after an adequate assessment in an EIR.



PO Box 1526 • Sacramento, CA • 95812
(916) 444-0022

November 30, 2018

Tom Buford, Principal Planner (tbuford@cityofsacramento.org)
Adam Randolph, Project Manager (arandolph@cityofsacramento.org)
Community Development Department
300 Richards Boulevard
Sacramento, California 95811

Subject: Comments in response to the Initial Study/Mitigated Negative Declaration (IS/MND) for the Two Rivers Trail Phase II project [CML-5002(155)]

Dear Mr. Buford and Mr. Randolph,

Habitat 2020 is a citizen coalition that works to protect the lands, waters, wildlife and native plants in the Sacramento region. It also serves as the Environmental Council of Sacramento's Habitat & Conservation committee. The great Central Valley of California has been identified by the World Wildlife Fund as one of North America's most endangered eco-regions. Preserving its remaining open space and agricultural land is essential for sustaining native plants and wildlife, and ensuring a high quality of life for ourselves and future generations. Members of Habitat 2020 include the Sacramento Audubon Society, California Native Plant Society, Friends of Swainson's Hawk, Save the American River Association, Save Our Sandhill Cranes, Sierra Club Mother Lode Chapter – Sacramento Group, Friends of Stone Lakes National Wildlife Refuge, the International Dark-Sky Association and the Sacramento Area Creeks Council.

The American River Parkway is a unique and singularly important riparian habitat corridor in the County of Sacramento and is a rare remaining remnant of what was once a much more extensive riparian ecosystem in northern California. Any project to construct facilities within the Parkway and to increase human activities in the Parkway has impacts on the wildlife, habitat and plants of this corridor. This project would create 3.4 miles of new Class 1 bicycle and pedestrian trail primarily along the waterside levee toe west from Sutter's Landing Regional Park to the Sacramento Northern Bikeway Trail at North 18th Street, and east from the eastern terminus of Sutter's Landing Regional Park to the H Street Bridge. The trail would be 14-16 feet wide. As stated in the MND/IS, page 5, the project is proposed to be constructed largely in an area designated as "Protected Area" under the American River Parkway Plan, with habitat preservation and recreation-related activities being the primary uses. As stated on page 9, it is one of the objectives of the project to "Complete the project in a manner that minimizes environmental impacts to the

Parkway, given the proposed project's location within the environmentally sensitive Parkway."

Our comments on the MND/IS focus on the conservation of the Parkway as natural habitat. Moreover, we support the mission of the Save the American River Association (SARA) and endorse (and incorporate by reference into our comments) all comments made by SARA on this MND/IS. Likewise, we endorse and incorporate comments made by the Friends of the River Banks and the Friends of Sutter Landing Park.

The MND/IS fails to adequately consider the natural habitat corridor as an entity requiring protection from urban impacts by numerous local and state policies and plans (see comments by SARA). Instead, it treats the project as tiered from the General Plan Master EIR, requiring only compliance with the standards of this Master EIR, standards that apply to land use developments in the City of Sacramento. This is an error. Most of the trail is on land owned by entities other than the City of Sacramento and they generally are not subject to the land use authority of the City. The project is subject to approval by County Regional Parks Department and permits from California Fish and Wildlife. These agencies require a level of environmental review beyond an MND/IS tiered from a City General Plan Master EIR.

The impacts of the project on the natural habitat of the American River Parkway are not adequately described nor quantified in the MND/IS. See pp 36-37 in which the MND/IS discusses how the General Plan policies apply. In particular, we strongly object to the use of the General Plan policy (p. 37) to define adequate mitigation for Impact 4.3-7:

Implementation of 2035 General Plan Policy ER 2.1.5 would reduce the magnitude of potential impacts by requiring a 1:1 replacement of riparian habitat lost to development. While this would help mitigate impacts on riparian habitat, large open areas of riparian habitat used by wildlife could be lost and/or degraded directly and indirectly through development under the 2035 General Plan. Given the extent of urban development designated in the 2035 General Plan, the preservation and/or restoration of riparian habitat would likely occur outside the City limits. The Master EIR concluded that the permanent loss of riparian habitat would be a less-than-significant impact. (Impact 4.3-7)

The mitigation proposed is likewise inadequately described and quantified, and will not mitigate impacts to less than significant because impacts are understated, mitigation ratios inadequate and inconsistent with City policy, off site mitigation will be permitted, and because compensatory habitat will not be required to be added to the Parkway area affected by the project.

EIR is Required

There are several controversial issues that merit analysis in a full EIR. The City should prepare and circulate an EIR that fully analyzes the alternatives, their impacts and how they would be mitigated. This is especially important because the environmental review must serve the needs of a number of other jurisdictions asked to issue permits or approvals for the project. Not the least of these is the owner of most of the land on which

the trail will be constructed: "A majority of the Project Area is owned by the Sacramento County Regional Parks" (p. V PHASE 1 ENVIRONMENTAL SITE ASSESSMENT Two Rivers Trail Project Phase II Sacramento, CA. OCTOBER 2018). Also the California Department of Fish and Wildlife is asked to issue permits for which environmental review is required.

a. The controversy over the location of the trail is an issue requiring a full EIR. The location at the toe of the levee has greater impacts on the natural environment of the Parkway than aligning the trail on top of the levee. Other sections of the American River Parkway both up and down stream are on the top of the levee. The MND/IS fails to explain why this section of the trail must be located off the top of the levee, especially since alternative routes exist in the case of an event that poses a serious conflict with levee maintenance activities. Yet the MND/IS assumes the alignment and does not consider alternatives and the variable impact of alternatives on the natural habitat corridor. The MND fails to consider the beneficial impacts to the natural habitat of locating the facility on the levee, and of aligning more of the trail outside the Parkway on city streets.

Page 5 of the MND explains the alignment choice:

"The Concept Plan Report discussed the development of a paved trail along the top of the American River south levee, including access to the landside street system and connections to other existing and proposed trails, which would minimize environmental impacts to the Parkway. However, in response to agency concerns regarding geotechnical stability of the levee and potential conflicts between trail users and levee maintenance equipment along with neighborhood concerns for homeowner privacy and visibility to the residences in the River Park neighborhood, a lower bench alignment mostly along the waterside toe of the easterly segment of the levee is now proposed. This alignment would separate the trail users from levee maintenance operations, limit visibility to neighboring residences on the landside of the levee and have little or no effect on levee stability. A mid-height bench alignment along the waterside levee slope of the entire length of the proposed trail segments was more recently considered in an attempt to minimize habitat impacts along the waterside toe of the levee and address concerns raised by residents of the River Park neighborhood. However, because the U.S. Army Corps of Engineers (USACE) considered placement of the trail on a mid-height bench on the waterside levee slope to be a risk to levee performance and would potentially increase the cost of levee operations and maintenance costs; the mid-levee alignment was determined to be infeasible where adequate space along the levee toe to accommodate the trail was present (James, Pers. Comm. 2018). " TWO RIVERS TRAIL – PHASE II (K15125000) INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

While this narrative explains that the City chose to realign the trail based on discussions with other agencies, it does not disclose the communications and analysis behind its discretionary choice. This issue of alignment deserves the full scrutiny of the EIR process.

b. The width of the trail is also a controversial issue, requiring alternatives analysis and a 30 day comment period. No consideration was given to narrow the trail to minimize impacts to the natural environment.

The MND says (p. 10):

"The proposed multi-use trail design would meet California Department of Transportation (Caltrans) Class 1 bikeway design criteria and would also be based on the State Water Code Title 23 standards for recreation trails on levees and the ARFCD Recreational Trails Policy (ARFCD 2002). The trail would generally consist of an 8-foot-wide paved path with a 2-foot-wide compacted shoulder on the inner side and a similar 6-foot-wide shoulder on the waterside to provide space for walking and jogging adjacent to the paved portion of the trail, bringing the total trail cross section along most of its length to 16 feet wide. However, due to space limitations in some locations, the waterside shoulder of the trail would be narrowed to 4 feet wide. The trail would be paved and engineered to be load-bearing (**Figure 4**). "

The Class 1 standard has proved appropriate in other sections of the trail located on top of the levee. However, the width of the trail is now much more damaging to the habitat of the Parkway since it has been moved from the top of the levee to the waterside toe. The required mowing and vegetation trimming (p. 17) within a four foot area on each side of the trail extends the width of the trail. The MND fails to fully disclose and analyze impacts and doesn't show how impacts can be mitigated to less than significant.

c. The MND lacks adequate analysis for increased impacts to the sensitive habitat and wildlife from additional recreation in close proximity to the toe of levee trail alignment in an area where the riparian habitat is quite narrow. The MND/IS does not disclose the area of habitat along the alignment and the percentage of the habitat area removed by segment.

d. The area is known nesting habitat for migratory raptors and the state listed Swainson's Hawk and the fully protected White Tailed Kite. Nesting sites have repeatedly been reported to California Fish and Wildlife by citizen scientist/observers. The MND does not identify the distance between the trail and the known nesting habitats, nor look at likely construction and maintenance mowing impacts on nesting behavior.

e. The MND misrepresents the applicable City Tree Ordinance, and uses an outdated standard for assessing impacts on trees protected by City ordinance (p. 38 "Protected Trees".) The environmental review should accurately explain the application of Chapter

12.56 (TREE PLANTING, MAINTENANCE, AND CONSERVATION of the Municipal Code) to the project, explain how the project will comply, quantify tree removal and pruning of various alternative alignments, and include the assessment of the City Urban Forester, so that decisionmakers can understand the impacts of the project on trees and how those impacts would be mitigated, and be assured that impacts will be mitigated to less than significant.

For public projects, the City Ordinance 12.56.040 (a) Removal of city trees, requires **"Whenever feasible, the city shall modify the design of public projects to avoid the removal or damage to city trees."** We believe this is the standard that should apply to the project for impacts to trees in the American River Parkway. This issue deserves full environmental review.

For removal of protected trees, the City Ordinance requires the 1:1 replace of inches at DSH (diameter at standard height) removed. A full EIR is needed to correctly identify all City protected trees to be removed (in all Segments) and to specify correctly the mitigation that has been approved by Sacramento Urban Forestry for issuance of permits.

f. The MND/IS a mitigation ratio of 1:1 for loss of riparian habitat is inadequate. A real effort should be made to acquire and convert adjacent ruderal land to riparian habitat to compensate for the impact of the trail on the existing habitat.

g. Off site mitigation and mitigation bank credits are not appropriate measures for the project impacts, and do not mitigate to less than significant. Impacts to the Parkway cannot be mitigated outside the Parkway.

The MND states:

"to compensate for the permanent removal of riparian vegetation associated with the trail construction, the City shall purchase off-site credits at a mitigation bank or replant riparian trees and shrubs at a 1:1 ratio (e.g., 1 acre planted for every 1 acre removed)."

Off site mitigation does not mitigate to less than significant. All mitigation for impacts on this narrow, rare strip of habitat should be located in the area of impact.

In addition, the mitigation measure fails to identify where the plantings would occur. However, the statement (p. 37) that mitigation would occur outside the City indicates the Project does not intend to mitigate in the City portion of the Parkway. Moreover, the MND does not require mitigation to occur in the American River Parkway.

Mitigation credits for off site replacement habitat are not appropriate for habitat mitigation for impacts in the American River Parkway which is a unique, highly valuable public asset that can not be mitigated elsewhere.

Mitigation should include the acquisition and restoration to habitat of lands in the adjacent Parkway that are not now managed as habitat. The City could cooperate with the Lower American River Conservancy to achieve this goal.

h. Why is construction staging to be conducted within the Parkway? These impacts can be avoided by locating staging outside the parkway. The large staging area in the Parkway adjacent to Glen Hall Park is inconsistent with the American River Parkway Plan and policies adopted by the City.

We request that the City draft and circulate a full EIR, considering alternatives to the project width and alignment, and significantly improving the mitigation measures for the project.

Please advise us of any further opportunities to comment on the project, to discuss the environmental review, and participate in any public hearings, through Matthew Baker, Land Use and Conservation Policy Director, habitat@ecosacramento.net, 916-202-9093.

Sincerely,



Rob Burness
Co-Chair, Habitat 2020



Sean Wirth
Co-Chair, Habitat 2020



Save the American River Association

8836 Greenback Lane, Suite C • Orangevale, CA 95662

916-936-4555 • E-mail: info@SARAriverwatch.org • www.SARAriverwatch.org

2018 Board of Directors

Officers

Stephen Green, *President*
Warren Truitt, *Vice Pres.* Mary
Beth Metcalf, *Treasurer* Alan
Wade, *Secretary/Past Pres.*

Directors

Kelly Cohen
John Cox
Elke Guenter
Kathy Kayner
Joseph Klun
Jeff Miller
Jim Morgan
George Nyberg
Felix Smith
Betsy Weiland
Dan Winkelman

Volunteers & Staff

Sara Stephens, *Office Mgr.*

Advisory Council

Dan Bacher
Anne Baron
Dave Clark
Maxine Clark
Al Freitas
Guy Galante
Jane Hagedorn
Burt Hodges
Callie Hurd
Gary Kukkola
Pam Lapinski
Dave Lydick
Clyde Macdonald, *Past Pres.*
Randy Smith
Dale Steele
Ron Stork
Ron Suter
David Thesell

November 29, 2018

Mr. Tom Buford, Principal Planner
Community Development Department
300 Richards Boulevard
Sacramento, California 95811

Subject: Comments in response to the Initial Study/Mitigated Negative Declaration (IS/MND) for the Two Rivers Trail Phase II project, in particular segments 3 through 6

Dear Mr. Buford:

Save The American River Association (SARA) appreciates the opportunity to submit the following comments regarding the above subject.

SAVE THE AMERICAN RIVER ASSOCIATION

SARA was founded in 1961 to establish the American River Parkway. Beginning with a band of 7, including Effie Yeaw, the long held vision to preserve the natural landscape and open up recreation opportunities along the American River took years to achieve. A Sunset Magazine article written to commemorate the Parkway's dedication in 1964, described a county official as saying "Thus far, everybody but the United Nations has had a hand in the Parkway." (Sunset, October, 1964) The American River Parkway is the gift far thinking, civic minded community members and leaders gave to us, the residents of a rapidly expanding urban area who increasingly value the places that give us relief from our fast paced and over built world. SARA continues today, as we have for the past 57 years, to be the lead voice and advocate protecting the natural and recreation values of the American River and Parkway.

Towards that end, we urge the City of Sacramento to withdraw the IS/MND for the Two Rivers Trail Phase II project because the document fails to study an alternative(s) to the location of the trail as described in segments 3 through 6. At 10% construction design and a project map, it is abundantly clear that the project, as proposed, is inconsistent with the Concepts, Goals and Policies of the American River Parkway Plan. The City of Sacramento is a signatory to the Plan and it is state law. We expect, as stated by Liz Bellas of Sacramento County Regional Parks, that the Two Rivers Trail Phase II, Segments 1 and a portion of Segment 2, will be

covered for impacts to the American River Parkway through an Initial Study Addendum.

“WHILE THE IMPORTANCE OF RECREATIONAL OPPORTUNITIES IS RECOGNIZED, PRESERVING THE NATURAL QUALITIES OF THE PARKWAY RESOURCE IS ESSENTIAL.” (The American River Parkway Plan, Chapter 1, Page 9) (Emphasis added)

The proposed Two Rivers Trail Phase II project is only generally drawn on the Woodlake and Paradise Beach Area Plan maps. The Discovery Park policy 10.4.2, as well as the Plan’s FEIR are more specific in describing the Two Rivers Trail Phase II extension:

“10.4.2 Support construction of a Two Rivers Trail extension to H Street that will provide direct connectivity from California State University Sacramento to downtown Sacramento. THE TRAIL SHOULD BE CONSTRUCTED ON TOP OF THE LEVEE WHERE FEASIBLE.” (The American River Parkway Plan, Chapter 10, Page 150) (ARPP FEIR, Page 6-84) (Emphasis added)

The FEIR and the Plan included the possibility of an extension of the Two Rivers Trail from Tiscornia Park to H Street, with the caveat that the levee be considered as the first alignment choice. As a result, by eliminating the levee top as a trail alignment option, SARA believes that the proposed project is no longer compliant with the Plan’s Concepts, Goals and Policies, and severely damages the Parkway’s ecosystem. As the Plan describes, the American River Parkway is a continuous open space greenbelt along the American River providing functional wildlife corridors and habitats for the 200+ bird species that either live in or migrate through the Parkway, as well as numerous mammals, amphibians, reptiles and fish. It is important to remember that just because a project/activity is shown on an area plan map and/or described in Plan policies, it is neither a mandate or requirement that said project be built or activity permitted.

The Plan initially identifies some future projects and/or activities that could be considered compliant and even desired, if, after detailed environmental review and analysis, with public notice and comment, were found to be consistent with the Concept, Goals, Policies, General Land Use and Area Plan Maps of the Plan.

“10.0 AREA PLANS

Area Plans

10.3 Adoption or modification of an Area Plan or any of its components SHALL (emphasis added) be determined to be consistent with the County General Plan, provided that it is consistent with the goals, Parkway-wide policies, and General Land Use Map of the Plan, and approved by the County Board of Supervisors.” (The American River Parkway Plan, Chapter 2, Page 38)

Again, SARA believes that because the IS/MND has eliminated the study of a levee alignment where feasible in accordance with Policy 10.4.2, the Two Rivers Trail Phase II, Segments 3 through 6 in particular, is inconsistent with the Plan, as follows:

“3.0 RESOURCES OF THE PARKWAY

Terrestrial Resources Policies

3.2 *Agencies managing the Parkway SHALL (emphasis added) protect, enhance and expand the Parkway’s native willow, cottonwood, and valley-oak dominated riparian and upland woodlands that provide important shaded riverine aquatic habitat (SRA), seasonal floodplain, and riparian habitats; and the native live oak and blue oak woodlands and grasslands that provide important terrestrial and upland habitat.”* (The American River Parkway Plan, Chapter 2, Page 16)

The use of the word “shall” assigns a legal meaning, and therefore a priority, to the dictates of this and any other policy where “shall” appears.

The IS/MND concludes that “Impacts to Valley foothill riparian habitat would be significant.” It acknowledges the fact that “Impacts related to protected trees would be significant.” And most significantly the IS/MND acknowledges that compensating for the loss of the Valley foothill riparian habitat and protected trees has not yet been determined. The IS/MND cites the Sacramento City’s Master EIR for their 2035 General Plan concluding that given the extent of urban development the preservation and/or restoration of riparian habitat would likely occur outside of City limits. (Pages 37-38)

Given the above, the proposed Two Rivers Trail Phase II project as currently described is not consistent with Policy 3.2.

3.4 Management of the Parkway SHALL (emphasis added) ensure the protection of the Parkway’s resources, its environmental quality and natural values. A resources impact monitoring plan SHALL be developed that clearly defines criteria and standards to monitor, evaluate and protect the Parkway’s resources from overuse, and provide steps to be taken to restore areas that have been overused.” (The American River Parkway Plan, Chapter 2, Page 17)

Without the in-progress Resources Impact Monitoring Plan, the IS/MND cannot possibly conclude that the consequential loss of Valley foothill riparian habitat and protected trees in the American River Parkway can be reduced to less than significant. It is the Resources Impact Monitoring Plan that will hopefully look at and incorporate in its findings the cumulative impacts of activities from ongoing projects implemented by agencies and utilities including but not limited to PG&E, SMUD, WAPA, Sacramento Area Flood Control Agency, and the Army Corps of Engineers to name a few. It will more than likely include the ongoing work of the Bank Protection Working Group/Technical Resource Advisory Committee whose upgraded flood protection action plan includes areas within the Two Rivers Trail Phase II project. The effects of climate change on the Parkway’s natural resources must be quantified when possible.

3.6 *Excavation of aggregate/soil material should not be permitted except as a part of a flood control, environmental restoration or recreation improvement project approved in accordance with the provision of this Plan. Objectives of the project will:*

- a. result in a net improvement to the health of the Parkway ecosystems,*
- b. not cause “harm” to the Parkway*

- c. utilize material within the Parkway, where feasible, prior to being transferred out of the Parkway and*
- d. prohibit commercial mining*

The IS/MND did not address c. Can the excavated material resulting from the project, segments 3 through 6, be used elsewhere in the Parkway? The material volume is stated at 6,000 cubic yards. The soil might be valuable for other projects or areas in the Parkway.

The IS/MND did not address c. as it relates to potentially useful removed trees and woody material for habitat restoration in the Parkway.

Under the project construction section of the IS/MND, the following is stated:

“Following construction, the contractor would remove any construction materials and restore all disturbed surfaces to their PRE-PROJECT CONDITION, including replacing fences, repairing asphalt road surfaces, restoring existing slopes and grades, and revegetating affected surfaces through means such as hydroseeding.” (Emphasis added) (IS/MND, Page 15)

How does the above relate to the IS/MND’s Mitigation Measure 3-6: Compensate for Permanent Impacts to Riparian Habitat and Protected Trees? Measure 3-6 states that *“to compensate for the permanent removal of riparian vegetation associated with trail construction, the City shall purchase off-site credits at a mitigation bank or replant riparian trees and shrubs at a 1:1 ratio...”* (IS/MND, Page 46)

Off-site mitigation is not consistent with Policy 3.6 a. and b.

Aquatic Communities Policies

- 3.11 *Agencies managing the Parkway SHALL identify, enhance and PROTECT (emphasis added):*
- a. areas where maintaining riparian vegetation will benefit the aquatic and terrestrial resources*
 - b. current shaded riverine aquatic habitat; and*
 - c. other areas that can support a shaded riverine aquatic habitat, as time and resources permit, especially as associated with flood control or federally/ state mandated species protection projects.* (The American River Parkway Plan, Chapter 2, Page 18)

The Two Rivers Trail Phase II project, as aligned, does not PROTECT (emphasis added) the riparian vegetation essential to the aquatic and terrestrial resources, including the birds, animals, and fish that depend on them. In fact, project segments 3 through 6 alone will permanently remove 22 trees and temporarily affect 72 additional trees due to trimming. Not only does the project itself not protect, through avoidance, the riparian vegetation, but the IS/MND boldly suggests that the purchase of off-site credits at a mitigation bank (IS/MND, Page 46) complies with the Parkway Plan policy to PROTECT (emphasis added) the riparian vegetation benefiting aquatic and terrestrial resources.

RECREATIONAL USE OF THE PARKWAY

Walking, Hiking and Running

Policy 5.13 related to the Jedediah Smith Memorial (bicycle) Trail and the pedestrian trail adjacent to it says in part: “...*The pedestrian trail will be adjacent to the existing paved Jedediah Smith Memorial (bicycle) Trail where practical given the width of the area and location of trees and other natural resources. New trail sections SHALL (emphasis added) avoid heavily vegetated areas and low floodplain locations subject to frequent inundation...*” (The American River Parkway Plan, Chapter 2, Page 23)

While the Two Rivers Trail Phase II is not the Jedediah Smith Memorial (bicycle) Trail with adjacent pedestrian trails, this policy serves as another example of the Plan’s intent and the high priority it places on protecting the natural values of the Parkway for the benefit and enjoyment of people, plants and animals.

TRAILS AND ACCESS

Trails

8.11 *Parkway trail connections to other local, regional and State trails SHALL (emphasis added) be designed and located to support bicycle commuting and recreation with minimal damage to the Parkway’s ecosystem.* (The American River Parkway Plan, Chapter 2, Page 33)

Following on the previous discussion of bicycle and trail design in the Parkway, the Two Rivers Trail Phase II is a trail connection. It connects to the Sacramento Northern Bikeway Trail, the Jedediah Smith Memorial (bicycle) Trail and to Sacramento City streets. This project, as designed, does not minimally damage the Parkway’s ecosystem. The damage is significant, and cannot be mitigated to less than significant as described in the IS/MND.

The Two Rivers Trails Phase II project runs through the Woodlake and Paradise Beach areas of the American River Parkway. While a paved bicycle trail is a permitted use through the mainly protected area land use designation, the policies governing these areas are also clear regarding the protection of the natural resources:

“PROTECTED AREA DESCRIPTION AND PURPOSE

Protected Areas contain tracts of naturally occurring vegetation and wildlife, which although capable of sustaining light to moderate use with minimal alterations to the natural landscape, would be easily disturbed by heavy use. Protected Areas differ from Nature Study Areas in that general access in Protected Areas is encouraged, and convenience-type facilities are permitted to accommodate the anticipated increase in users. However, facilities and other improvements are limited to those which are needed for the enjoyment of the natural environment. EMPHASIS IS ON PROTECTION AND RESTORATION OF LARGE PORTIONS OF RELATIVELY NATURAL AREAS WHICH STAND A BETTER CHANCE OF PRESERVATION THAN SMALLER PIECES AND PROVIDE BETTER SUPPORT FOR WILDLIFE.” (The American River Parkway Plan, Chapter 7, Page 117)
(Emphasis added)

The Woodlake Area and the Paradise Beach Area of the Parkway designate 100+ acres as protected. These large areas are important for the opportunity they provide to be protected and restored as a support for viable populations of wildlife. The IS/MND did not address the global impact of the project to potentially decrease or even prevent these areas from fulfilling their critical ecological niche.

“Woodlake Area

10.16 *Protect, enhance, and expand native habitats that benefit fish and wildlife species including the creation of a seasonal wetland habitat, grassland restoration for raptor foraging habitat, and restoration of riparian and woodland habitat.*

“10.17 Protect and enhance existing resources in the area including habitat for threatened and endangered species, such as Valley Elderberry Longhorn Beetle, and the state registered archaeological site.” (The American River Parkway Plan, Chapter 2, Page 40)

“Paradise Beach

10.26 *Permanent structures and any other physical changes that would attract groups of users should not be introduced to the area.*

Paradise Beach is an area of the Parkway that consists of 106 acres of Protected Area and 2.2 acres of Developed Recreation...Vegetation is a mixture of riparian, grassland, and shrub grassland communities, interspersed with sparsely vegetated sand. This area contains many elderberry bushes and provides excellent habitat for the Valley Elderberry Longhorn Beetle. Large cottonwoods dominate the northernmost tip of the area.

Due to limited, access, annual flooding, and unstable sandy soil, Paradise Beach should remain an informal recreation area. Permanent structures and other physical changes that would attract groups of users should not be introduced to the area. Acceptable activities include fishing, kayaking, wading, sunbathing, hiking, volleyball, and related beach activities.” (The American River Parkway Plan, Chapter 10, Page 164)

A point is being made by County Parks that the extension of the paved bicycle trail through Paradise Beach and Glen Hall Park will encourage people to ride their bikes to enjoy the aquatic activities that are permitted in this area of the Parkway. This will help, they say, alleviate the problem of too few parking spaces in the Glenn Hall Park parking lot.

The project must address the issue of providing bike racks for those cyclists wishing to enjoy Paradise Beach activities. How many racks and where will they be placed?

11.0 IMPLEMENTATION

Implementation Policies

11.5 *New facilities and programs SHALL not be developed unless the financial resources to operate and maintain them are identified and available. (The American River Parkway Plan, Chapter 11, Page 213)*

The IS/MND, under Police Protection Services, is incorrect in stating that enforcement is adequate in the project area. Sutter’s Landing Park, just down river of the Two Rivers Trail Phase II, Sections

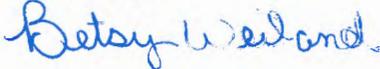
3 through 6, suffers untold impacts from lawless behavior. Dogs off leash, illegal camping, off paved trail cycling, littering, loud music, threatening behavior, and the list goes on. This happens on and around the section of the Two Rivers Trail that was just completed. Our County Park Rangers do the best they can to adequately cover the area but they are stretched thin. As are the City Park Rangers and Police.

In order to be compliant with Policy 11.5, Sacramento County must make sure that the City can provide adequate police patrols and protection for the new trail, as well as the resources to make all necessary repairs to maintain the paved and decomposed granite trails, and keep up the required structures and fencing related to the UP Bridge. Maintenance and replacement of the interpretative and directional signage shall also be included. Appropriate trees/vegetation management related to the trails will also be an operational responsibility and compliant with all environmental rules and regulations.

While SARA has always supported and promoted permitted recreational activities in the Parkway, we believe, on further study, that the Two Rivers Trail Phase II as currently designed is outsized in its impacts to the natural resources of the American River Parkway and the users' experience and expectation. The Jedediah Smith Memorial (bicycle) Trail is the continuous paved bike trail running from the confluence of the Sacramento and American Rivers to Beal's Point. In a particularly sensitive area of the Parkway, where the construction of a paved bike trail connection would cause irreparable harm to the natural resources and the enjoyment of users who reach out to and rely on the American River Parkway as a respite and escape from the built urban environment, the Two Rivers Trail Phase II, in particular segments 3 through 6, must not be built as designed. An Environmental Impact Report is necessary to explore alternatives to providing a dedicated bikeway from Tiscornia Beach to the H Street Bridge.

Thank you for your kind and courteous attention to our concerns. Please feel free to contact me with any questions.

Sincerely,



Betsy Weiland, Land Use Chair
Save the American River Association

flweiland@yahoo.com

(916) 488-3894

CC

Adam Randolph, Project Manager, City of Sacramento
Liz Bellas, Sacramento County Parks Department
SARA Board of Directors
SARA Advisory Board
Dale Steele
Jude Lamare

Recreational multi-use path along the Sacramento River.





tel: 916.455.7300 · fax: 916.244.7300
1010 F Street, Suite 100 · Sacramento, CA 95814

November 30, 2018

SENT VIA EMAIL (tbuford@cityofsacramento.org)

Tom Buford, Principal Planner
Community Development Department
City of Sacramento
300 Richards Boulevard
Sacramento, CA 95811

**RE: Comments on the Initial Study/Mitigated Negative Declaration for the
Two Rivers Trail Phase II (K15125000)**

Dear Mr. Buford:

These comments on the Initial Study/Mitigated Negative Declaration (“MND”) for the Two Rivers Trail Phase II Project, K15125000 (“Project”) are submitted on behalf of Save Don’t Pave. Save Don’t Pave is an unincorporated association comprised of local community members who have serious concerns regarding the City of Sacramento’s (“City”) environmental review of the Project. Save Don’t Pave is working to save the section of the American River Parkway between Sutter’s Landing and the H Street Bridge as a natural recreation option for all to enjoy in its current unpaved state.¹

The MND fails to include relevant information and fully disclose Project impacts as required by the California Environmental Quality Act (Pub. Resources Code, §§ 21000 et seq. [“CEQA”]). In particular, several potentially significant impacts are associated with the Project, necessitating preparation of an Environmental Impact Report (“EIR”) and consideration of a reasonable range of alternative and adequate mitigation to eliminate or reduce Project impacts. Thus, Save Don’t Pave respectfully requests that a

¹ Save Don’t Pave was formed when River Park residents and other users of the nearby section of Parkway learned of the City’s plan to pave the lower riverside toe of the levee. Many citizens were unaware of the City’s plans, so in January 2018, several concerned citizens organized a volunteer effort to go door to door in the River Park community to inform residents of the proposed project, get their opinions on the project, and collect signatures for a petition opposing the project. Since that time, Save Don’t Pave has collected over 1,200 petition signatures opposing the Project as presently proposed, and has worked to make the City aware of the special character and uses of this area that would be lost as a result of the Project.

full EIR be prepared and circulated for public review prior to any further proceedings by the City regarding the Project.

I. Standards Applicable to Negative Declarations

Under CEQA, an EIR is required whenever substantial evidence supports a “fair argument” that a proposed project may have a significant effect on the environment, even when other evidence supports a contrary conclusion. (See, e.g., *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 74 (*No Oil I*.) This “fair argument” standard creates a “low threshold” for requiring the preparation of an EIR. (*Citizens Action to Serve All Students v. Thornley* (1990) 222 Cal.App.3d 748, 754.) Thus, a project need not have an “important or momentous effect of semi-permanent duration” to require an EIR. (*No Oil I, supra*, 13 Cal.3d at 87.) Rather, an agency must prepare an EIR “whenever it perceives some substantial evidence that a project may have a significant effect environmentally.” (*Id.* at p. 85.) An EIR is required *even if* a different conclusion may also be supported by evidence.

To lawfully carry out a project based on a MND, a CEQA lead agency must approve mitigation measures sufficient to reduce potentially significant impacts “to a point where *clearly* no significant effects would occur.” (Cal. Code Regs. tit. 14 (“CEQA Guidelines”), § 15070, subd. (b)(1) (emphasis added).)² This is assured by incorporation into a Mitigation Monitoring and Reporting Plan (“MMRP”). (CEQA, § 21081.6(a)(1).) “The purpose of these requirements is to ensure that feasible mitigation measures will actually be implemented as a condition of development, and not merely adopted and then

² A lead agency may satisfy its CEQA obligations by preparing a MND instead of an EIR if: (1) revisions in the project would mitigate the effects of the proposed project to a point “where clearly no significant effects on the environment will occur, and (2) there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment.” (Pub. Resources Code, § 21064.5.) The City must also adopt a legally adequate mitigation monitoring or reporting program in compliance with CEQA. (CEQA Guidelines, § 15074, subd. (d).) To comply with CEQA “[t]he reporting or monitoring program shall be designed to ensure compliance during project implementation.” (Pub. Resources Code, § 21081.6, subd. (a)(1); CEQA Guidelines, §§ 15074, subd. (d), 15097, subd. (a).) The City may not simply rely on a “summary” that merely relists the various mitigation measures in the absence of a discussion of implementation or evidence that the measures will be enforced.

neglected or disregarded.” (*Federation of Hillside & Canyon v. City of Los Angeles* (“Federation”) (2000) 83 Cal.App.4th 1252, 1261.)

Furthermore, an agency will not be allowed to hide behind its own failure to gather relevant data. Specifically, “deficiencies in the record [such as a deficient initial study] may actually enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences.” (*Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311 (*Sundstrom*)). For example, in *Sundstrom* the court held that the absence of information explaining why no alternative sludge disposal site is available “permits the reasonable inference that sludge disposal presents a material environmental impact.” (*Ibid.*)

For each resource area discussed below, there is substantial evidence supporting a fair argument of a potentially significant impact. Moreover, the mitigation measures included are not legally adequate and do not sufficiently address the potential impacts. Therefore, an EIR is necessary in order to adequately analyze, disclose and mitigate the Project’s environmental impacts.

II. The MND Fails to Provide an Adequate Project Description and Environmental Setting

Although the Project description that CEQA requires of an MND is less detailed than that of an EIR, the MND must include a complete, accurate description of the Project. (CEQA Guidelines, § 15071.) An accurate, stable and finite project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed activity. (See *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645,655; *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193 (*County of Inyo*) [“(a)n accurate, stable and finite project description is the Sine qua non of an informative and legally sufficient” CEQA document].) The court in *County of Inyo* explained why a thorough project description is necessary:

A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal’s benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the ‘no project’ alternative) and weigh other alternatives in the balance.

(*County of Inyo, supra*, 71 Cal.App.3d at 192-93.)

This MND fails to describe all elements of the Project. In particular, the MND fails to include a description of increased maintenance to clear mud and debris that would be needed if a trail is built on the water side of the levee toe due to the frequent flooding of the area. (See Exhibit A, Parkway User Testimony and Photographs Regarding Aesthetic Impacts, p. 10 [showing flooding of Project area] (“Testimony on Aesthetics”).) The MND also fails to discuss all of the likely uses of the Project in its description. The Project would build paved bike trails through the American River Parkway, with the implicit intention of those trails being used. However, accurate information about projected use of the new trail is not included. Such information would provide important insight into the full breadth of the Project and its potential impacts.

In addition, the Project diagrams fail to clearly disclose the proposed location of the Project in relation to existing natural resources and the levees that provide flood protection. (See MND, Figures 1–3.) The figures provided in the MND do not clearly depict the proposed trail Project in relation to other features in the Project area. For instance, existing walking trails are not shown, nor the location of the existing levees to the proposed Project. The Project in relation to the location of sensitive natural resources, such as Heritage trees and Valley elderberry bushes is also not shown, obscuring the Project description.

The MND also fails to disclose likely future actions that would stem from construction of the trail. For instance, the MND fails to acknowledge the potential for future and ongoing impacts to the biological resources through the implementation of Crime Prevention Through Environmental Design (“CPTED”). In CPTED, the City addresses recurring crime or illegal camping at a location by removing vegetation to make that area less attractive for crime or illegal camping. According to the Project website, “The Two Rivers trail will integrate concepts of crime prevention through environmental design (commonly abbreviated as CPTED). The enthusiastic usage of this reach will increase ‘eyes on the trail.’”³ The wooded riparian area along the Project area is extremely narrow, just 60 feet in some places, and any removal of vegetation would dramatically decrease the cover for wildlife and degrade the value of the area as a wildlife corridor. Furthermore, the use of CPTED in many areas would dramatically decrease the visual screen between the levee and the river, degrading the aesthetic value of the area both for users of the path and for boaters on the river.

³ Available at: <https://www.cityofsacramento.org/Public-Works/Engineering-Services/Projects/Current-Projects/Two-Rivers-Trail-Phase-II>.

Before the impacts of a project can be assessed and mitigation measures considered, an initial study must describe the existing environment. (CEQA Guidelines, § 15063, subd. (d)(2).) It is only against this baseline that any significant environmental effects can be determined. (CEQA Guidelines, §§ 15125, 15126.2, subd. (a); see also *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 952.) According to CEQA Guidelines section 15125, subdivision (a): “An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published.” This same requirement applies to a Negative Declaration. (*Communities for a Better Environment v. SCAQMD* (2010) 48 Cal.4th 310, 319.) As the Supreme Court has explained, a comparison must be made between “existing physical conditions without the [project] and the conditions expected to be produced by the project. Without such a comparison, the EIR will not inform decision makers and the public of the project’s significant environmental impacts, as CEQA mandates.” (*Id.* at p. 328.)

The omission of critical setting information renders the MND deficient as a sufficiently informational document. Specific setting information deficiencies within resource sections of the MND are discussed below. Also, as mentioned above, the MND fails to include sufficiently detailed information regarding the proposed Project’s relationship to the location of other trails, levees, and sensitive natural resources, such as Heritage trees and Valley elderberry bushes, hindering analysis of Project impacts.

III. The MND’s Analysis of Potentially Significant Environmental Impacts is Defective and Mitigation Measures in the MND are Inadequate to Reduce Project Impacts to Less than Significant

The MND concludes without adequate explanation that there would be no impacts associated with Aesthetics, Energy, Noise, Public Services, Recreation or Transportation/Circulation that require mitigation. (MND, p. 103.) With respect to the impacts that the MND does conclude require mitigation, the MND also errs in providing the minimum analysis required by CEQA. Specific deficiencies are described below.

A. The Project Would Conflict with Existing Land Uses and Designations

Substantial evidence supports a fair argument that the Project conflicts with applicable land use policies, requiring preparation of an EIR. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1996) 42 Cal.App.4th 608, 617–618 (*San Joaquin Raptor I*); *Stanislaus Audubon Society, Inc. v. County of Stanislaus*

(1995) 33 Cal.App.4th 144, 151; *Quail Botanical Gardens Foundation, Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602–1603; see also CEQA Initial Study Checklist [CEQA Guidelines, appen. G, § IX, subd. (b)] [may project conflict “with any applicable land use plan, policy or regulation . . . adopted for the purpose of avoiding or mitigation an environmental effect.”].) The Project, which is proposed to be located within the American River Parkway, must conform with applicable plans.

The MND incorporates by reference and tiers off other planning documents including the 2035 General Plan Master EIR (“Master EIR”) (MND, p. 4), the American River Parkway Plan 2008 update (“Parkway Plan”) (MND, p. 5), and the Sacramento Bicycle Master Plan (“Master Plan”) (MND, p. 29). However, the Project, as currently proposed, conflicts with these documents. Substantial evidence supports a fair argument that the Project, proposed to be located within a specially protected area, conflicts with these applicable land use policies, and thus an EIR is required. (*Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 931 (*Pocket Protectors*).)

1. MND Land Use Setting Discussion Is Incomplete

The MND fails to recognize the special status of the American River Parkway. The Parkway is protected by the American River Parkway Plan and is a federal and state designated Wild and Scenic River.⁴ Furthermore, in 2017, the American River Parkway attained state conservancy status. (Pub. Resources Code, § 5845 et seq. [creating Lower American River Conservancy Program].) Each of these designations come with protections and considerations, and further cement the American River’s regional importance. The Land Use setting discussion, should have, but does not describe these protections.

2. The Project Is Inconsistent with the City of Sacramento General Plan

The Master EIR concluded that policies in the City’s General Plan, combined with compliance with the California Endangered Species Act (“CESA”), Natomas Basin Habitat Conservation Plan (“NBHCP”) and CEQA would minimize the impacts on special-status species to a less-than-significant level. (See Master EIR, pp. 4.3-10 to 4.3-17.) However, the Master EIR contemplated impacts resulting from a trail at the crown

⁴ Pub. Resources Code, § 5093.54, subd. (e) (state designation) and 16 U.S. Code § 1274, subd. (a)(21) (federal designation); see also American River Parkway Plan, pp. 9, 89–92.

of the levee both by relying on the American River Parkway Plan and considering completion of the Project in 2014. (See Master EIR, pp. 2-36, 4.3-19.)

Policy ER 2.1.5 calls for the City to preserve the ecological integrity of creek corridors and other riparian resources. (Master EIR, p. 4.3-7.) The Project would encroach on valuable riparian habitat, protected trees, and special status species habitat. (MND, pp. 39-43.) As discussed below, the MND underestimates many of the Project's potential biological impacts despite evidence to the contrary submitted herein. The Project's impacts on the riparian resources of the American River Parkway violate Policy ER 2.1.5.

3. The Project Is Inconsistent with the American River Parkway Plan 2008 Update

The MND incorrectly asserts that the Project is consistent with the Parkway Plan, despite the Project's fundamental conflicts with the Parkway Plan policies. (MND, p. 5; see Exhibit L, Two Rivers Trail Phase II: Inconsistencies with the American River Parkway Plan ("Parkway Plan Inconsistencies").) First and foremost is the inconsistency between the Project's trail design and Parkway Plan policy 10.4.2. Policy 10.4.2 requires the Two Rivers Trail extension to be constructed on top of the levee where feasible. (Parkway Plan, p. 38.) The Project wholly discounts the possibility of a levee crown trail with a vague explanation of geotechnical, maintenance, and neighborhood concerns. (MND, p. 5.)

The MND does not further discuss or ever actually analyze the feasibility of a top of levee trail alignment for the Project. As can be seen from the photo below, much of the Parkway bike trail is already located on top of the levees. The feasibility of placing the trail Project on the levee, or other less environmentally damaging alternatives, must be fully considered.

Recreational multi-use path along the Sacramento River.



(City of Sacramento General Plan, p. 2-266.)

Paradise Beach, designated as a “Protected Area” under the Parkway Plan (Parkway Plan, p. 164), makes up a significant portion of the project area. (MND, p. 5, 10, 21.) Protected areas “contain tracts of natural occurring vegetation and wildlife . . . [which] would be easily disturbed by heavy use.” (Parkway Plan, p. 117.) Protected areas should only have “minor trail improvements, trail stops [and] observation points” to prevent encroachment into sensitive natural communities. (*Ibid.*) More specifically to Paradise Beach, the Parkway Plan cautions against the development of “[p]ermanent structures and any other physical changes that would attract groups of users” due to limited access, annual flooding, and unstable soil. (*Id.* at 164.) Paradise Beach “should remain an informal recreation area” to preserve existing uses and prevent further degradation. (*Ibid.*) The Project would flout each of these requirements by encroaching onto natural communities (see MND, pp. 39-43) and bringing substantially more visitors to the Paradise Beach area (see MND, p. 86).

The Project is also inconsistent with the Parkway Plan’s goal to “provide, protect, and enhance for public use” the American River greenbelt. (Parkway Plan, p. 10.) The Project would prioritize a single use, bicycle transportation, at the expense of numerous existing uses, such as dog-walking, family recreation, family recreation. Notably, improving transportation is not included as a Parkway Plan goal. (Parkway Plan, p. 10.) The Project would not “preserve, protect [or] improve the natural, archaeological, historical and recreational resources of the Parkway” but instead encroach on and impact

these resources. The design and site decisions for the Project create irreconcilable conflicts with the Parkway Plan, which the MND does not disclose or mitigate.

Substantial evidence supports a fair argument that the Project is inconsistent with the Parkway Plan's goals and policies. (See also Exhibit L, Parkway Plan Inconsistencies.) Therefore, an EIR is required to disclose and analyze these land use inconsistencies. (*Pocket Protectors, supra*, 124 Cal.App.4th at 931.)

4. *The Project Is Inconsistent with the Sacramento Bicycle Master Plan*

The Master Plan “set[s] forth bicycle related investments, policies, programs, and strategies[.]” (Master Plan, p. 1.) One goal of the Master Plan is increasing equitable investments in bicycling facilities for all neighborhoods by 2020. (Master Plan, p. 2.) According to testimony by Jim Brown, of SABA, at the October 18, 2018, meeting of the Sacramento Active Transportation Advisory Committee, many of “projects in the [Bicycle Master] Plan [have been in the Plan] for years and years.” (See Sacramento Active Transportation Commission video, time register approximately 42 minutes).⁵ Despite this goal, the Project would devote considerable resources to serve one of the least disadvantaged areas of the City in terms of bicycle facilities.

The Master Plan identifies East Sacramento as well served by existing bicycling infrastructure. (Master Plan, p. 32 [Equity Analysis Composite Index]; see also Exhibit D, Master Plan Excerpt.) Yet, this \$6.4 million project, which duplicates a world-class bicycle trail that already exists on the north side of the American River, and for which an on-road alternative route already exists that was recently built on Elvas Avenue, uses limited active transportation funds. (See Exhibit D, Master Plan Excerpt [Class II trail on Elvas Avenue].) Many areas in the City are substantially less served by existing bicycle infrastructure than the Project area, and these resources would be better served there. (*Ibid.*) Devoting such considerable resources to this Project would be contrary to the Master Plan's equity goals.

B. The Project May Have Potentially Significant Aesthetics Impacts

“Relevant personal observations of area residents on nontechnical subjects may qualify as substantial evidence for a fair argument. (*Pocket Protectors, supra*, 124 Cal.App.4th at 928, 931.) “[T]he opinions of area residents, if based on direct

⁵ Available at: http://sacramento.granicus.com/MediaPlayer.php?clip_id=4274.

observation, may be relevant as to aesthetic impact and may constitute substantial evidence in support of a fair argument; no special expertise is required on this topic.” (*Id.* at 937.) The concerns and observations regarding the “overall degradation of the existing visual character of the [project] site” can constitute substantial evidence sufficient to raise a fair argument of aesthetic impacts. (*Ibid.*)

Here, Parkway users have significant concerns regarding how the Project would impact the existing visual character of the American River Parkway. (See Exhibit A, Testimony on Aesthetics, pp. 1, 4-7.) Parkway users state that the Project “would drastically change the nature of th[e] trail and degrade . . . this special area. (*Id.* at p. 1.) Clearing the existing trail and vegetation to create the paved trail would “affect the immediate viewshed and the natural experience [it] affords” and the paved trail “would be more naked and hardened[.]” (*Id.* at p. 4.) “Paving th[e] trail will substantially damage scenic resources, including not only the endangered elderberries scattered along the trail and the . . . creatures that feed on them, but also disturb[] the entire ecosystem.” (*Id.* at p. 6.) “[V]isual encounters with nature bring daily peace to all who have access to [the Parkway]” and the Project’s alignment and design directly threaten that scenic resource. (*Ibid.*)

The Project area currently primarily exists in a natural state, including native and non-native trees and shrubs, sand, dirt, brush, habitat and other natural features unique to a riparian area. (MND, p. 21.) In comparison, the Project would be comprised of wide asphalt paths, flanked by decomposed granite, ranging from 14 to 22 feet. (MND, p. 9-10.) Residents who neighbor and frequent the Project area consider these changes to be a substantial degradation of the existing aesthetic character of the Project area. (See Exhibit A, Testimony on Aesthetics, pp. 1, 4-7.)

A comparison of trail sections from Phase I of the Project and the current Project area exemplify the stark aesthetic changes that would result from a change to a Class 1 bicycle trail:



(Exhibit A, Testimony on Aesthetics, p. 2.) As can be seen in the photos provided in Exhibit A, the Project area is currently characterized by a dirt trail, which is very narrow at times, adjacent to and overhung by riparian vegetation and trees; this vegetation provides shade and the experience of being in nature for those who use the area. If the planned vegetation removal takes place (MND, pp. 17, 38-39, 41), much of this area would no longer be shaded and the wider trail, which in narrow sections of the lower bench would remove all vegetation on the lower toe, would feel and function much more like a transportation corridor. Parkway users have explained these changes would essentially destroy the characteristics of the area that create its aesthetic value. “The walking experience on [the existing] trail is like no other experience . . . in Sacramento To pave it is to lose this experience forever.” (Exhibit A, Testimony on Aesthetics, p. 3.)

The impacted residents’ concerns, along with the differences in aesthetic character between the proposed Project and existing conditions, constitute substantial evidence of a fair argument the Project may have significant aesthetic impacts. (*Pocket Protectors*, *supra*, 124 Cal.App.4th at 937–939.) Therefore, an EIR for the Project must be completed to fully evaluate the Project’s aesthetic impacts and consider all of the relevant evidence.

C. The Project May Have Significant Impacts on Recreation

Recreational impacts are another non-technical subject area wherein local residents’ concerns and observations can provide substantial evidence of a fair argument. (See *Pocket Protectors*, *supra*, 124 Cal.App.4th at 937-939.) Here, similar to aesthetics, Parkway users who neighbor and frequent the Project area are concerned over drastic

changes in recreational opportunities that would occur if the Project was constructed. (Exhibit A, Testimony on Aesthetics, pp. 1, 6–7.)

1. *The MND Fails to Disclose Baseline Recreational Use of the Project Area*

The MND presents a truncated and incomplete description of baseline recreational use of the Project area, hindering analysis of the Project’s impacts on recreation. (MND, p. 85.) In particular, the MND fails to describe the existing heavy pedestrian use of the Project area.

In order to help determine baseline use of the area of the area adjacent to the Glen Hall access to Paradise Beach (Segment 5; MND, Figure 3), Save Don’t Pave members collected data using volunteers starting on May 29, 2018 and ending on August 17, 2018. This data is compiled in Exhibit C, Baseline Recreational Use Data. To prepare for data collection, volunteers were provided with on site training regarding the different categories of data being collected and the optimal location for viewing use of Segment 5 of the Project area. Observation shifts lasted for no more than two hours. Shifts were scheduled to cover all daylight hours for one weekday and one weekend day, however they were not completed all on one day, but rather staggered over a few months as volunteer time allowed. Data was collected over a total of 8 weekday shifts, covering the hours from 5:30 a.m. to 9 p.m., and a total of 7 weekend day shifts, covering the hours from 5:30 a.m. to 7:30 p.m. Volunteers were set up facing the levee, and were instructed to categorize users as either: (1) primarily using the top of the levee; (2) primarily using the bottom of the levee; or (3) cross traffic (crossing the bottom of the levee to access the river area). Individual user types were categorized as Adult Pedestrians, Pedestrians appearing to be under 12 years old, Dogs, Runners/Joggers, Bikers, or Other. Survey results are compiled in Exhibit C, Baseline Recreational Use Data.

During the weekday observation shifts, Exhibit C, Baseline Recreational Use Data, depicts that volunteers observed a total of 207 individual users may, in a single day, utilize the top of the levee. 201 individual users may utilize the bottom of the levee, and 667 individual users may cross the lower levee trail. During weekend day shifts, volunteers observed that in a single day, a total of 342 individual users may be on the top of the levee, 286 individual users may be at the bottom of the levee, and 1,365 individual

users crossing the lower levee trail.⁶ This survey data shows that this area of the Parkway is heavily used on both weekdays and weekends by a variety of recreational uses. These uses should have, but were not, considered in the MND's analysis of recreational or other impacts, as described in this comment letter.

2. *The MND Fails to Disclose the Project's Potentially Significant Recreational Impacts*

The MND relies on a false premise for its recreation impacts analysis: that the Project would "expand recreational opportunities . . . by offering a paved multi-use trail." (MND, p. 86.) In fact, the Project would expand one recreational opportunity, biking, at the expense of the existing uses valued by local residents. Just because the City considers these uses to be "informal" (MND, p. 86) does not mean these uses are not worthy of consideration in the MND (see Parkway Plan, p. 164 [as a Protected Area, Paradise Beach should remain an "informal recreation area" to preserve existing uses]).

The MND also fails to consider the potential conflict between recreational uses due to the Project. The Project would introduce new users, and a new use, to the Project area, competing for space. Cyclist use of the trail would be incompatible with existing uses and takes up considerable space. Existing uses would be relegated to a trail shoulder, which would be restricted due to space limitations. (MND, p. 86 [gravel shoulders would be downsized when toe space is limited].) The paved trail would not be limited in such a way. (*Ibid.*) Instead of "taking a leisurely walk along a quiet path thick with wildlife," pedestrians would be forced to be on the lookout for commuting bikers. (Exhibit A, Testimony on Aesthetics, p. 1.) According to the Baseline Recreational Use Data, 1,565 users may attempt to cross the proposed bike path on a weekend day. (See Exhibit C.) Moreover, increasing the number of users in the Project area could accelerate or cause substantial deterioration of the existing recreation facilities, but the MND does not consider this impact.

The aesthetic character of the Project area is a recreational feature as well, and is the primary draw for many users. (Exhibit A, Testimony on Aesthetics, pp. 1-7.) Existing users interact with and appreciate the natural riparian habitat. In a survey conducted by Save Don't Pave of 137 local residents asking about their use of the Project area, over 75 percent cited the natural condition of the area as a principal draw. (Exhibit

⁶ It should be noted that the weekday data includes a shift from 7:30 p.m. to 9 p.m. that is not included in the weekend day data, so likely the weekend day totals would have been even higher than weekday totals if the shifts had covered equal time.

B, Survey of American River Parkway Trail Users (June-Oct. 2018), pp. 2-3 (“Parkway User Survey”).) Bird watching and other recreation involving native species would also be impacted, given the Projects impacts to species habitat. (MND, pp. 40-43.) In order to construct and maintain a 14 to 22-foot trail, many of the natural elements that are the defining characteristics of this existing recreational facility would be significantly impacted. (See MND, p. 39.) Yet the MND does not consider the loss of scenic enjoyment as a loss of recreational opportunity, though the Project would drastically change the character of the area.

Pedestrians currently use the existing trails and frequent the Project area largely because of its unpaved, natural, and riparian character. (Exhibit A, Testimony on Aesthetics, pp. 1-7; Exhibit B, Parkway User Survey, pp. 2-3.) Increased use of a paved trail for recreation and commuting by cyclists would displace at least of portion of these users and thus would cause a substantial physical deterioration of the existing recreational facilities for those users. The Parkway users’ concerns and the Project’s incompatibility with existing uses constitute substantial evidence supporting a fair argument the Project would have significant recreational impacts. For this reason, an EIR is required to fully evaluate how, and to what extent, existing uses would be impacted.

D. The Project May Have Significant Air Quality Impacts

The MND concludes that the Project would not result in any significant air quality impacts and no mitigation is required. (MND, p. 23.) The MND fails to account for impacts associated with maintenance of the Project in areas that frequently flood on the water side of the levee. (See, e.g., Exhibit A, Testimony on Aesthetics, p. 9 [showing flooding, which is frequent in winter].) In addition, though recognizing the expected increase in usage of the area (MND, p. 90) and shortage of parking at Glenn Hall Park (MND, p. 85; ARPP, p. 164), the MND fails to address increased vehicular air emissions and other impacts from Parkway users searching for parking. All of the air quality impacts of the Project, including emissions during operations, must be adequately disclosed before any action on the Project is taken.

E. The Project May have Significant Impacts on Biological Resources

The MND recognizes that the Project would have some impacts on protected species and their habitats in the Project area (MND, p. 31), and included corresponding mitigation measures to allegedly lessen those impacts to below significant levels (MND, pp. 44-52). The Valley Elderberry Longhorn Beetle (“VELB”) and protected trees in the Project area would be particularly impacted by the Project’s construction and operation.

(MND, pp. 38-41.) Contrary to the MND's conclusions, impacts on biological resources may be significant, and alternatives and mitigation measures to avoid or reduce those impacts were not properly considered.

1. MND's Description of Biological Resource Setting is Inadequate

The MND fails to disclose that early specimens used to describe this species were collected from the area (U.S. Fish and Wildlife Service 1984). When the VELB was listed as a threatened species under the federal endangered species act by the US Fish and Wildlife Service in 1980 VELB was known from only 10 locations, and this stretch of the American River was one of them (U.S. Fish and Wildlife Service 1984). Currently, portions of the American River Parkway are thought to support some of the most dense populations of VELB known to occur (Talley et al 2007.) The MND fails to describe the importance of the Two Rivers Phase II project area to VELB. Without this perspective, the MND fails to provide a meaningful evaluation of the significance of Project impacts and the adequacy of proposed mitigation.

2. Significant Impacts to VELB and VELB Habitat

VELB is a listed as a threatened species under the Federal Endangered Species Act. (MND, p. 35.) The Project area is abundant within the Project area, and evidence indicates a VELB presence as well. (MND, p. 38.) The Project would impact a large number of elderberry shrubs in this important area for VELB. (MND, p. 38.) For Sections 1 and 2 of the proposed Project, the preferred Alternative 1 would have a more severe impact than Alternative 2, 22 permanent removals of bushes demonstrating VELB presence. (MND, p. 32.) The MND does not discuss why Alternative 1, despite having a more significant impact on VELB habitat, is the preferred alternative, or why Alternative 2 is infeasible. Nor does the MND properly consider other alternative siting to avoid or reduce VELB impacts.

In addition, it appears that the MND may underestimate the number of elderberry shrubs that could be impacted by the proposed Project. The U.S. Fish and Wildlife Service 2017 Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle ("FWS Framework") and the MND both state that impacts to elderberry shrubs, and therefore to VELB, may occur as a result of projects within 165 feet of elderberry shrubs. (Exhibit E, FWS Framework, pp. 9-10, 14; MND, p. 9.) The FWS Framework also states that, "Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least 6 meters (20 feet) from the drip-line depending on the type of activity." (Exhibit E, FWS Framework, p. 11.) Surveys for

elderberry shrubs in the Project area found a total of 501 elderberry shrubs within 165 feet of the Project footprint. (MND, p. 39.) However, the MND reports that only some (i.e. 43- 51 shrubs that would be permanently removed and 56 that would be trimmed) of the 501 elderberry shrubs that would be impacted by the project. (MND, p. 39.) The MND does not provide an explanation for why all 501 elderberry shrubs would not be impacted. The MND should have included an analysis about why elderberry shrubs that could be impacted (i.e. are located within 165 feet of the project or where paving will occur within 20 feet of a shrub) would not be affected by the Project.

The MND also likely underestimates the impacts to VELB for Segments 1 and 2 of the proposed Project. Because there is currently no funding for these segments and because a preferred alignment has not yet been selected, there would likely be a number of years before these segments can be constructed. Elderberry shrubs are likely to grow and increase in number during this time. Therefore, it is inappropriate to estimate VELB impacts for Segments 1 and 2 at this time.

The MND indicates that mitigation for impacts to VELB would be accomplished by purchasing credits from an unspecified mitigation bank. (MND, p. 43.) Yet the FWS Framework emphasizes the importance of keeping mitigation close to the site of impact. (Exhibit E, FWS Framework, p. 12.) The Framework also recommends making purchases at a 3:1 ratio for disturbed riparian habitat. (Exhibit E, FWS Framework, p. 14.) The MND, in comparison, specifically calls for off-site credit purchases, and only at a 1:1 ratio despite that riparian habitat would be permanently impacted. (MND, p. 46.)

In addition, it appears that the City proposes to transplant the 56 elderberry shrubs that would be trimmed. The MND states that the City will relocate elderberry shrubs as close as possible to their original location but only if, “1) the planting location is suitable for elderberry growth and reproduction; and 2) the City is able to protect the shrub and ensure that the shrub becomes reestablished.” (MND, p. 49.) In fact, many places in the roughly one mile extending east from the I-80 bridge where plantings and relocations could be critical in closing gaps in elderberry extent and VELB habitat connectivity. The MND does not provide any assessment of whether these criteria may be met by selecting sites in close proximity to the impacted habitat. VELB is patchily distributed within riparian habitat and thus mitigation must be implemented to prevent habitat fragmentation that adversely affects VELB breeding, foraging and dispersal. (Exhibit E, FWS Framework, p. 8-9.) Given the large number of shrubs the Project would impact, and the uncertainty about where shrubs would be transplanted and where mitigation would take place, it is not clear whether impacts to VELB would be mitigated to a less than significant level.

Mitigation Measure 3-6 proposes to compensate for the permanent removal of riparian vegetation by purchasing off-site credits at a mitigation bank or replanting riparian trees and shrubs at a 1:1 ratio. Although this may be consistent with the City's General Plan policies, this ratio of compensation is below recommendations for mitigating for impacts to riparian habitat. (See Exhibit E, FWS Framework, p. 14.) The MND should include mitigation measures consistent with VELB-specific recommendations by other government agencies.

3. Significant Impacts to Protected Trees

Construction of the proposed trail would result in the removal of numerous trees. (MND, p. 35.) The Project would also adversely affect trees by requiring tree trimming for equipment access and conducting ground-disturbing activities within the dripline of protected trees. (*Ibid.*) The MND admits that the impacts to protected trees would be significant. (MND, p. 38.) However, the existing mitigation measures are inadequate and have significant blind spots that limit their effectiveness. Given the potentially significant impacts, the City Arborist should be involved throughout the construction process, or a consulting arborist should be on the Project team.

The number of trees removed and trimmed within Segments 1-2 is not disclosed in the MND. These Segments would be constructed in the future; therefore, the current size of trees and portions of trees overhanging the project footprint may differ from current conditions. This problem also relates back to the connectivity issue for bike trails: if Segments 1-2 have no construction plan, then this really is a "trail to nowhere" and does not provide connectivity.

The trees within Segments 1-2 are within riparian habitat and co-occur with elderberry shrubs. Segments 3-6 of the proposed Project would permanently affect (remove) 22 trees and temporarily affect (trim) approximately 72 additional trees located within the project footprint. (MND, p. 38.) Each tree proposed for removal should be inventoried by a consulting arborist.

All trees identified for removal are located within the valley foothill riparian vegetation community. (MND, p. 38.) The MND states that of the trees to be removed, four trees are protected under the City's Heritage Tree Ordinance, citing City of

Sacramento Municipal Code 12.64.020. (MND, p. 38.) In fact, this Ordinance has been repealed and replaced so this entire analysis in the MND is based on superseded law.⁷

Current Sacramento City Code section 12.56.040 requires modification “of public projects to avoid the removal or damage to city trees.” The MND makes no attempt to explain how the Project complies with this code section, as it relies on the prior version of the City Tree Ordinance. The Project design and alignment does not reflect any consideration for avoiding the removal or damage to City trees.

The City’s heritage tree ordinance protects trees of any species with a circumference of 100 inches or more; California native oak, buckeye, and sycamore trees with a circumference of 36 inches or greater; and/or trees of any species with a circumference of 36 inches or greater in a riparian zone. (See Exhibit F, Tree Permits & Ordinances Webpage.)⁸ The Project area includes trees that are covered by the new ordinance, including two black locust trees (with DBHs of 50 inches and 45 inches), one cork oak (DBH of 40 inches), and one Fremont cottonwood (DBH of 50 inches). (MND, p. 38.) The MND fails to analyze protected tree removal under the ordinance that applies to the Project and must be corrected.

During operations and maintenance, dead, dying, and hazard trees may be trimmed or removed. (MND, p. 38.) Dead and dying trees provide critical habitat for birds and other wildlife. Removal of such habitat could pose a potentially significant impact to protected species habitats. Thus, any proposed removal should be done under the stewardship of a wildlife/bird naturalist.

The MND claims that Heritage trees and other trees identified for removal within the Project footprint are owned by the City of Sacramento. (MND, p. 38.) This assertion is not necessarily true. The ownership map developed by the Lower American River Conservancy shows this land as being County owned. (See Exhibit G, Boundary and

⁷ Sacramento City Code 12.56 was amended and adopted by Sacramento City Council on August 4, 2016. The new tree ordinance amends section 2.62.030 & 8.04.100, and deletes chapter 12.60 & 12.64 of the Sacramento City Code, related to trees.

⁸ Available at <https://www.cityofsacramento.org/Public-Works/Maintenance-Services/Trees/Permits-Ordinances>. While the Project trees are not City trees, per se, the intent to require modification in order to avoid removal or damage to trees in City projects is implied.

Ownership Map, p. 1.)⁹ This is why an agreement between the City and County is required to build and operate the trail. (See MND, p. 18.) Conflicts over tree removal and County property can only be resolved if the City prepares a full EIR.

4. Mitigation for Potentially Significant Biological Impacts is Inadequate

The following mitigation measures in the MND are inadequate, as described below.

Mitigation Measure 3-1: Conduct Worker Environmental Awareness Training Program Regarding Special-status Species and Sensitive Habitats prior to Construction.

Comment: This mitigation measure should include education on tree survival needs.

Mitigation Measure 3-2: Install Temporary Fencing Around Environmentally Sensitive Habitat Before any ground-disturbing activity occurs within the project footprint, the City shall ensure that temporary construction barrier fencing, silt fencing, and/or flagging is installed between the work area and environmentally sensitive habitat areas (i.e., waters of the U.S. and State, riparian vegetation, special-status species habitat, active bird/raptor nests to be avoided), as appropriate. Construction/maintenance personnel and construction/maintenance activity shall avoid fenced environmentally sensitive areas. The exact location of the fencing and/or flagging shall be determined by the resident engineer coordinating with a qualified biologist, with the goal of protecting sensitive biological habitat and water quality. No ground disturbance or vegetation removal activity shall be allowed until this condition is satisfied. The fencing/flagging shall be checked regularly and maintained until all work is complete. For construction, any required barrier or sediment fencing and a note reflecting this condition shall be shown on the final construction documents.

Comment: In order to preserve trees during and after construction, fencing location needs to be determined with consultation of a trained arborist. That is not included in this mitigation measure.

Mitigation Measure 3-4: Return Temporarily Disturbed Areas to Pre-Project Conditions
All temporarily disturbed areas shall be returned to pre-project conditions within one year following completion of construction/maintenance. These areas shall be properly

⁹ Available at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=154999>.

protected from washout and erosion using appropriate erosion control devices including coir netting, hydroseeding, and revegetation.

Comment: In order to preserve trees during and after construction, any activity within the trees' driplines needs to be determined with consultation of a trained arborist. That is not included in this mitigation measure.

Mitigation Measure 3-6: Compensate for Permanent Impacts to Riparian Habitat and Protected Trees In accordance with policies stated in the City's General Plan, to compensate for the permanent removal of riparian vegetation associated with the trail construction, the City shall purchase off-site credits at a mitigation bank or replant riparian trees and shrubs at a 1:1 ratio (e.g., 1 acre planted for every 1 acre removed) ... If an onsite or offsite City-responsible mitigation site is used, the City shall accomplish riparian habitat compensation by implementing the following: after completion of the trail design, the City shall total the number, type, and size of all trees and shrubs to be removed and prepare a planting plan that identifies the location of the riparian mitigation plantings and the number, type, and size of plants ... The City will be responsible for planting, replanting, watering, weeding, invasive exotic eradication, and any other practice needed to ensure this goal ... To ensure success of the mitigation plantings, the City shall prepare and implement an adaptive management plan that identifies specific monitoring tasks, success criteria, and reporting requirements. If mitigation bank credits are purchased, the credits must be purchased at a CDFW-approved site.

Comment: As discussed above, the 1:1 mitigation ration is not adequate to protect VELB in the Project area. Additionally, a 1:1 mitigation ratio does not account for any replacement or replanting failures. Potential off-site mitigation sites are not described in the MND. In order to protect the Parkway, mitigation should occur within the Parkway, not in other regions. Lastly, it is not evident from the MND whether the costs of this mitigation measure – which have been estimated to be over \$1 million – is covered by the Project budget.

Mitigation Measure 3-7: Monitor During Ground Disturbance and Vegetation Removal A qualified biological monitor shall be present during all project activities requiring ground disturbance or vegetation removal within the construction area and shall make weekly monitoring visits to construction/active maintenance areas occurring in or adjacent to environmentally sensitive habitat areas, (i.e., waters of the U.S. and State, riparian vegetation, special-status species habitat, active bird/raptor nests) ...

Comment: As with other mitigation measures, the inclusion of the City arborist or a contracted arborist is critical for any measure that could result in harm to protected trees.

F. The Project would Result in Potentially Significant Cultural Resources Impacts

The MND recognizes that built environmental resources and archeological resources exist in the Project area. (MND, pp. 56-57.) According to the MND:

Levee Unit 118 Part 1 (American River South Levee) is considered significant under National Register of Historic Places Criterion A within the context of flood management and for its association with the SRFCP... Levee Unit 118 Part 1 is also considered to be a historical resource for the purposes of CEQA.

(*Ibid.*) Segment 4 of the trail Project, which is approximately 0.25 miles long, “would be constructed on the water side slope on an artificial bench offset from the top of the levee” and “include a small retaining wall along the inner edge of the trail.” (MND, pp. 9-10.) The MND’s conclusion that the proposed Project “would not alter the character-defining features of the levee” (MND, p. 56) is incorrect at least as to Segment 4, which would alter the character of Levee Unit 118 Part 1. The MND fails to address this potentially significant effect. Moreover, the failure to adequately depict the Project within its cultural setting in readily understandable figures within the MND renders the MND deficient as an informational document.

G. The MND Ignores Past Geotechnical Issues in the Project Area its Geology and Soils Analysis

The MND does not provide any analysis regarding potential erosion at the Project site, and instead makes a blanket assertion that City Standard Construction Specifications will be sufficient to avoid significant impacts. (MND, p. 67.) This lack of analysis ignores potentially significant impacts that can occur despite following relevant codes and standards.

Recent experience provides showcases this shortsighted approach. Phase I of the Two Rivers Trail project encountered geotechnical issues, which led to change orders costing over three hundred thousand dollars. According to a January 9, 2007 City of Sacramento staff report to City Council regarding Phase I construction costs:

The Geotechnical Engineers report found that the existing soil used to construct the original levee did not meet the current Department of Water Resources or American River Flood Control District's new specifications for levee fill material.

(Exhibit H, Two Rivers Trail Phase I Staff Report, January 9, 2007, p. 2.)

The MND states that:

Because the design, construction, and maintenance of levee improvements must comply with the regulatory standards of USACE and CVFPB, it is assumed that the design and construction of all levee modifications to accommodate placement of the trail would meet or exceed applicable design standards for static and dynamic stability, seismic ground shaking, liquefaction, subsidence, and seepage.

(MND, p. 67.) Given the City's experience with Phase I, geotechnical evaluations should be completed as part of the overall environmental analysis in order to evaluate the cost and feasibility of meeting these standards and to adequately evaluate impacts. Mitigation Measure 6-1 impermissibly defers mitigation by delaying the preparation of a final geotechnical investigation of the Project, until after Project approval.

H. The Project would Result in Potentially Significant Hazards Impacts

1. The MND's Hazards Environmental Setting Omits Crucial Details Necessary to Understand the Project's Potential Impacts

The environmental setting under the MND hazards section is lacking in critical information. (MND, p. 69.) While the MND notes that the Project area for trail segments 1 and 2 were historically used for waste disposal, no further detail is given. (*Ibid.*) Instead, the MND refers readers to the Phase I Environmental Site Assessment for "additional details." (*Ibid.*) A description of this potential impact must be included in the MND. The hazards section environmental setting also does not provide any relevant information regarding the alternative routes in Segments 1 and 2. The biological resource section differentiated between elderberry bush impacts based on trail alignment (see MND, p. 39); if such differences exist between the two trail alignments with respect to potential hazard impacts, that should be disclosed in the MND. Given that Mitigation Measure 7-1 only applies if the preferred alternative is selected, it appears that there are

some differences based on potential trail alignment. (See MND, p. 71.) More information is therefore needed regarding hazards in the segments 1 and 2 Project area.

I. Hydrology and Water Quality Impacts are Potentially Significant

1. *The MND Fails to Provide an Accurate Description of Baseline Hydrological Conditions*

According to local residents familiar with the Project area, the path at the toe of the levee can become submerged when the river is high, sometimes for multiple weeks in recent years. (See, e.g., Exhibit A, Testimony on Aesthetics, p. 10.) The MND does not disclose or analyze this possibility, despite the fact the Project trail would be paved right through flood-prone segments of the south bank. This flood-risk also comes with several potential impacts, including increased trail maintenance to clear mud and debris, increased repairs, which increases air pollution. The MND does not contemplate such a possibility, let alone analyze the resulting impacts.

2. *The Trail Alignment Would Pose a Potentially Significant Flood Risk*

The MND hydrology and water quality section takes a truncated view of the Project's potential impacts, omitting discussion of entire potentially significant impacts. The MND only acknowledges potential runoff of contaminants during construction activities, caused by erosion and storm water runoff. (MND, p. 74.) However, the MND ignores how the Project's trail alignment would expose the Project, nearby residents, and visitors to potentially significant flood risk.

The Project trail alignment was developed both after the Parkway Plan and the Two Rivers Trail Concept Plan ("Concept Plan"). (See MND, p. 5.) As the MND acknowledges, the mid-levee "bench" alignment would pose a risk to levee performance. (MND, p. 5.) Despite this concern, the Project opts for a mid-levee alignment for Segment 4 of the trail. (MND, pp. 9-10.) The MND does not reconcile the potential to impact levee integrity or maintenance with the decision to use the mid-levee alignment. The MND itself contains evidence of a fair argument of a potentially significant flood impact.

Moreover, the Lower American River Task Force ("Task Force") has identified four segments of the American River's south bank, all in the Project area, as "immediate threat[s] of failure[.]" (See Exhibit I, Lower American River Task Force, Bank

Protection Working Group, March 13, 2018 Update [“Task Force Presentation”], pp. 9, 11.) The MND fails to analysis these existing conditions and the Project’s effect on them. Some grading activity will occur in segments 5 and 6, which directly overlap the segments the Task Force identified. (See MND, p. 10.)

3. *The MND Fails to Consider the Potential Water Quality Impact of Increased Fecal Coliform*

The Project would increase visitors to the American River Parkway (see, e.g., MND, p. 90), but does not include additional restroom facilities, nor additional trash receptacles. This increase in visitors can be expected to result in an increase in human and dog feces in the area along the trail. Yet, the MND considers only those impacts related to construction and fails to consider any impacts related to increased contamination from feces from humans or dogs. (See MND, p. 74.)

As the new trail would be on the river-side of the levee, any rain event would mobilize fecal contamination into the river. Dog waste is a significant cause of storm water pollution, and particularly, elevated levels of fecal coliform bacteria. (See Exhibit J, *Microbes and Urban Watersheds: Concentrations, Sources, & Pathways*, pp. 69-70.) While the Water Quality Control Plan for the Sacramento River and San Joaquin River basins limits fecal coliform levels to not exceeding 200 colonies per 100 mL for the geometric mean of five samples taken over a 30 day period, storm water runoff in urban areas can have levels of 15,000 or even 22,000 colonies per 100 mL. (*Id.* at 70.) Just one gram of dog feces is estimated to contain 23 million fecal coliform bacteria. (*Id.* at 74.) During storms or floods, contaminated water would drain directly into the American River without any treatment.

The Project does not include additional drainage facilities to address water quality impacts from, increased fecal coliform. Similar to the case of *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1197 (city required to analyze potential environmental impacts from increased visitors with dogs), this Project would also result in significant water quality effects.

There is substantial evidence supporting a fair argument that the Project would cause significant water quality impacts by contaminating the American River, and therefore an EIR is required. Further, additional mitigation, such as proper signage and additional design modifications could alleviate this potential impact.

J. Project Noise Impacts are Potentially Significant

The MND fails to acknowledge how the Project would potentially increase noise levels claiming there would be no noise impacts. (MND, p. 103.) The MND overlooks several potential sources of noise that would result from the Project including: new trail users playing music with portable speakers; the potential for 24-hour use of the trail leading to unacceptable levels of nighttime noise; and that more pedestrians may use the top of the levee to avoid conflicts with bicyclists on the paved trail, creating new sources of noise closer to residents. However, because the MND fails to consider these potential impacts, it is impossible for the public to understand the extent of the Project's potential noise impacts.

K. Project Impacts on Public Services are Potentially Significant

1. *The MND Fails to Accurately Describe Baseline Illegal Camping Activity in the Vicinity of the Project Area*

The MND makes no mention of illegal camping activity that occurs in the vicinity of the Project area. The area immediately adjacent to the Project area has a perineal homeless population, particularly near Sutter's Landing Regional Park and along the American River south bank. (See Exhibit K, Homelessness in Sacramento County: Results from the 2017 Point-in-Time Count, p. 48 ("Point-in-Time Count").) The 2017 Point-in-Time Results likely underestimate the number of unsheltered people living along the American River Parkway, because much of the area was flooded at the time the count was done. (Exhibit K, Point-in-Time Count, pp. 25-26.) In the absence of the flooding, the number of people along the bikeway would likely have been substantially higher.

These locations along the American River Parkway are all accessed by the paved bike trail that connects directly to the services and concentrations of unsheltered people in the north downtown area. The bike trail provides an off-street, paved surface, that allows for the transport of shopping carts and other carts, and bikes heavy with baggage. Crucially, these locations along the parkway are all within 2.5 miles—by paved, off-street bike trail—of the north downtown concentration center, and all provide access to the privacy of densely wooded areas. The Two Rivers Trail is intended to eventually connect the densely wooded riparian areas of the Project area to the north downtown area with 2.5 miles of paved, off-street bike trail.

The MND however, fails to consider the potential increases in illegal camping in the Project area, or the resulting impacts that may result from such an increase. This

includes potential fire risks, water quality degradation from storm runoff, and increased public services demands in the area. A full accounting of the unsheltered population in the Project area is necessary to fully evaluate the Project's environmental impacts.

2. *The MND Fails to Consider Increases in Required Public Services Due to Increased Visitors and Exposure of Illegal Camping*

According to the MND, “[t]here is no evidence to indicate that a paved path would lead to increased crime, fires, or noise relative to the current condition.” (MND, p. 82.) This assertion is made without supporting analysis.

With increased visitors to the Project area, and potential increases in illegal camping activity, the Project would potentially require dramatically more public service resources than current conditions. With increased visitors, cyclists, and potentially unsheltered population, the Project would increase the need for fire services, police services, trash pickup and other maintenance services.

As to fire services, the MND fails to recognize the following:

- 1) that fires within the American River Parkway corridor occur primarily where there is a paved trail and, therefore, that development of a paved trail will increase the incidence of fires within the project area through the ignition by cigarette butts and camp fires;
- 2) that the trail is closely bordered by dense grasses and shrubs that are very dry through much of the year and could easily carry fire;
- 3) that the trail is closely bordered and overhung by trees, many greater than 60 feet tall, that could carry fire above the top of the levee and drop flaming brands over the levee;
- 4) that, unlike other areas along the parkway within the City of Sacramento where fires have occurred—such as directly across the river from the project area, where the bike trail is paved—this section of the Parkway is directly adjacent to residences; and
- 5) that an increase in fire incidence along the parkway would mean an increase in fire risk to the adjacent neighborhood, as an ignition in the grass

could move to the tree canopy on the river-side, which would send flaming debris over the top of the levee onto yards and houses.

These factors all support a fair argument that the Project would require increased levels of fire services.

Moreover, the MND fails to recognize that the fire department is limited in its ability to access the areas where fires are most likely to occur as a result of this Project, the area at the toe of the levee and in the wooded riparian area along the river. The fire department would presumably need to drive to one of the access points at Glenn Hall Park or Sutter's Landing Park, and would need to open the access gate, all of which would require time. The fire department would be largely limited to the road at the levee crown, and not to the toe road or the area beyond the toe road, which is steep and wooded in many areas and, at Paradise Beach, is too sandy for fire trucks to drive on. This area is particularly problematic for fire department access. In November of this year, firefighters were limited in their ability to fight a fire near Paradise beach because of access limitations. Yet the MND does not include any recognition of this potentially significant impact or any mitigation measures to increase fire service access to the Project area.

Logically, fire ignitions from cigarettes and vandalism are most likely to occur along paved trails where there is greatest visitation and usage. Ignitions from illegal fires are most likely to occur near a paved trail, where the vegetation provides a privacy screen from the trail. Therefore, fires in this location and along the trail can be expected to increase due to increased access and usage due to the Project.

The increased risk of fire from the Project is particularly relevant due to the Project's proximity to residential areas. River Park is a residential neighborhood that borders the project area for approximately two miles from the Capital City Freeway bridge to the H Street. This is one of only two places in the City of Sacramento where the Parkway is directly adjacent to a residential area. In other portions of the Parkway within the City, there is a large thoroughfare as well as a canal, or a golf course, or a large commercial property, standing between the river parkway and any residential buildings. In many places, houses in River Park are only 80 feet from the branches of trees in the wooded area along the river. Trees in backyards can be even closer. This is especially true of the houses along Segments 4 and 5A. The MND fails to acknowledge the uniqueness of River Park's situation, and the potential consequences for the neighborhood should the Project lead to increased fire ignitions.

Similarly, the MND fails to recognize the potential need for increased police services in the area. The MND states that “[t]here is no evidence to indicate that a paved path would lead to increased crime, fires, or noise relative to the current condition.” (MND, p. 82.) However, the MND does not support this assertion with any analysis, despite the logical conclusion of increased visitors leading to increase crime, fires, and noise relevant to current conditions.

The MND fails to acknowledge that a substantial increase in use and traffic would result in a commensurate increase in incidents requiring emergency services or police attention for incidents including bicycle collisions and accidents, graffiti and vandalism, medical emergencies, and altercations. Also, once the bike trail is paved, it would be considered a transportation corridor and 24-hour access would be allowed. At the River Park neighborhood association spring meeting, the City discussed the possibility of funding additional rangers for the Project area. This tacit admission that the Project area will require more police services is inconsistent with the MND’s conclusions.

The same arguments apply equally to emergency services. The current path along the levee toe is heavily used by families walking, often with small children and dogs. (See Exhibit A, Testimony on Aesthetics, pp. 1-7; see also Exhibit C, Baseline Parkway Use.) The Project would increase the number of bikers on the trail, at the same time allowing those bicycles to travel at much higher speeds. This would inevitably result in an increase in conflicts and collisions between pedestrians and the bike through-traffic within the narrow space at the toe of the levee. The resulting collisions and conflicts would increase the need for emergency and police services.

Last, the MND fails to acknowledge that an increased use and traffic due to the project would result in a commensurate increase in the amount of trash generated at Glenn Hall Park. As more people use Glenn Hall Park as an access point for the Parkway, the dumpster at the base of the levee on the river side by Glenn Hall Park would be used more frequently. The trash receptacles in these areas already overflow routinely throughout the summer and on busy weekends. The Project would also result in a substantial increase in litter and trash along the trail from the H Street Bridge to Sutter’s Landing as a result of the increase in traffic and use. This would require more public services to empty the existing and additional trash receptacles and to remove trash littered along the trail. Yet the MND fails to recognize the need for additional services to empty trash receptacles and remove litter along the trail.

Also, the increase in use and traffic at Glenn Hall Park due to the Project would result in a commensurate increase in the use of the toilet facilities at Glenn Hall Park,

which will require more cleaning and repairs. Currently, these toilet facilities routinely experience clogs, run low on toilet paper, and can become very dirty. The MND fails to recognize the need for additional services to clean and repair the toilet facilities.

As discussed above, the path at the toe of the levee can become submerged when the river is high, and has been submerged for multiple weeks in recent years. The Project trails would be submerged when the river level reaches the toe of the levee. This would cover portions of the pavement in mud, requiring clean up. The submersion would also potentially wash away portions of the pavement, which in turn would require repairs. The MND fails to recognize the need for additional services to clean and repair the trail following submersion events.

L. The Project May Have Potentially Significant Impacts on Transportation/Traffic

According to the MND, there would be no significant impacts to transportation and traffic from the Project. (MND, p. 87.) Therefore, no mitigation is proposed. The MND is inadequate.

1. Setting Information Regarding Transportation/Traffic is Incomplete

The MND fails to include information regarding existing bicycle and pedestrian uses of the trails in the Project area. As demonstrated in both Parkway user surveys, Exhibits B and C, as well as the testimony in Exhibit A, bicycles and pedestrians use the Project area as a transportation route. The existing trail configuration allows and invites pedestrians to experience a quiet, peaceful, natural and riparian environment. Pedestrians currently have adequate access, lines of travel and paths in other locations within and outside of the Parkway. The MND only describes existing formal transportation paths, City streets and paved sidewalks, ignoring the current transportation uses of the Project area. (MND, pp. 87-88.) The MND also fails to acknowledge that Carlson Drive, while an access point, does not currently include a bike lane. (See Exhibit D, Sacramento Bike Plan Excerpts.) Whether the Project, a trail primarily for bicycle use, has access points that accommodate bicycles, is necessary information to evaluate traffic and transportation impacts.

2. Significant Transportation/Traffic Impacts

The MND incorrectly concludes the Project would not have potentially significant impact to pedestrian travel and use of the Project. (MND, p. 90.) As with recreational impacts, the MND fails to consider how the Project's planned uses, increased bicycle commuting, is incompatible with existing pedestrian use. Without any reasoning or analysis, the MND asserts that the Project design, primarily the gravel shoulders, would "minimize the conflict between bicycles and pedestrians." (MND, p. 90.)

The access, lines of travel and paths are not traditional in terms of paved sidewalks and asphalt, nor do they meet the requirements of a Class I bike path. However, the Project area is a haven for pedestrians seeking a more natural walking experience. (See Survey, Exhibits B and C; see also Exhibit A, Testimony on Aesthetics, pp. 1-7.) Given the Project objective to provide alternative transportation access for commuters and residents in the eastern part of the City, CSUS, Central City, North Sacramento, East Sacramento, and Richards Boulevard area, the MND inadequately analyzes the potential conflicts between the introduction of numerous commuters on bikes to the existing pedestrian environment. (See especially Exhibit C, crossing estimates.)

The City and County of Sacramento have had to historically address conflicts between pedestrians and cyclists on other segments of bikeways and parkways. The MND, in not reviewing historic information, and successful or failed attempts to manage the conflicts between these two users, is incomplete. The evidence of existing uses and potential conflicts with new users supports a fair argument that the Project would have a potentially significant impact on pedestrian travel in the Project area.

The MND also fails to recognize a potentially significant impact to bicycle travel. As discussed above, Carlson Drive, one of five Project access points, does not currently have a bike lane. (Exhibit D, Sacramento Bike Plan Excerpt.) The Project would presumably increase bike traffic on Carlson Drive, as commuters would use it as an access point to the new paved trail. However the MND does not analyze the impacts of increased bicycle traffic on Carlson Drive, nor does it include mitigation such as constructing a bike lane. (MND, p. 90.) Increased bike traffic, without a bike lane, could potentially impede use of Carlson as an access point and cause public safety issues.

M. The MND Fails to Address the Project's Cumulative Impacts

CEQA requires analysis of "[t]he cumulative impact from several projects" which "can result from individually minor but collectively significant projects taking place over

a period of time.” (CEQA Guidelines, §§ 15355, 15130.) “Proper cumulative impact analysis is vital ‘because the full environmental impact of a proposed project cannot be gauged in a vacuum. One of the most important environmental lessons that has been learned is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact.’ [Citations.]” (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214.)

Despite this mandate, the MND includes no discussion of the interaction between the proposed Project and other past, present, and probable future projects *producing related or cumulative impacts*. It does not appear that the City considered potentially cumulative impacts for any individual resource impacted by the Project. An agency must “determine[] whether the incremental impacts of the project are cumulatively considerable by evaluating them against the backdrop of the environmental effects of other projects. The question is . . . whether the effects of the individual project are considerable.” (*San Joaquin Raptor I, supra*, 42 Cal.App.4th at 624 [internal quotations and emphasis omitted].) While the City did not need to “conduct some sort of grand statistical analysis of the combined purported environmental impacts, if any, of all other” projects in the surrounding area, it should have included some analysis into whether this Project’s incremental effects could be considerable in light of other projects. (*Id.* at 624-625.) Instead the MND only included two paragraphs that are meant to address every impacted resource. (MND, p. 102.) Analysis tailored to specific resources is required by CEQA. (*Ibid.*)

IV. Conclusion

The MND fails to meet the most basic standards for adequacy under CEQA, and an EIR must be prepared for this Project. In addition, alternatives and mitigation measures are available that would avoid and/or lessen the potentially significant impacts of the Project have not been, but must be, considered. As a result, Save Don’t Pave respectfully requests that the City fully comply with CEQA by preparing an EIR before taking any action on this Project.

Tom Buford, Principal Planner
Community Development Department
City of Sacramento
November 30, 2018
Page 32 of 33

Thank you for the opportunity to provide comments on the MND and the Project. Please feel free to contact this office regarding any questions about these comments and potential means to address the concerns stated herein.

Very truly yours,

SOLURI MESERVE
A Law Corporation

By: 
Osha R. Meserve

ORM/mre

cc (via email): Save Don't Pave

Attachments:

- Exhibit A Parkway User Testimony and Photographs Regarding Aesthetic Impacts
- Exhibit B Survey of American River Parkway Trail Users (June-Oct. 2018)
- Exhibit C Baseline Recreational Use Data (May-August 2018)
- Exhibit D Sacramento Bicycle Master Plan Excerpts
- Exhibit E United States Fish & Wildlife Service, Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (May 2017)
- Exhibit F City of Sacramento, Permits & Ordinances, When is a Tree Permit Needed?
- Exhibit G American River Parkway, County Parcels and Inholdings, Boundary and Ownership Map (November 13, 2017)
- Exhibit H Two Rivers Trail Phase I Staff Report to City Council (January 9, 2007)
- Exhibit I Lower American River Task Force, Bank Protection Working Group, Update Presentation (March 13, 2018)
- Exhibit J Microbes and Urban Watersheds: Concentrations, Sources, & Pathways (March 22, 2016)
- Exhibit K Homelessness in Sacramento County: Results from the 2017 Point-in-Time Count (Excerpt)

Tom Buford, Principal Planner
Community Development Department
City of Sacramento
November 30, 2018
Page 33 of 33

Exhibit L Two Rivers Trail Phase II: Inconsistencies with the American River
Parkway Plan

Biological References:

California Natural Diversity Database (CNDDB) 2018. Natural Heritage Division,
California Department of Fish and Wildlife, Sacramento, CA.

Talley, T.S., E. Fleishman, M. Holyoak, D. Murphy, and A. Ballard. 2007. Rethinking a
rare-species conservation strategy in an urbanizing landscape: The case of the valley
elderberry longhorn beetle. *Biological Conservation* 135:21-32

U.S. Fish and Wildlife Service. 1894. Valley Elderberry Longhorn Beetle Recovery
Plan. U.S. Fish and Wildlife Service, Endangered Species Division, Portland, Oregon. 62
pp.

U.S. Fish and Wildlife Service. 2017. Framework for Assessing Impacts to the Valley
Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and
Wildlife Service, Sacramento, California. 28 pp. May 2017.

EXHIBIT A

Aesthetic Impacts of Two Rivers Trail, Phase 2

Brian Nowicki Comments

These comments are offered with specific respect to the aesthetic impacts of the Two Rivers Trail and do not encompass all of my concerns regarding the impacts to biological resources and wildlife habitat, nor regarding the costs of the project and the process by which it was developed.

I use the path at the foot of the levee several times a week. It is an ideal place to enjoy and explore nature in a safe and quiet environment. It is a dirt and gravel path, narrow and winding in some places, overhung with branches, shady and quiet. With dense woods close on one side, and with the levee blocking the view to the adjacent neighborhood on the other side, it is a place where people can get away from the noise and rush of the surrounding city, to experience the sights and sounds of nature, and to let dogs walk and children explore and play. It is a wonderful place to experience the habitat of the rare and threatened species in Sacramento's backyard, the valley elderberry longhorn beetle.

At least twice a week, I run the entire length of the path, from the H Street bridge to its western end near the I-80 bridge. I use the path at the foot of the levee because it lets me run on a soft, level surface in a quiet, natural setting, close to trees. Every weekend, my family and I walk along the path at the foot of the levee, stopping often to look closely at the flowers and trees that reach into the path. We look for valley elderberry longhorn beetles among the elderberry plants, we watch pipevine swallowtail butterflies, and we birdwatch for quail and other birds that frequent the path. We catch falling leaves from the trees in the fall and jump in puddles in the path in the winter, and we stop and visit with fellow walkers and their four-legged companions.

This project as planned would drastically change the nature of this trail and degrade what my family and I treasure about this special area. Throughout much of the area at the west end of River Park the paved trail and shoulder would take up the entirety of the terrace at the foot of the levee, requiring the removal of all trees and other vegetation between the levee and the steep slope down to the river, cutting significant swaths of elderberry shrubs and leaving a much more urban and sterile environment, with less shade and wildlife. There are few places along the parkway that are so narrow and that will be so fundamentally changed as the section at the west end of River Park.

Instead of taking a leisurely walk along a quiet path thick with wildlife, pedestrians will largely be relegated to the gravel shoulder as bikes speed by on the paved trail, like everywhere else along the American River bikeway. And instead of following a butterfly as it crosses the path, or stopping to jump in a puddle or to look at tracks in the mud, children will have to keep to the shoulder to avoid bicycle traffic. This has been our experience everywhere else the trail is paved.

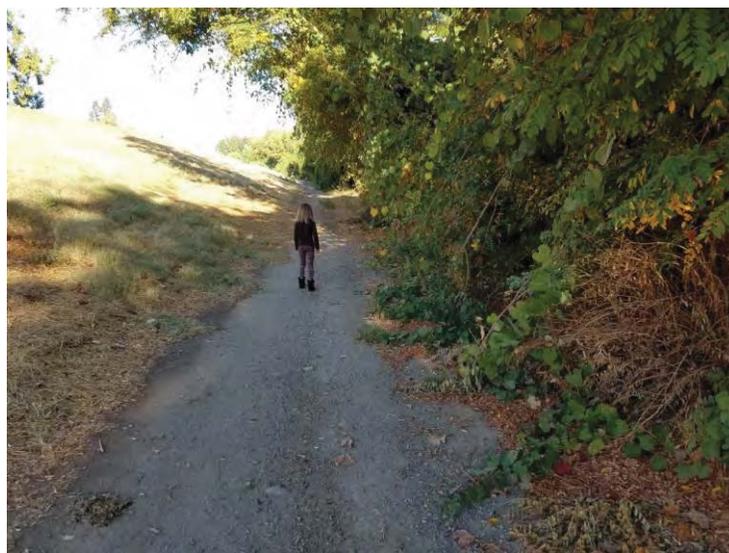
This is a special area that offers an opportunity to enjoy a quiet walk in nature, up close with some of Sacramento's endangered wildlife. This experience, habitat, and endangered species should not be so lightly given up when there is already a twenty-foot-wide road at the top of the levee, just thirty feet away, or without considering alternatives for avoiding these impacts.

The following two photos provide a comparison of the paved section of the trail at Sutter's Landing and the current path approximately half a mile east of the I-80 bridge.

Brian Nowicki

River Park, Sacramento, CA

November 29, 2018



Regarding aesthetics

To Mr. Buford:

I am writing to let the City Council know of the very special character of the levee toe trail in River Park. As a thirty-plus year resident of this neighborhood I have been blessed to have access to one of the most special environments in Sacramento.

Walking on the levee toe trail is an invigorating and enjoyable experience, no matter what the season.

In the winter, the quiet path is inviting. The sound of water fowl provides the sound track. The air is clear and bracing. The bare trees' branches trace patterns in the cloud-grey skies. Just walking over the levee takes me to another world – of natural beauty and harmony. The winter rains may fill the river bed so much that it nips close to the trail. I am invited to dawdle, to pause, to inspect a plant, to gaze at a crow in a tree, to watch a hawk soar overhead. I don't worry about where I am in relation to a speeding bicycle. I don't worry about anything, really. The experience is calming and I recommend you try it!

In spring, the grasses green up, the trees sprout leaves, and the birds and insects begin their symphony of many tunes. Wildflowers – poppies, etc. – spring up and cloak the levee. Once again, the path invites a slow and mindful experience.

In the summer, it's best to walk in the early morning or later in the afternoon. The shade trees provide respite right over the trail in many places. It would be terrible to lose any of them. This is when you will see wildlife: hares, coyotes, skunks, and ground squirrels. Of course, in the inlets of the river, crayfish, tadpoles, etc., teem. And the rattlesnake; one must watch for him or her.

In autumn, the trees go gold, as does the grass. The mammals may get bolder as they search for food. The air again grows crisp, the invitation remains open to walk slowly and experience the joy of a natural environment near enough to be accessible to any resident of this City.

The walking experience on this trail is like no other experience I've had in Sacramento. It is quiet, friendly, communal, and yet solitary. To pave it is to lose this experience forever. There will be no going back.

Thanks for reading this and please Save Don't Pave.

Kate Riley

5601 Monalee Avenue

Sacramento, CA

95819

Paving the lower trail will affect both the immediate viewshed and the natural experience that affords but also the more distant viewshed which would be more naked and hardened by the paved trail. Views from both the toe and top of the levee would be negatively affected by the project.

Large trees along the existing trail afford shade, soften the view, and create a richer visual experience which would be negatively affected by the project. Replacing large trees in the immediate area (are replacement tree plantings being proposed right along the trail?) Would be extremely challenging unless they are given consistent maintenance. The values (visual, scenic, habitat) that these large trees currently provide would not be attained by replacement trees for many years if not decades.

Other existing vegetation that grows densely along the trail softens and enhances the visual and natural experience and provides cover for wildlife. The existing vegetation would be difficult if not impossible to recreate. Its density helps to suppress weeds such as Star thistle which could get a foothold as a result of the extensive ground disturbance. Star thistle requires constant vigilance and is a visual and ecological blight that overwhelms native grasses and other vegetation.

Nancy Mackenzie

Nancy Mee comments on aesthetic impacts of Two Rivers Trail Phase II project:

Would the project:

a) Have a substantial adverse effect on a scenic vista? Yes, a black asphalt path is far less aesthetically pleasing to the eye than a natural path strewn with leaves and other natural non-garbage debris.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? Yes, my understanding is the path construction will eliminate approximately an additional 5-ft width, which will result in the removal of trees, grass, elderberry, naturalized grape vines. Also, the grass along the current unimproved path seems to a ladybug habitat. In early spring, I have seen swarms along the path. How will this be affected by the paving.

c) Substantially degrade the existing visual character or quality of the site and its surroundings? Yes. I have already seen graffiti on the newly paved area between Sutter's Landing and the RR/Bus 80 overcrossing. As a bike commuter on the lower American bike path and dog walker, I've seen the paved path bring transient and homeless usage, human waste, camping, and garbage. This is not prevalent along non-paved areas or outside of Sacramento City limits, where neighboring city councils are willing to take a firm anti-illegal camping position.

Concerns regarding significant impacts to aesthetics due to Two Rivers Trail Project

As I walk along this existing dirt trail, which I do nearly every day, I enjoy views of the river peeking through the surrounding elderberry bushes and the sights and sounds of songbirds feeding on the berries. Paving this trail would require me to walk instead on the gravel top of the levee, peering mostly into other resident's backyards, and watching out for yet more bicycles, since there is and will be nothing to stop bicyclists from using that "trail" as well as the paved bicycle superhighway below.

Paving this trail will substantially damage scenic resources, including not only the endangered elderberries scattered along the trail and the birds and other creatures that feed on them, but also disturbing the entire ecosystem. There are few sights more stunning in our almost exclusively urban environment than walking quietly around a corner of the existing dirt trail to see ahead a family of red foxes just disappearing through the underbrush at the side of the trail. These visual encounters with nature bring daily peace to all who have access to that resource, and will be lost with the widening and paving of that trail.

Cherie O'Boyle

My name is Tony Mader, a current resident of the River Park neighborhood in Sacramento that is immediately adjacent to the Two Rivers Trail project. For the last 10 years, I have used the area that is proposed to be paved to walk (with and without my dogs), run, or other activities associated with being close to nature, approximately 5 times per week on average.

The area proposed to be paved is the last wild (unpaved) portion of the South side of the American River within City limits. I visit it daily as a natural refuge away from the bustle of the City. If it is paved, it will absolutely, permanently degrade the existing visual character and quality of the surroundings. Whereas today I can peacefully walk or run on a gravel path experiencing nature, I know a paved path will degrade the quality of the site for those activities because (1) I have attempted to use the existing paved path on the east side of the neighborhood for those activities and find that it is not peaceful due to the pavement, bikers traveling at high speeds, and very dangerous to walk my dogs due potential collisions with bikers, and (2) the fact that the proposed paving includes destroying trees and bushes that are on the trail that are critical to the visual character and quality of the site as a location to feel like I am close to nature.

-Tony Mader
November 25, 2018





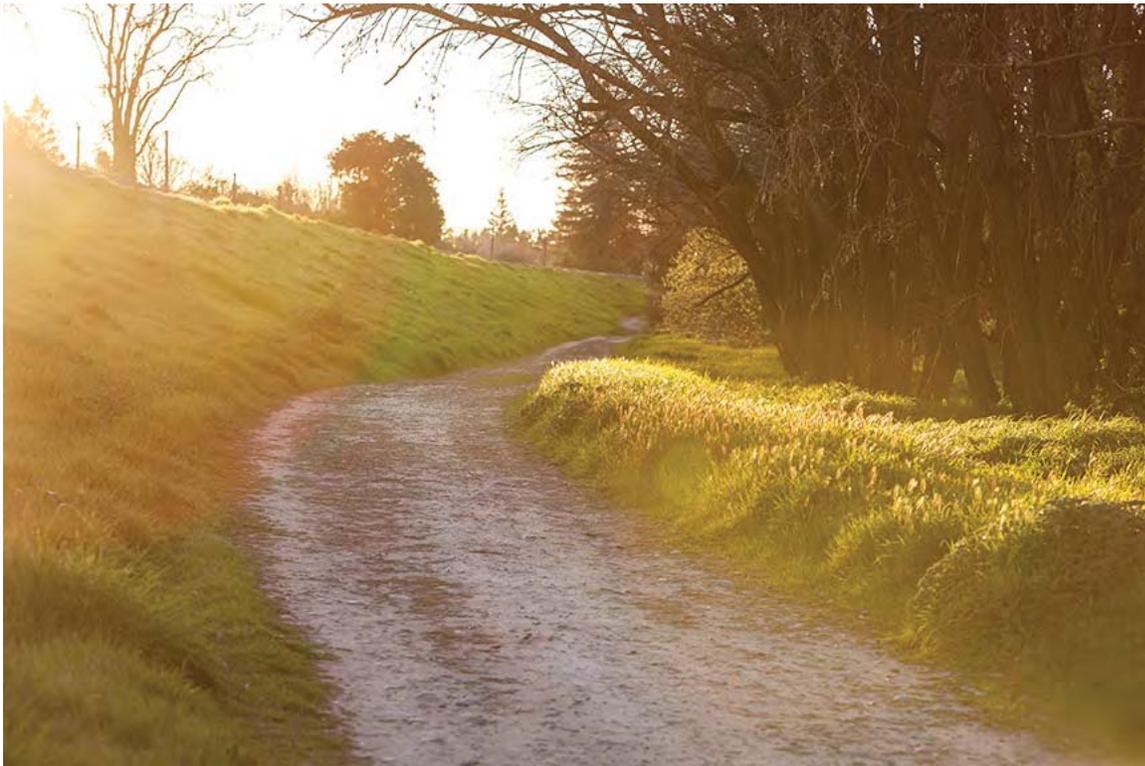
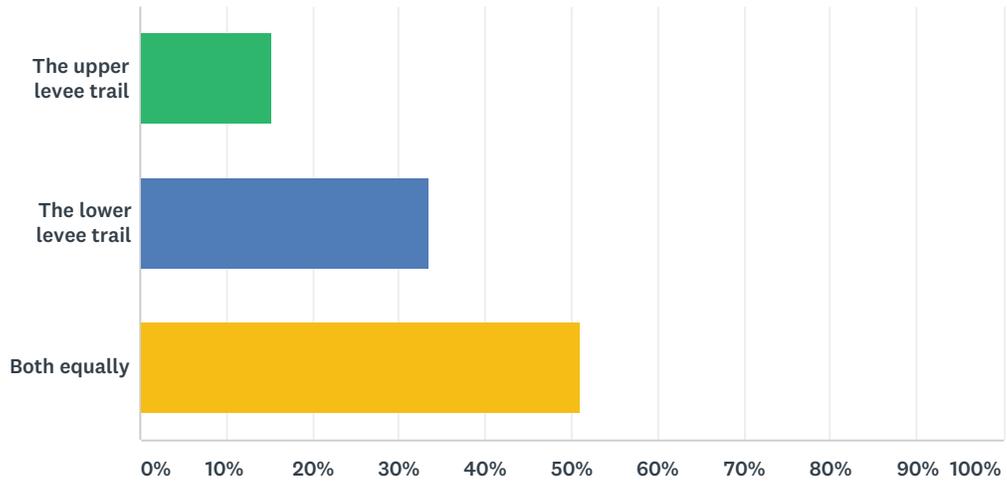


EXHIBIT B

Q1 I primarily use:

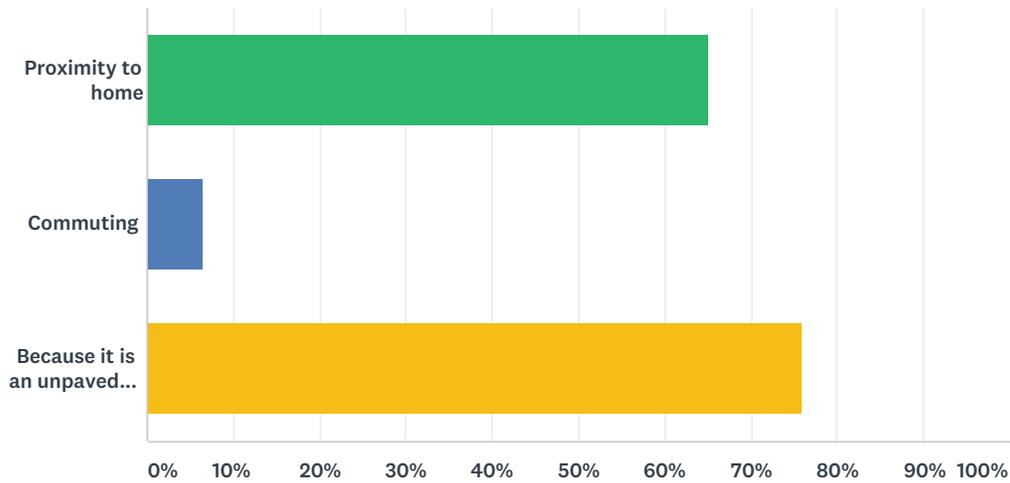
Answered: 137 Skipped: 0



ANSWER CHOICES	RESPONSES	
The upper levee trail	15.33%	21
The lower levee trail	33.58%	46
Both equally	51.09%	70
Total Respondents: 137		

Q2 Why do you choose to utilize this section of trail? Select all that apply.

Answered: 137 Skipped: 0



ANSWER CHOICES	RESPONSES
Proximity to home	64.96% 89
Commuting	6.57% 9
Because it is an unpaved section of the parkway	75.91% 104
Total Respondents: 137	

#	OTHER (PLEASE SPECIFY)	DATE
1	I like to be closer to the trees and the natural beauty while on the unpaved trail.	10/27/2018 9:31 AM
2	It is the only place close in the City to be in nature	10/25/2018 4:53 PM
3	MY children and I enjoy being in nature. The nature paveway is a great getaway and what made us move to River Park.	10/15/2018 10:10 AM
4	We use the lower section to walk our dog, to be out in nature, and to avoid cars and bicycles.	10/13/2018 10:21 AM
5	I want to avoid interrupting the privacy of the adjacent homeowners.	10/10/2018 10:20 AM
6	Less other travelers or users to compete with.	10/8/2018 1:47 PM
7	you see more birds and interesting animals and you can also walk close to the river and see the fish jump	10/5/2018 7:34 PM
8	Pleasure walks with dog	10/3/2018 4:10 PM
9	And it is the one section relatively free of homeless encampments so I feel safer here than other places	10/3/2018 12:05 AM
10	In respect of the homeowners' privacy we use the lower section	9/13/2018 9:32 AM
11	Walking my dogs as the dirt better than pavement for their paws	8/16/2018 6:43 PM
12	I walk my dog on a 6 ft leach and there is plenty of room as well as open space on either side.	8/16/2018 6:40 PM
13	Because I love that is still wild and not paved.	8/16/2018 3:23 PM
14	Walking	7/17/2018 9:33 PM
15	It's a nice place to walk without getting stink eye from bikers or the homeless.	7/3/2018 11:22 PM

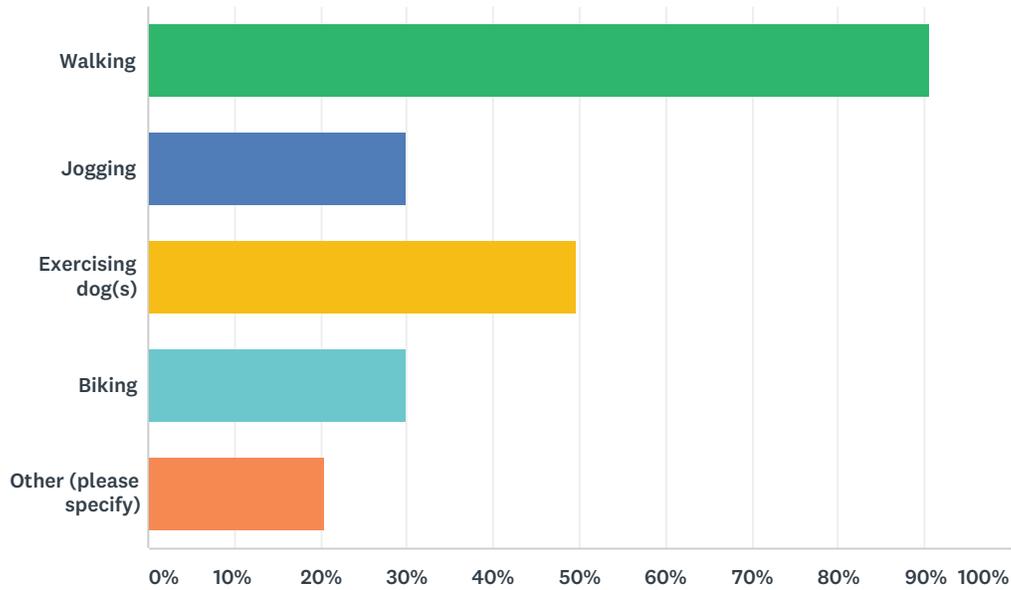
Survey of American River Parkway lower and upper levee trail users between Sutter's Landing and H Street Bridge in Sacramento, California

SurveyMonkey

16	And the surface is hard enough for medium and fat tire bikes	7/3/2018 7:41 PM
17	Prefer the lower section because it is shadier	6/21/2018 12:36 PM
18	The only place you don't get run over by bicyclists going 90 MPH	6/21/2018 9:53 AM
19	to walk dog or run	6/18/2018 5:18 PM
20	Because of the natural beauty and the birds	6/17/2018 10:25 PM
21	I go to see the wildlife, the wildflowers, the river, and to exercise.	6/17/2018 8:31 AM
22	I run almost every day and the dirt trail is easier on my legs/feet. Also, I love the tranquility of the dirt trail.	6/16/2018 5:20 PM
23	We use the top during the dark or if it is flooded below.	6/16/2018 8:35 AM
24	Enjoy the natural surroundings and peacefulness	6/15/2018 3:52 PM
25	to see birds and butterflies	6/15/2018 3:01 PM
26	to do cycling and enjoy the scenery	6/15/2018 9:27 AM
27	It offers the most shade and wind protection. If we want to head to the river, its closest.	6/15/2018 6:47 AM
28	Beauty of the surroundings, bird watching	6/15/2018 6:28 AM
29	Close to beautiful river which my dogs swim in	6/14/2018 6:11 PM
30	Quiet and serene	6/14/2018 4:13 PM
31	Use it to walk for health reasons. Walking on pavement or sidewalks cause me severe pain.	6/14/2018 3:11 PM
32	safety	6/14/2018 2:49 PM
33	The dog likes it, I like it for bike riding, jogging and the general ability to amble about.	6/14/2018 2:37 PM
34	Because it's a beautiful natural area. Quiet. Love birding there.	6/14/2018 2:34 PM
35	love the quite, serenity and feeling of nature.	6/14/2018 2:23 PM
36	It's beauty	6/14/2018 2:00 PM
37	If I'm walking alone, I feel safer there.	6/14/2018 1:49 PM
38	Because I enjoy being out near the river.	6/14/2018 1:28 PM
39	Less people and more natural.	6/14/2018 11:00 AM
40	easier to walk on	6/14/2018 10:28 AM
41	The upper level is used more by bicycles and joggers. I prefer a more relaxing stroll on the lower trail without worrying about dodging fast moving folks up above.	6/14/2018 9:54 AM
42	It's a nice ride but the upper trail needs to be paved to allow more connectivity with the rest of the trail	6/13/2018 12:52 PM
43	It is quaint and lightly travelled. Plus, it is shaded and much cooler at the levee toe.	6/10/2018 11:53 AM
44	Love going in my backyard to walk in nature. I feel like I am far away	6/9/2018 2:59 PM

Q3 What activity do you use the trail for? Select all that apply.

Answered: 137 Skipped: 0



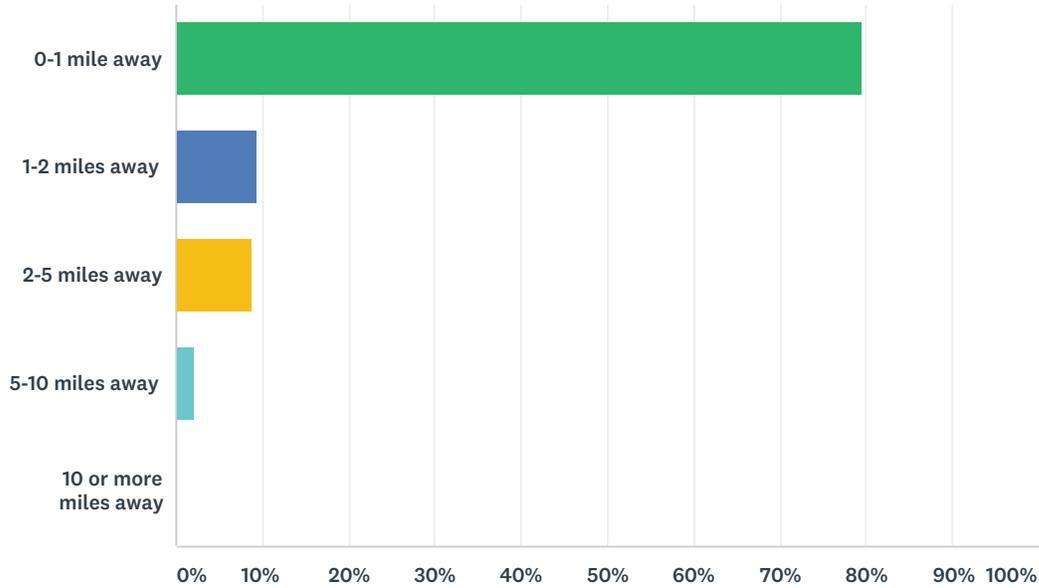
ANSWER CHOICES	RESPONSES
Walking	90.51% 124
Jogging	29.93% 41
Exercising dog(s)	49.64% 68
Biking	29.93% 41
Other (please specify)	20.44% 28
Total Respondents: 137	

#	OTHER (PLEASE SPECIFY)	DATE
1	Bird watching.	10/27/2018 9:31 AM
2	thinking and reflecting a form of walking meditation	10/25/2018 4:53 PM
3	Wildlife/bird-watching	10/3/2018 12:05 AM
4	communing with nature	8/17/2018 12:51 PM
5	To get away from the hussle and bustle.	8/16/2018 3:23 PM
6	Living	7/4/2018 6:54 PM
7	Enjoying nature and a quiet solitude	7/3/2018 7:41 PM
8	River access	7/3/2018 6:14 PM
9	Looking for wildlife	6/21/2018 9:53 AM
10	Taking the kids to explore	6/20/2018 11:03 PM
11	Exploring nature	6/20/2018 9:48 PM
12	Spiritual refreshment	6/17/2018 10:25 PM
13	Communing with nature.	6/17/2018 8:31 AM

14	Bird watching	6/16/2018 5:20 PM
15	We go out daily. We use the entire trail area -- sandbar to the lower trail and along the lower trail along the river -- we refer to it as the "Secret Trail"	6/16/2018 8:35 AM
16	Escape to nature	6/15/2018 3:52 PM
17	bird and wildlife watching	6/15/2018 3:01 PM
18	Beach access, quiet reflection	6/15/2018 11:56 AM
19	Playing with my kids	6/15/2018 11:20 AM
20	Enjoying the quiet and peace of this section of the unpaved Parkway	6/15/2018 6:47 AM
21	Birdwatching	6/15/2018 6:28 AM
22	watching birds and bugs and flowers. Spending time in nature with my daughter.	6/14/2018 2:58 PM
23	birding	6/14/2018 2:34 PM
24	Paradise beach!!!	6/14/2018 2:23 PM
25	To get to the river	6/14/2018 2:00 PM
26	Walking to the river	6/9/2018 3:09 PM
27	Play in nature and walk the trails	6/9/2018 2:59 PM
28	Horse riding	6/9/2018 2:29 PM

Q4 How many miles do you live from this trail?

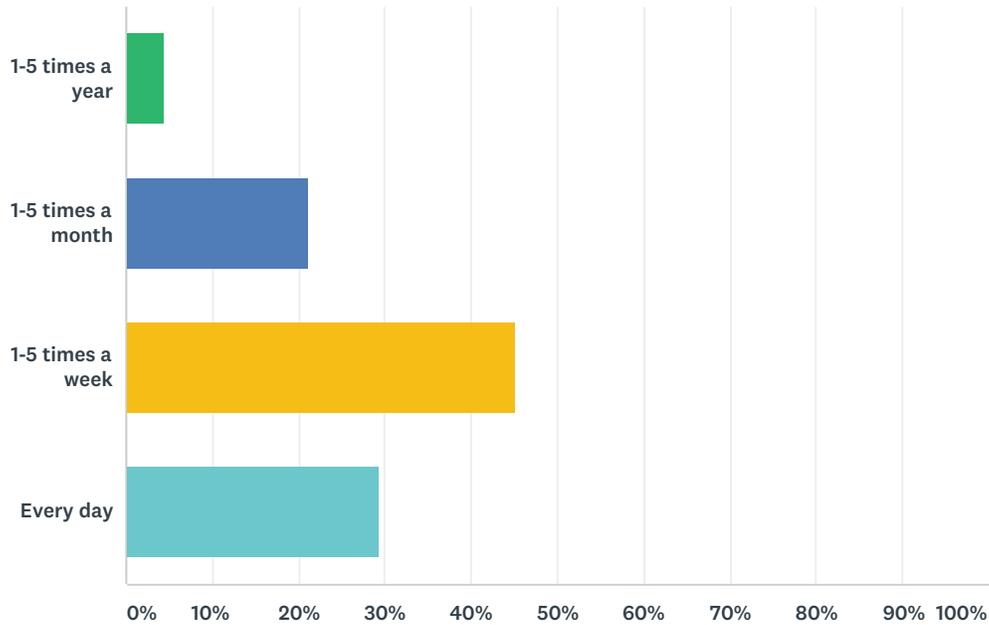
Answered: 137 Skipped: 0



ANSWER CHOICES	RESPONSES	
0-1 mile away	79.56%	109
1-2 miles away	9.49%	13
2-5 miles away	8.76%	12
5-10 miles away	2.19%	3
10 or more miles away	0.00%	0
Total Respondents: 137		

Q5 How often do you use this trail?

Answered: 137 Skipped: 0



ANSWER CHOICES	RESPONSES
1-5 times a year	4.38% 6
1-5 times a month	21.17% 29
1-5 times a week	45.26% 62
Every day	29.20% 40
Total Respondents: 137	

Q6 What is your zip code?

Answered: 137 Skipped: 0

#	RESPONSES	DATE
1	95819	10/27/2018 9:31 AM
2	95819	10/26/2018 7:15 PM
3	95819	10/25/2018 4:53 PM
4	95819	10/25/2018 2:51 PM
5	95819	10/15/2018 10:10 AM
6	95816	10/13/2018 10:21 AM
7	95819	10/12/2018 10:29 PM
8	95819	10/12/2018 8:35 PM
9	95819	10/12/2018 8:27 PM
10	95819	10/10/2018 10:20 AM
11	95819	10/8/2018 1:47 PM
12	95819	10/5/2018 7:34 PM
13	95819	10/4/2018 11:26 AM
14	95819	10/4/2018 8:27 AM
15	95819	10/3/2018 4:10 PM
16	95819	10/3/2018 10:01 AM
17	95816	10/3/2018 9:47 AM
18	95819	10/3/2018 8:19 AM
19	95819	10/3/2018 6:20 AM
20	95819	10/3/2018 4:55 AM
21	95819	10/3/2018 12:05 AM
22	95819	10/2/2018 2:40 PM
23	95819	9/13/2018 9:32 AM
24	95819	8/21/2018 1:53 PM
25	95817	8/17/2018 12:51 PM
26	95819	8/16/2018 9:14 PM
27	95819	8/16/2018 8:53 PM
28	95819	8/16/2018 6:43 PM
29	95818	8/16/2018 6:40 PM
30	95819	8/16/2018 3:23 PM
31	95819	8/16/2018 3:16 PM
32	95819	8/16/2018 2:59 PM
33	95819	8/16/2018 2:48 PM
34	95819	8/16/2018 1:16 PM
35	95819	8/16/2018 1:02 PM

Survey of American River Parkway lower and upper levee trail users between Sutter's Landing and H Street Bridge in Sacramento, California

SurveyMonkey

36	95819	8/16/2018 12:57 PM
37	95819	8/16/2018 12:52 PM
38	95819	8/16/2018 12:43 PM
39	95819	8/7/2018 9:55 PM
40	95819	7/23/2018 11:49 AM
41	95819	7/17/2018 9:33 PM
42	95841	7/15/2018 9:57 AM
43	95819	7/4/2018 6:54 PM
44	95820	7/4/2018 1:20 PM
45	95819	7/3/2018 11:22 PM
46	95819	7/3/2018 9:02 PM
47	95819	7/3/2018 7:41 PM
48	95819	7/3/2018 6:14 PM
49	95819	7/3/2018 6:11 PM
50	95819	7/3/2018 6:05 PM
51	95819	7/1/2018 9:52 PM
52	95819	6/24/2018 9:04 AM
53	95819	6/21/2018 2:29 PM
54	95819	6/21/2018 12:36 PM
55	95819	6/21/2018 11:44 AM
56	95819	6/21/2018 9:53 AM
57	95819	6/21/2018 8:59 AM
58	95819	6/21/2018 4:10 AM
59	95819	6/20/2018 11:03 PM
60	95819	6/20/2018 9:49 PM
61	95819	6/20/2018 9:48 PM
62	95819	6/18/2018 5:18 PM
63	95819	6/18/2018 1:35 PM
64	95819	6/18/2018 9:22 AM
65	95819	6/17/2018 10:25 PM
66	95819	6/17/2018 7:29 PM
67	95819	6/17/2018 8:31 AM
68	95819	6/16/2018 7:02 PM
69	95819	6/16/2018 5:20 PM
70	95819	6/16/2018 11:33 AM
71	95819	6/16/2018 8:35 AM
72	95819	6/16/2018 8:14 AM
73	95819	6/15/2018 11:07 PM
74	95819	6/15/2018 8:56 PM
75	95819	6/15/2018 6:33 PM
76	95819	6/15/2018 3:52 PM

Survey of American River Parkway lower and upper levee trail users between Sutter's Landing and H Street Bridge in Sacramento, California

SurveyMonkey

77	95819	6/15/2018 3:20 PM
78	95819	6/15/2018 3:01 PM
79	95819	6/15/2018 2:20 PM
80	95819	6/15/2018 1:09 PM
81	95819	6/15/2018 11:56 AM
82	95819	6/15/2018 11:20 AM
83	95819	6/15/2018 9:27 AM
84	95819	6/15/2018 8:33 AM
85	95819	6/15/2018 8:20 AM
86	95819	6/15/2018 8:09 AM
87	95819	6/15/2018 6:47 AM
88	95819	6/15/2018 6:28 AM
89	95819	6/14/2018 7:59 PM
90	95819	6/14/2018 7:45 PM
91	95819	6/14/2018 6:11 PM
92	95819	6/14/2018 4:44 PM
93	95819	6/14/2018 4:30 PM
94	95819	6/14/2018 4:13 PM
95	95814	6/14/2018 4:05 PM
96	96819	6/14/2018 3:55 PM
97	95819	6/14/2018 3:29 PM
98	95819	6/14/2018 3:20 PM
99	95819	6/14/2018 3:11 PM
100	95819	6/14/2018 2:58 PM
101	95819	6/14/2018 2:49 PM
102	95818	6/14/2018 2:37 PM
103	95819	6/14/2018 2:34 PM
104	95819	6/14/2018 2:23 PM
105	95819	6/14/2018 2:15 PM
106	95819	6/14/2018 2:00 PM
107	95819	6/14/2018 1:49 PM
108	95819	6/14/2018 1:30 PM
109	95811	6/14/2018 1:28 PM
110	95819	6/14/2018 1:17 PM
111	95819	6/14/2018 12:18 PM
112	95819	6/14/2018 12:17 PM
113	95819	6/14/2018 11:45 AM
114	95819	6/14/2018 11:12 AM
115	95816	6/14/2018 11:07 AM
116	95819	6/14/2018 11:00 AM
117	95819	6/14/2018 10:28 AM

Survey of American River Parkway lower and upper levee trail users between Sutter's Landing and H Street Bridge in Sacramento, California

SurveyMonkey

118	95818	6/14/2018 9:54 AM
119	95820	6/13/2018 12:52 PM
120	95819	6/11/2018 3:51 PM
121	95819	6/11/2018 3:18 PM
122	95819	6/11/2018 11:10 AM
123	95819	6/10/2018 11:53 AM
124	95819	6/9/2018 3:09 PM
125	95819	6/9/2018 2:59 PM
126	95819	6/9/2018 2:29 PM
127	95819	6/9/2018 2:02 PM
128	95819	6/9/2018 1:24 PM
129	95819	6/9/2018 1:19 PM
130	95819	6/9/2018 12:49 PM
131	95819	6/9/2018 11:53 AM
132	95819	6/9/2018 11:49 AM
133	95819	6/9/2018 10:43 AM
134	95818	6/9/2018 10:32 AM
135	95819	6/9/2018 10:30 AM
136	95819	6/9/2018 10:25 AM
137	95819	6/9/2018 10:07 AM

Q7 Do you have any additional comments?

Answered: 91 Skipped: 46

#	RESPONSES	DATE
1	Pavement will destroy the natural beauty of this area forever. It will never be the same. There is absolutely no reason why Sacramento trails have to be paved in order to be considered "connected".	10/27/2018 9:31 AM
2	This paving is going to be done whether or not the residents of River Park agree. It makes no difference at all if we object. It's sort of like voting; whether voted for or not, it will be pushed through.	10/26/2018 7:15 PM
3	I meet people from all over the region who come to the lower trail. During the summer many rafters dock pulling their rafts and gear across the lower trail. they deflate the rafts and taking up the entire width of the trail.	10/25/2018 4:53 PM
4	very much opposed to paving this section of the American river trail. fast-moving bikes already have a lane across the river and us slow moving walkers (aged, young, hikers etc.) need a place to access the river too.	10/25/2018 2:51 PM
5	I strongly do NOT want the paved road. Bike clubs travel ever weekend on the unpaved road. The area is beautiful in its natural state. My family travel to downtown on the path without any problems. I feel the pave will also leave to move shopping carts, liter, and ruin the environment for families and animals.	10/15/2018 10:10 AM
6	We want to preserve this tiny sliver of nature so that we may enjoy the quiet and beauty of the little bit of natural space that still exists near us. Paving the lower section of the levee and encouraging bicycle use will destroy the lovely peacefulness and quiet of this area. There is already a bike trail on the other side of the river--which we use frequently. Leave the walking and dog-walking path on the other side for those who need to experience the outdoors in another way. There are too few natural areas like it left.	10/13/2018 10:21 AM
7	Keep up the good work!	10/8/2018 1:47 PM
8	If you pave the upper trail, people will ride their bikes on the lower dirt trails. I have almost been hit by bicyclists on multiple occasions. They go fast around blind corners and terrify walkers. If there are more bicycles on the dirt foot trails (which are very narrow) people who walk may be afraid to do so.	10/5/2018 7:34 PM
9	sounds like your attorney is not willing to take this to court if necessary. Refer to my email from NRDC with ideas of local attorneys to contact to help out. Ann Naimark	10/4/2018 11:26 AM
10	We need the trees lining the river to help be a shock absorber against flood waters!	10/4/2018 8:27 AM
11	Leave this beautiful stretch alone. There are plenty of places for fast biking without endangering families and dogs crossing the levee.	10/3/2018 9:47 AM
12	Safety laws and regulations will be compromised for the development and construction of a paved pathway along the toe of the levee.	10/3/2018 8:19 AM
13	Paving the trail would take away the beauty, functionality, and river park sanctuary for outdoor activity serving East Sacramento and River Park's residents, pets, and children	10/3/2018 4:55 AM
14	I'm appalled that the city is willing to pay a 1.5 million dollar fine to remove protected elderberry trees. Also I do bike ride on the parkway & the north side is already paved, so its easy to get downtown already. Though the homeless can be quite frightening on the paved trail sections!	10/3/2018 12:05 AM
15	Seniors on foot sometime have trouble coping with fast bicycles	10/2/2018 2:40 PM
16	Prefer bike trail on the upper levee over lower trail. Which is where we usually ride anyway when commuting.	8/21/2018 1:53 PM
17	The trails as they are currently are a welcome reprieve from the concrete that surrounds us! Green spaces (space with trees, plants, etc.) have been shown to prevent violence and we are concerned that paving the trails would impact the green space that surrounds us. We need more green space, not less.	8/16/2018 9:14 PM

Survey of American River Parkway lower and upper levee trail users between Sutter's Landing and H Street Bridge in Sacramento, California

SurveyMonkey

18	don't pave!	8/16/2018 8:53 PM
19	Keep the bike path on the top of the levee.	8/16/2018 6:40 PM
20	If the trail goes in I will likely sell my home. I do not feel that this neighborhood is properly or accurately represented.	8/16/2018 3:23 PM
21	I think that it's a waste of money to pave a portion of the parkway that doesn't need it. There should be a place for walkers and runners can go that doesn't cater to bikes. They have the other section of parkway to ride on.	8/16/2018 3:16 PM
22	Leave the trail unpaved. It is nice to have undeveloped areas of nature within communities.	8/16/2018 2:48 PM
23	I can think of a million better things to spend 6 million dollars on. Most of the these bike people are dangerous, they mow us walkers down. Jeff Harris can drive is car to work.	8/16/2018 1:16 PM
24	Please let walkers have a trail too! There is the other side of the river (connecting from Sac State) and Elvas for bikes. Walkers should have walkways too!!	8/7/2018 9:55 PM
25	I am opposed to paving the lower section. It isn't necessary when the upper portion is available and we certainly don't need to make it easier for the homeless to infiltrate our area.	7/17/2018 9:33 PM
26	Save Don't Pave!	7/4/2018 6:54 PM
27	Paving this trail is a waste of money - there is a paved trail on the other side of the river and nearby access to that trail via the Sac state Bridge	7/4/2018 1:20 PM
28	I'm biased. I would like to see this left as is.	7/3/2018 11:22 PM
29	Paving would be a travesty and an insult to nature	7/3/2018 7:41 PM
30	PLEASE SAVE DON'T PAVE. It is crucial to the integrity of River Park as a safe neighborhood.	7/3/2018 6:05 PM
31	Area between Bus 80 bridge and Glen Hall looks natural.	7/1/2018 9:52 PM
32	Until the homeless population and criminal activity around the river is controlled better we do not feel safe with the expansion of the trails. This will only invite and ease access to those who want to illegally camp and pollute our beautiful American River	6/21/2018 2:29 PM
33	I see frequent bike riders on the levee already. I was almost run by a large group of riders speeding around a blind curve at the park. Thank goodness one of the first riders yelled at me to get off the levee!	6/21/2018 12:36 PM
34	The continual urbanization of East Sac and River Park by the City of Sacramento, without regard to the impacts from traffic, access, and quality of life for residents, is abhorrent. With the commercialization of the Howe/Fair Oaks intersection and impacts on traffic there, along with the 'bicycle friendly' intersection at Carlson/H & J Sts (which the bicyclists seldom use, I might add) have impacted ingress and egress to River Park substantially. Millions of dollars spent to accomodate bicyclists is good judgement in Davis, perhaps, but not East Sac. This natural section of the river is the sole reason I moved to River Park when relocating to Sacramento 25 years ago. Seems a shame to ruin it, when it is already bike friendly enough. Aren't there better places to spend our money that everyone will benefit from?	6/21/2018 9:53 AM
35	I use the upper trail to bike and jog. I use the lower trail to walk my dog and job. I don't think we need two paved sides of the river. It's nice to have both options.	6/21/2018 8:59 AM
36	We bought a home in this neighborhood specifically due to the proximity to this unlaced section of the American River Parkway. It is very special.	6/21/2018 4:10 AM
37	Keep it wild	6/20/2018 9:49 PM
38	The biggest treasure of the levee path is that it is different from what exists on the rest of the parkway, in other words, it is not paved and is a more natural environment.	6/20/2018 9:48 PM
39	I worry about all the kids that play in the park and wander to the trail with bikes that potentially could be using the trail when paved.	6/18/2018 5:18 PM
40	Don't pave this trail! We like having some dirt trails nearby, nor do we want all the weekend bike traffic like other parts of the ARP where my friends have been hit by cyclists and seriously injured	6/18/2018 9:22 AM

41	The American River Parkway is the great jewel of Sacramento. It should be kept as a preserve for birds, river otters, foxes, and all the other animals that live there and native plants that grow there. "Improving it" destroys its natural beauty and ecological integrity. If you pave the trail, bicyclists will also start riding at high speeds on the narrow dirt paths and sooner or later someone walking will be seriously injured.	6/17/2018 10:25 PM
42	Do not destroy the wildness of this part of the Parkway by paving--removing trees and other vegetation to do so--nor by building bridges across the American River!!	6/17/2018 8:31 AM
43	Please don't pave it!!	6/16/2018 7:02 PM
44	The lower dirt trail with the close bordering trees and bushes is so serene and beautiful. I can not even bare to imagine it paved!	6/16/2018 5:20 PM
45	I hope this helps.	6/16/2018 11:33 AM
46	Thank you for the mailer. We attended the spring meeting at the school. We are very disturbed by the new information regarding the bridge at Glenn Hall	6/16/2018 8:35 AM
47	Paving the trail is not a well reasoned decision due to the additional law enforcement, maintenance and oversight required.	6/15/2018 6:33 PM
48	This area is the last nature area devoid of other uses (such as bicycle commuting/use). In my lifetime there have been efforts to prevent other uses (such as motorcycle dirt bike riding). Given the past efforts to eliminate the types of vehicular activity, it is unclear to me why is there now a movement to reverse this, especially when alternative trails are already in place/maintained to provide bicycle commute and recreational uses.	6/15/2018 3:52 PM
49	PAVE IT! Hell, Build that Bridge too! Ya buncha bastard NIMBYs	6/15/2018 3:20 PM
50	Save don't pave	6/15/2018 2:20 PM
51	Save don't pave	6/15/2018 1:09 PM
52	June 13 and 14, 2018, saw six homeless bicycle and cart transients accessing paved path at Sutter's Landing, one walker/camper.	6/15/2018 11:56 AM
53	Please save the unpaved glory of the American River	6/15/2018 11:20 AM
54	Keep up the pressure! Thank you	6/15/2018 8:33 AM
55	No	6/15/2018 8:20 AM
56	While I am concerned about the proposed changes (paving and bridge) the real unaddressed issue is that the park is not properly managed. If it were safe and campfree I would be more willing to support other changes, but I think proper safety and maintenance should come first.	6/15/2018 8:09 AM
57	Save Don't Pave!	6/15/2018 6:47 AM
58	There is already a paved bike trail easily accessible all the way downtown. Why must every inch of paradise be paved?	6/15/2018 6:28 AM
59	My family uses this trail every day. We live in River Park now, but for 20 years we would drive from Tallac Village to walk or ride bikes several times a week on the lower trail with our kids and dogs. Our dogs could tell where we were driving as we neared Glen Hall Park, and would stick their heads out the window in excitement. Back to nature is the way to go. Pavement takes away the aspect of multi-use. "If it ain't broke, don't 'fix' it." Save taxpayer money.	6/14/2018 7:59 PM
60	Pros-After the Spring RPNA meeting, I was persuaded that access to wheelchairs, strollers, tricycles, and a safer bike commute path are benefits to a paved path. Also, some who currently use the gravel top of the levee might move down to a paved area and reduce the looking into backyards of those houses along the levee. Also, some said crime is reduced where river paths are paved. Cons-scenic character would be altered and hazard of high speed bike racers. In balance, I no longer oppose paving.	6/14/2018 6:11 PM
61	Increased paved access would hwlp commuters, people in wheelchairs, families with strollers. The increased foot traffic will chase the homelss away from our neighborhood. Opposition to paving is pure NIMBYism	6/14/2018 4:30 PM
62	Why do we need TWO paved Bike Paths on the River????? I heard that some officials say , they don't care what we say, they know what is best for us!! WOW	6/14/2018 4:13 PM

63	Harris et al say "they can't" pave the top of the levee. (See section near H St Bridge for anecdotal debunking) Why?	6/14/2018 4:05 PM
64	Love the trails! My quiet time early every morning.	6/14/2018 3:55 PM
65	I would like to see the lower trail remain unpaved.	6/14/2018 3:29 PM
66	I've fished, walked, swam this area for over 50 years. I was a lifeguard at Glenn Hall city pool. This area should be left as is for the those that enjoy nature and to keep it from becoming a homeless campground full of litter, needles and human waste !! KEEP IT AS IS !!!!	6/14/2018 3:11 PM
67	Don't pave this special spot.	6/14/2018 2:58 PM
68	Paving the lower levee trail will increase bike traffic and increase access for petty criminals to vandalize the parkway and people's homes. Police don't do anything about crime now and we shouldn't expect that to improve with the paved bike trail	6/14/2018 2:49 PM
69	Not sure how this will be an improvement or who wants it. It now has a pleasant local feel that bikers, amblers , baby pushers can use with little conflict.	6/14/2018 2:37 PM
70	This is one of my favorite places in Sacramento.	6/14/2018 2:34 PM
71	I sincerely hope you can SAVE this natural area of the American River...it's really all we have left. PLEASE, PLEASE DO NOT PAVE THIS SECTION OF THE PARKWAY!!!	6/14/2018 2:23 PM
72	Leave what little is left of the riparian forest for future generations.	6/14/2018 2:15 PM
73	I live on the levee side and simply enjoy sitting out in my backyard enjoying nature which will be disrupted by the proposed trail.	6/14/2018 1:30 PM
74	I would like to know what your plan for the homeless population is, other than act like they don't exist. I've seen no information about how this will affect the homeless - on either side - except to say it will keep them away. As residents of Sacramento, and users of the trail, I think it is our responsibility to also care for the homeless. Paving or not paving and saying it will "decrease homelessness" is not enough. Both sides need to come up or help with solutions.	6/14/2018 1:28 PM
75	For the sake of folks who commute by bike to dowbpntown, I favor paving the trail..	6/14/2018 12:18 PM
76	I have used this area for over 30 years, it will be a shame if the paving project goes through.	6/14/2018 12:17 PM
77	pave and rave. hike and bike.	6/14/2018 11:12 AM
78	A paved trail means more accidents. Hundreds of people cross this dirt road every day on bikes, foot, baby strollers, dogs, ice chest carriers, and fisherman. Paving ruins the whole idea of a park.	6/14/2018 11:07 AM
79	We walk on the upper part for ease but enjoy the natural setting that we can see on the lower part. We want to look at nature, not bicyclists!	6/14/2018 10:28 AM
80	If it ain't broke, don't fix it. Spend the \$\$ where it is more needed like helping homeless.	6/14/2018 9:54 AM
81	Paving one of the trails gives access and continuity to the trail system and encourages people to use alternative modes of transportation to get around the city. Framing the argument to prevent paving of any type is a NIMBY excuse to keep people out of a lilly white neighborhood because everyone knows that people on bikes are 'problem people'.	6/13/2018 12:52 PM
82	The River is a gorgeous ecosystem and I appreciate the natural beauty of the dirt lower levee trail. Paving it is just another raping of Mother Nature. When will our poor planet get a break from gratuitous destruction?	6/11/2018 3:18 PM
83	Paving the levee toe will forever change the character, feel and experience felt along this section of the riverine environment. It will be much more busy, hotter and less inviting to walkers.	6/10/2018 11:53 AM
84	The river is why we moved here. It is a part of our lives.	6/9/2018 3:09 PM
85	I am not sure who they want to use the paved trail. The American river flood control won't let me (lived here 55years) build stairs behind my house but they want it accessible to thousands who can easily get downtown across the river. Walking behind my house in nature if paved will be dangerous as spandex bikers go 20 miles per hour.	6/9/2018 2:59 PM
86	Please preserve this trail — it's so valuable to walkers (especially children and older citizens) who don't want to be mowed down by fast-moving bicycle traffic.	6/9/2018 2:02 PM
87	I am so annoyed with our local government officials. They don't listen and are not deserving of our trust.	6/9/2018 11:53 AM

88	I regularly ride my ride on the unpaved trail with no difficulties.	6/9/2018 11:49 AM
89	I love to be in God's nature, away from the cars and the roads and the hustle and bustle of city life.	6/9/2018 10:43 AM
90	No	6/9/2018 10:30 AM
91	I find the unpaved portion of the trail a chance to walk in and with nature. It is often the one and only chance I get in my busy week to reflect on and enjoy the natural world we have so close to home. I cannot enjoy the same on a paved bike trail with other users speeding past on their bicycles. They do not, and should not, overrule the peace and solitude of an early morning walk along our beautiful parkway.	6/9/2018 10:25 AM

EXHIBIT C

Baseline Recreational Weekday and Weekend Use Data on Glenn Hall Access Point to Paradise Beach

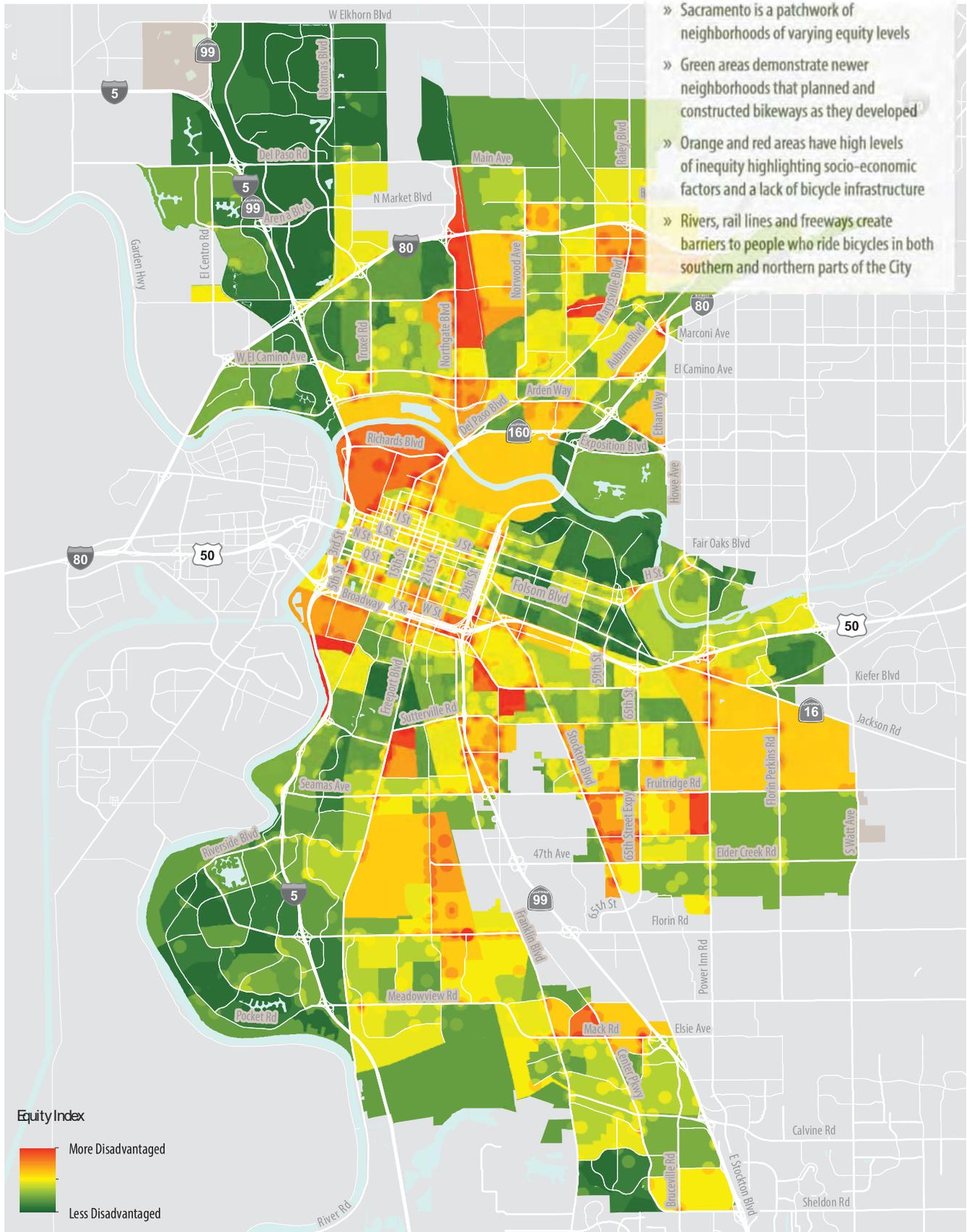
Week Day Shifts								Weekend Day Shifts							
Top of Levee								Top of Levee							
Shift	Adult pedestrians	Pedestrians under ~12	Dogs	Runners/joggers	Bikers	Other	Total (not including Other)	Shift	Adult pedestrians	Pedestrians under ~12	Dogs	Runners/joggers	Bikers	Other	Total (not including Other)
5:30am - 7:30am	11	0	2	2	1	0	16	5:30am - 7:30am	7	0	6	5	0	0	18
7:30am - 9:30am	11	0	2	7	1	ARFC truck	21	7:30am - 9:30am	3	2	3	13	31	0	52
9:30am - 11:30am	20	0	9	6	1	1 stroller, 1 baby in pack	36	9:30am - 11:30am	23	0	10	17	27	2 strollers	77
11:30am - 1:30pm	13	3	5	2	3	0	26	11:30am - 1:30pm	22	1	5	4	12	0	44
1:30pm - 3:30pm	11	0	2	1	2	1 ranger	16	1:30pm - 3:30pm	27	5	4	2	0	0	38
3:30pm - 5:30pm	6	0	1	4	4	0	15	3:30pm - 5:30pm	41	9	5	12	6	0	73
5:30pm - 7:30pm	33	1	9	7	10	0	60	5:30pm - 7:30pm	19	5	4	3	9	0	40
7:30pm - 9pm	11	0	2	1	3	0	17	7:30pm - 9pm							0
Total	116	4	32	30	25		207	Total	142	22	37	56	85		342
Bottom of Levee								Bottom of Levee							
Shift	Adult pedestrians	Pedestrians under ~12	Dogs	Runners/joggers	Bikers	Other	Total (not including Other)	Shift	Adult pedestrians	Pedestrians under ~12	Dogs	Runners/joggers	Bikers	Other	Total (not including Other)
5:30am - 7:30am	25	18	1	0	0	0	44	5:30am - 7:30am	11	0	8	3	2	0	24
7:30am - 9:30am	17	0	10	3	0	0	30	7:30am - 9:30am	37	0	27	13	2	0	79
9:30am - 11:30am	18	1	25	9	0	0	53	9:30am - 11:30am	17	0	11	10	3	0	41
11:30am - 1:30pm	9	3	5	0	0	0	17	11:30am - 1:30pm	5	2	7	5	6	0	25
1:30pm - 3:30pm	10	0	2	1	0	2 strollers	13	1:30pm - 3:30pm	35	0	8	2	9	0	54
3:30pm - 5:30pm	0	0	0	0	0	0	0	3:30pm - 5:30pm	10	0	0	0	7	0	17
5:30pm - 7:30pm	11	3	7	0	2	0	23	5:30pm - 7:30pm	22	3	15	3	3	0	46
7:30pm - 9pm	8	3	5	3	2	0	21	7:30pm - 9pm							0
Total	98	28	65	16	4		201	Total	137	5	76	36	32		286
Cross Traffic								Cross Traffic							
Shift	Adult pedestrians	Pedestrians under ~12	Dogs	Runners/joggers	Bikers	Other	Total (not including Other)	Shift	Adult pedestrians	Pedestrians under ~12	Dogs	Runners/joggers	Bikers	Other	Total (not including Other)
5:30am - 7:30am	14	0	13	4	0	0	31	5:30am - 7:30am	28	0	23	0	1	0	52
7:30am - 9:30am	23	0	30	0	2	0	55	7:30am - 9:30am	28	0	20	8	0	0	56
9:30am - 11:30am	31	1	25	2	6	2 strollers	65	9:30am - 11:30am	64	7	41	8	6	2 strollers	126
11:30am - 1:30pm	26	2	10	0	1	0	39	11:30am - 1:30pm	91	25	32	1	4	0	153
1:30pm - 3:30pm	69	11	11	0	1	4 strollers, 1 police officer, 1 ranger	92	1:30pm - 3:30pm	250	56	26	0	3	0	335
3:30pm - 5:30pm	85	14	21	0	1	0	121	3:30pm - 5:30pm	291	46	45	3	5	0	390
5:30pm - 7:30pm	119	11	34	2	2	0	168	5:30pm - 7:30pm	189	34	26	0	4	0	253
7:30pm - 9pm	76	2	18	0	0	0	96	7:30pm - 9pm							0
Total	443	41	162	8	13		667	Total	941	168	213	20	23		1365

EXHIBIT D

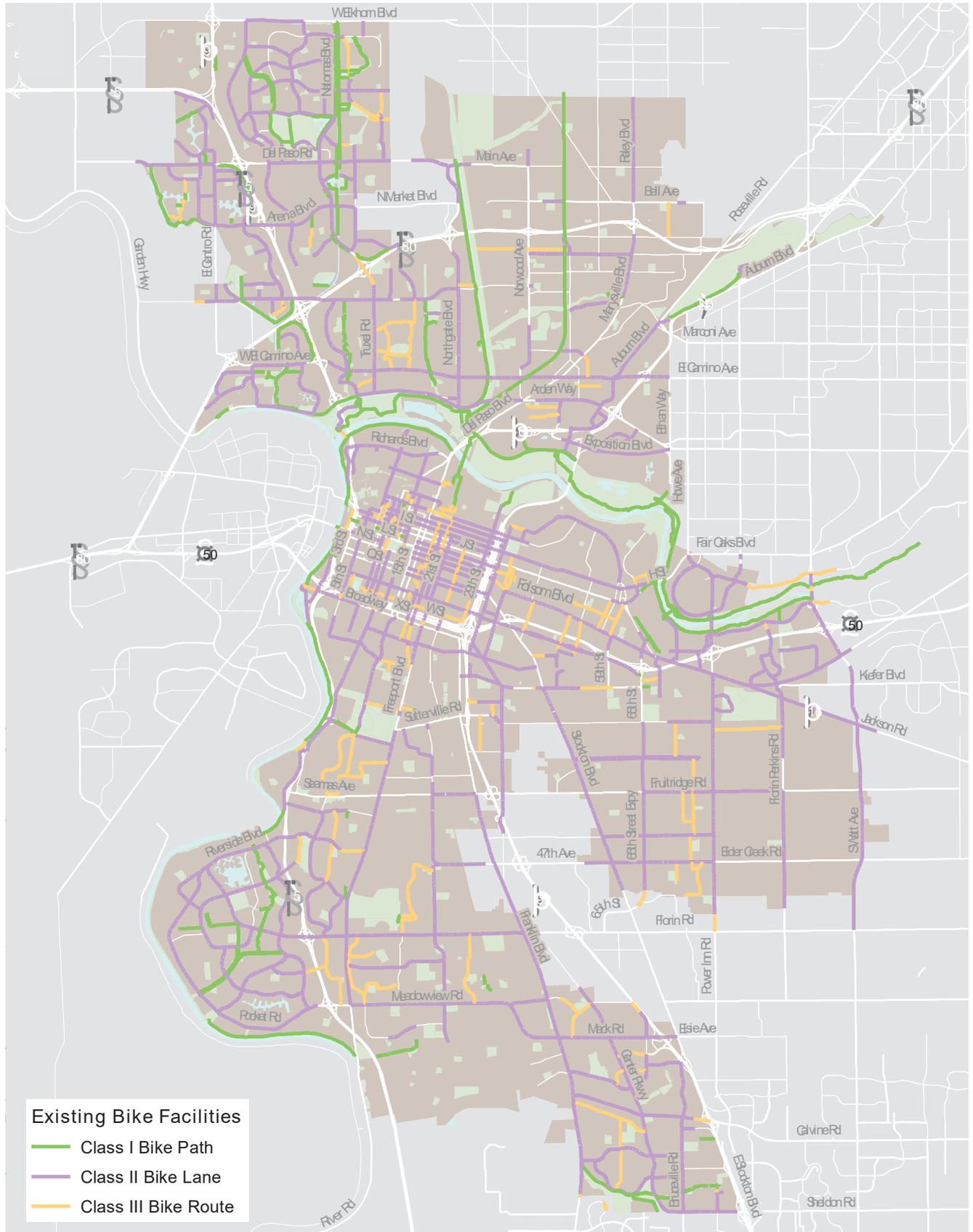
Equity Analysis Composite Index

Key Findings

- » Sacramento is a patchwork of neighborhoods of varying equity levels
- » Green areas demonstrate newer neighborhoods that planned and constructed bikeways as they developed
- » Orange and red areas have high levels of inequity highlighting socio-economic factors and a lack of bicycle infrastructure
- » Rivers, rail lines and freeways create barriers to people who ride bicycles in both southern and northern parts of the City



Existing Bikeways



EXISTING CONDITIONS

EXHIBIT E

Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle
(*Desmocerus californicus dimorphus*)



© Jon Katz and Joe Silveira/USFWS

May 2017

Service Contact

The Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*) (Framework) was prepared by the U.S. Fish and Wildlife Service's Sacramento Fish and Wildlife Office. If you have questions regarding the Framework, please call (916) 414-6600. To download a copy of the Framework please visit:

https://www.fws.gov/sacramento/documents/VELB_Framework.pdf

Suggested Citation

U.S. Fish and Wildlife Service. 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp.

1.0 Introduction

The U.S. Fish and Wildlife Service (Service) is issuing this Framework to assist Federal agencies and non-federal parties in evaluating the potential effects of their projects on the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB), listed as threatened under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act). This framework can be consulted during the development of any project that may affect VELB or its habitat. It is intended to help project applicants assess potential effects to the VELB and develop measures to avoid, minimize, and compensate for adverse effects to the species or its habitat. It may also help determine whether those projects will require incidental take authorization through a section 7 consultation or a section 10(a)(1)(B) permit. Proposed projects that will have large landscape level impacts, are likely to provide a net conservation benefit, or will involve riparian restoration may need a different or more detailed analysis than what is provided here. Applicants and agencies proposing these, or similar types of projects, should discuss the project with the Service early in the planning process. The Framework may still provide guidance for an effects analysis, but these projects may exercise more flexibility when implementing conservation measures and compensation.

The primary goal of this document is to articulate a conceptual ecological model for the species. This framework represents the Sacramento Fish and Wildlife Office's current analytical approach for evaluating and assessing adverse effects to the VELB. It will be updated as new information becomes available. As always, the Service welcomes dialog and discussion with our partners in assessing impacts for particular projects and encourages project proponents to consult with the Service early in project development whenever possible.

The VELB is protected under the Act wherever it is found. Visual surveys for the VELB, which includes looking for adults and/or exit holes, are currently the only approved method of surveying for the species and are not entirely reliable for determining presence or absence (see below). Visual surveys, habitat assessments, and mitigation site monitoring do not require a section 10(a)(1)(A) recovery permit. Inquiries about other survey methods, recovery permits, and research should be directed to the Listing and Recovery Division at (916) 414-6600.

1.1 Previous Federal Actions

The VELB was listed as a threatened species under the Act on August 8, 1980 (Federal Register 45: 52803-52807). Concurrent with the final listing rule, two areas in Sacramento County were designated as critical habitat for the VELB (Appendix A). The first area, referred to as the "Sacramento Zone", is enclosed by California State Route 160 to the north, the Western Pacific railroad tracks to the west/southwest, and by Commerce Circle to the east. The second area, referred to as the "American River Parkway Zone", is actually two separate areas along the south bank of the American River in Rancho Cordova. A recovery plan for VELB was completed on June 28, 1984; however, due to a lack of information regarding VELB life history, distribution, and habitat requirements, the recovery plan

only described interim actions and not precise recommendations (Service 1984). For more information about VELB, its designated critical habitat, and the VELB recovery plan, please visit:

<https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=7850>.

On September 10, 2010, the Service was petitioned to delist the VELB and on August 19, 2011, the Service responded with a 90-day finding that determined the petition contained substantial information indicating that delisting VELB may be warranted (Federal Register 76: 51929-51931). On October 2, 2012, the Service published a proposed rule to delist VELB and to remove the species' critical habitat designation (Federal Register 77: 60238-60276). However, after receiving additional information regarding VELB, the Service did not delist the species and published the September 17, 2014, Withdrawal of the Proposed Rule to Remove the Valley Elderberry Longhorn Beetle From the Federal List of Endangered and Threatened Wildlife (Federal Register 79: 55874-55917) (Withdrawal Rule). The August 8, 1980, final listing rule and the Withdrawal Rule both described habitat loss as the primary threat to the species.

2.0 Life History

The VELB is a small (0.5 - 0.8 in.) wood-boring beetle in the *Cerambycid* family. It is sexually dimorphic and the females are indistinguishable from the more widespread California elderberry longhorn beetle (*Desmocerus californicus californicus*). Elderberry shrubs (*Sambucus* spp.) are the obligate larval host plants for the VELB (Collinge et al. 2001, Holyoak 2010) and their larvae go through several developmental stages (instars) within the elderberry shrub (Greenberg 2009). Eggs are laid individually on leaves or at the junctions of the leaf stalk and main stem (Barr 1991). Upon hatching, the larvae bore into the elderberry stem (Halstead and Oldham 1990) and create feeding galleries in the pith (Burke 1921, Barr 1991). Prior to pupation, the larvae creates an exit hole, plugs the hole with wood shavings, and returns to the gallery where it pupates (Halstead and Oldham 1990). Approximately 1 month later, the adult beetle emerges from the stem through the previously created exit hole (Burke 1921). Adult emergence, mating, and egg-laying, occurs in the spring and summer (March to July), typically coinciding with the elderberry flowering period (Burke 1921, Halstead and Oldham 1990). Under laboratory conditions, adult males typically live 4 to 5 days, while females can live up to 3 weeks (Arnold 1984). The only identifiable exterior evidence of elderberry use by VELB is the exit hole created by the larvae.

3.0 Range and Habitat Description

The VELB is protected wherever found. The current presumed range extends throughout the Central Valley (<https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=7850>). The range extends from approximately Shasta County in the north to Fresno County in the south including the valley floor and lower foothills. The majority of VELB have been documented below 152 meters (500 feet) in elevation. Areas above 152 meters (500 feet) with suitable habitat and known VELB occurrences in that drainage may contain VELB populations in certain circumstances. The Service can assist in determining the likelihood of occupancy above 500 feet.

3.1 Habitat

Historically, the Central Valley had large (3.2-8.0 km wide), undisturbed expanses of riparian vegetation associated with the watersheds that drained the west side of the Sierra Nevada Mountains and the east side of the Coast Mountain Range. These watershed systems were highly dynamic and their floodplains supported a wide corridor of riparian vegetation (Katibah 1984) in a diverse mosaic of structures and species assemblages from early successional to mature gallery forest (Gilbart 2009).

During the last 150 years California's Central Valley riparian forests have experienced extensive vegetation loss due to expansive agricultural and urban development (Katibah 1984), and in many places, have dwindled to discontinuous, narrow corridors. Natural areas bordering the rivers, which once supported vast tracts of riparian vegetation, became prime agricultural land (Thompson 1961). As agriculture and urbanization expanded in the Central Valley, needs for increased water supply and flood protection spurred water development and reclamation projects. Artificial levees, river channelization, dam building, water diversion, and heavy groundwater pumping have further reduced riparian vegetation to small, isolated fragments (Katibah 1984). In many places, flood control levees have been installed adjacent to and parallel with the river, effectively sectioning the riparian forest habitat into discrete communities on either side of the levee. In recent decades, riparian areas in the Central Valley have continued to decline as a result of ongoing agricultural conversion, urban development, stream channelization and channel hardening.

Elderberry shrubs are common in the Central Valley where they grow naturally in a variety of riparian and non-riparian vegetative communities (Vaghti and Greco 2007). Most elderberry presence within the Central Valley is determined by broad scale hydrologic regimes such as the relative elevation of floodplain and floodplain width, and secondarily by sediment texture and topography (Fremier and Talley 2009). Elderberry shrubs are most common on higher and older riparian terraces, where the roots of the plant are able to reach the water table and where the plants are not inundated for long periods (Talley 2005; Vaghti et al. 2009). Elderberry shrubs can be found on historic floodplain terraces above the river, on levees (both on the river and land sides), and along canals, ditches, and areas where subsurface flow provides water to elderberry roots. Elderberry shrubs typically occur in most vegetation communities that occupy historic and current floodplains and terraces, to the top of channel walls in deeply incised rivers (i.e., the Tuolumne and Stanislaus Rivers), and to the top of and on the land-side of levees where woody plants create savannas or patchy woodlands. Elderberry can be a canopy or subcanopy species depending on the hydrology, vegetation composition, or disturbance at a particular site and it can occur as individual shrubs, clumps, clusters, and groves. In non-riparian settings, elderberries occur either singly or in groups in valley oak and blue oak woodland and annual grasslands. It is not known whether elderberries in this setting are also associated with a shallow water table or other shallow water sources. In natural areas, elderberry shrubs have also been shown to grow best with little canopy cover from associated vegetation (Talley 2005).

The historic distribution of the VELB closely matched the distribution of the elderberry host plant, which was patchily found throughout the Central Valley riparian forests and occasionally adjacent uplands (non-riparian). The Service recognizes habitat for VELB as including both riparian and non-riparian areas where elderberry shrubs are present. Riparian habitat includes all areas that are either influenced by surface or subsurface water flows along streams, rivers, and canals (including the landside of levees) and areas that have the vegetation communities similar to those defined below.

Riparian vegetation communities within the California Central Valley can be described as valley-foothill forest habitat, which includes many different forest associations. Non-riparian habitat includes valley oak and blue oak woodland and annual grassland. The following habitat descriptions have been adapted from Mayer and Laudenslayer (1988) (<https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats>).

Within California, valley-foothill riparian habitats occur in the Central Valley and the lower foothills of the Cascade, Sierra Nevada, and Coast mountain ranges. Riparian habitats show a wide range of both species and structural diversity. The valley-foothill riparian habitat is found in association with riverine, grassland, oak woodland, and agricultural habitats. Canopy height is about 30 meters in a mature riparian forest, with a canopy cover of 20 to 80 percent. Most trees are winter deciduous. There is a subcanopy tree layer and an understory shrub layer. Wild grapes (*Vitis californica*) frequently provide up to 50 percent of the ground cover and festoon trees to heights of 20-30 meters. Herbaceous vegetation constitutes about one percent of the cover, except in open areas where tall forbs and shade-tolerant grasses occur. Many non-native invasive species can also be found, and are sometimes common, in riparian habitat. Oak woodland, oak savanna, and elderberry savanna can occur as both riparian and non-riparian communities.

Dominant riparian canopy layer species include cottonwood (*Populus* sp.), California sycamore (*Platanus racemosa*), willow (*Salix* spp.) black walnut (*Juglans* spp.) and valley oak (*Quercus lobata*). Subcanopy trees include boxelder (*Acer negundo*) and Oregon ash (*Fraxinus latifolia*), and typical understory shrub layer plants include wild grape, wild rose (*Rosa* sp.), blackberry (*Rubus* sp.), poison oak (*Toxicodendron diversilobum*), and buttonbush (*Cephalanthus occidentalis*), and willows. The herbaceous layer consists of sedges (*Carex* sp.), rushes, grasses, miner's lettuce (*Claytonia* sp.), mugwort (*Artemisia* sp.), poison-hemlock (*Conium maculatum*), and hoary nettle (*Urtica dioica*). Many non-native woody species occur with elderberry including tree-of-heaven (*Ailanthus altissima*) and black locust (*Robinia pseudoacacia*)

Elderberry shrubs can be a common understory plant in both non-riparian valley oak and blue oak woodland habitats. Valley oak woodland is generally found at lower elevations than blue oak woodlands, but the two habitat types transition into each other in the lower foothill regions. Annual grasses and forbs dominate the herbaceous layer in both woodland habitat types (Mayer and Laudenslayer 1998) and both intergrade with annual grassland. Valley oak woodland can occur from savanna-like conditions to denser forest-like conditions, with tree density tending to increase along

natural drainages. Valley oak woodlands are almost exclusively dominated by valley oak, but may also contain sycamore, black walnut, blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizeni*), and boxelder. Understory shrubs may include species such as, wild grape, toyon (*Heteromeles arbutifolia*), and California coffeeberry (*Frangula californica*). Blue oak woodlands can also occur from savanna-like conditions to denser forest-like conditions with a nearly closed canopy. Blue oak woodland is comprised of 85 to 100 percent blue oak trees, but may contain interior live oak and valley oak.

Common shrub associates include poison-oak, California coffeeberry, buckbrush (*Ceanothus cuneatus*), California buckeye (*Aesculus californica*), and manzanita (*Arctostaphylos* sp.). Within both of these habitats, elderberry may be found in the understory as well as in small clumps within the upland savanna. Elderberry shrubs are also often found away from riparian areas where ditches, irrigation, groundwater, or other features allow the plant to receive enough moisture and as ornamental plantings in regularly maintained landscaped areas.

3.1.1 Use of Riparian Habitat

Research suggests that the VELB occurs throughout the Central Valley in metapopulations (Collinge et al. 2001). Metapopulations are defined as a system of discrete subpopulations that may exchange individuals through dispersal or migration (Breininger et al. 2012, Nagelkerke et al. 2002). The VELB metapopulation occurs throughout contiguous intact riparian habitat as subpopulations that shift spatially and temporally within drainages, resulting in a patchwork of occupied and unoccupied habitat. Removal of suitable habitat (whether occupied or unoccupied) can increase the distance between occupied and unoccupied patches. Because its physical dispersal capability is limited, this fragmentation decreases the likelihood of successful colonization of unoccupied habitat (Collinge et al. 2001). As a consequence, the subpopulations are more vulnerable to stochastic events that may reduce or eliminate the subpopulation. The loss of multiple subpopulations can have an adverse impact on the long-term persistence and health of the metapopulation. Therefore, maintaining contiguous areas of suitable habitat is critical for maintaining the VELB.

At the local level, it appears that much of the variation in VELB occupancy of elderberry shrubs results from variables such as elderberry condition, water availability, elderberry density, and the health of the riparian habitat (Talley et al. 2007). This research indicates that healthy riparian systems supporting dense elderberry clumps are the primary habitat of VELB (Barr 1991, Collinge et al. 2001, Talley et al. 2006, Talley et al. 2007). Elderberry shrubs typically have a clumped distribution across the landscape (Figure 1) although they can occur singly. Upon emergence, VELB typically stay within the local clump (Talley et al. 2007). Talley et al. (2007) found that much of the time, distances between stems with exit holes averaged 25-50 meters (65-165 feet) apart. At larger scales, average distances between these occupied clumps ranged from 200 meters (656 feet) up to 800 meters (2,625 feet) (Figure 1).

Because the elderberry is the sole host plant of the VELB, any activities that adversely impact the elderberry shrub may also adversely impact the VELB. Adverse impacts to elderberry shrubs can occur

either at a habitat scale or at an individual shrub scale. Activities that reduce the suitability of an area for elderberry plants or elderberry recruitment and increase fragmentation may have adverse impacts to mating, foraging, and dispersal of VELB. The patchy nature of VELB habitat and habitat use makes the species particularly susceptible to adverse impacts from habitat fragmentation.

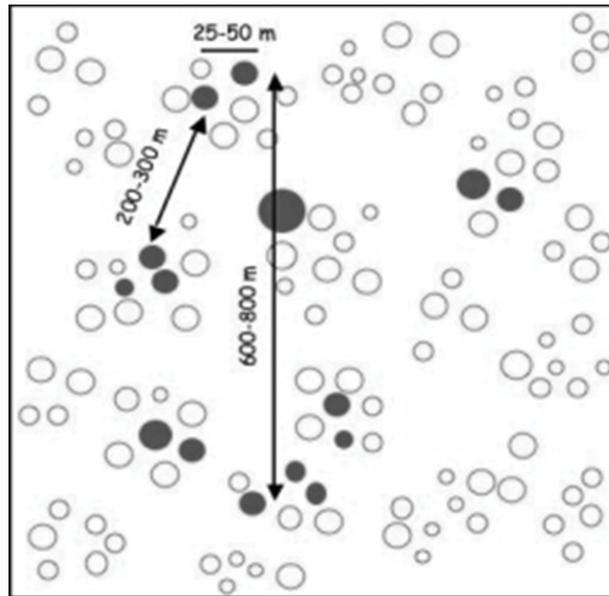


Figure 1. Schematic diagram of the spatial population structure of the valley elderberry longhorn beetle. Open circles represent unoccupied elderberry shrubs, closed circles are occupied by the valley elderberry longhorn beetle. Aggregation sizes and distances used are those found on the American River Parkway, where occupied clumps are approximately 25-50 meters apart, distances between aggregations of occupied clumps are approximately 200-300 meters, and the extent of the cluster of aggregations is 600-800 meters (Talley et al. 2006).

Determining whether an individual plant or clump is occupied by VELB can be challenging. Often the only external evidence that a VELB is present is the small exit hole made by the larva as it leaves the stem. Traditional exit hole surveys can help identify the past use of a particular shrub by VELB, but not its current occupancy. This difficulty makes assessing the likelihood of presence of individual VELB difficult. However, Talley et al. (2007) found that 73% of shrubs with old exit holes also had new exit holes, indicating that presence of an exit hole in the shrub increases the likelihood that that shrub or nearby shrubs are occupied. Therefore, impacts to individual shrubs with exit holes are reasonably likely to result in impacts to individual VELB, but the likelihood of adverse effects may not always be ascertained simply by the presence of exit holes (or the lack of). A more thorough analysis of nearby occurrences, surrounding habitat, and elderberry density is needed to fully address adverse impacts. In general, because of the difficulty in detecting VELB, the patchy nature of its distribution, and the importance of unoccupied habitat to maintain connectivity between VELB metapopulations, any

impacts to riparian habitat with elderberry shrubs present are likely to result in adverse effects to VELB.

3.1.2 Use of Non-Riparian Habitat

Much of the existing research has focused on the VELB's use of riparian habitat. In non-riparian habitats, a patchwork of individual shrubs provides opportunity for VELB occupancy, but it is unknown if the movement and distribution patterns remain consistent with the patterns found in riparian areas. In non-riparian areas, adverse effects to of VELB are likely to occur as a result of impacts to any elderberry shrub with exit holes, and adverse effects may result from disturbance to elderberry shrubs reasonably close to riparian areas or known VELB populations.

4.0 Occupancy Determination in Non-Riparian Habitat and Appropriate Surveys

The decision tree shown in Figure 2 is used by the Sacramento Fish and Wildlife Office to assess the effect of any proposed project on the VELB. It is recommended that proposed project sites within the range of the VELB be surveyed by a qualified biologist for the presence of elderberry shrubs. If elderberry shrubs are found on or within 50 meters (165 feet) of the project site, we recommend that the habitat be assessed to determine if the project area is in riparian or non-riparian habitat. Depending on the size, duration and/or type of proposed project, the larger area surrounding the project site may also be surveyed for the presence and number of elderberry shrubs.

If the project site is non-riparian and contains elderberry shrubs, we use exit hole surveys to evaluate the site for potential occupancy. Exit hole surveys are not essential in riparian areas, but may be conducted in order to assess the level and significance of adverse effects. The presence of exit holes in a shrub increases the likelihood that the shrub is occupied by VELB; however, a lack of exit holes does not preclude occupancy by the VELB. In the absence of exit holes we recommend that a biologist evaluate the project area using the following criteria (also shown in Figure 2):

1. Is there a riparian area, elderberry shrubs, or known VELB records within 800 meters (2,526 feet) of the proposed project?
Isolated, non-riparian elderberry clumps are less likely to be occupied or become colonized by VELB and those beyond 800 meters (2,526 feet) from the nearest elderberry clump become increasingly less likely to be occupied. Therefore, a qualified biologist can assess the distance of the elderberry shrub from the nearest riparian area, elderberry shrub, and known occupied elderberry location.
2. Was the site continuous with a historical riparian corridor?
Fragmentation of riparian corridors in the Central Valley has resulted in the isolation of elderberry shrubs or clusters that may provide important linkages between or within riparian corridors. A qualified biologist can evaluate the project location in the context of the historical riparian system. Isolated elderberry clumps that were part of a historic riparian vegetative community may still support VELB.

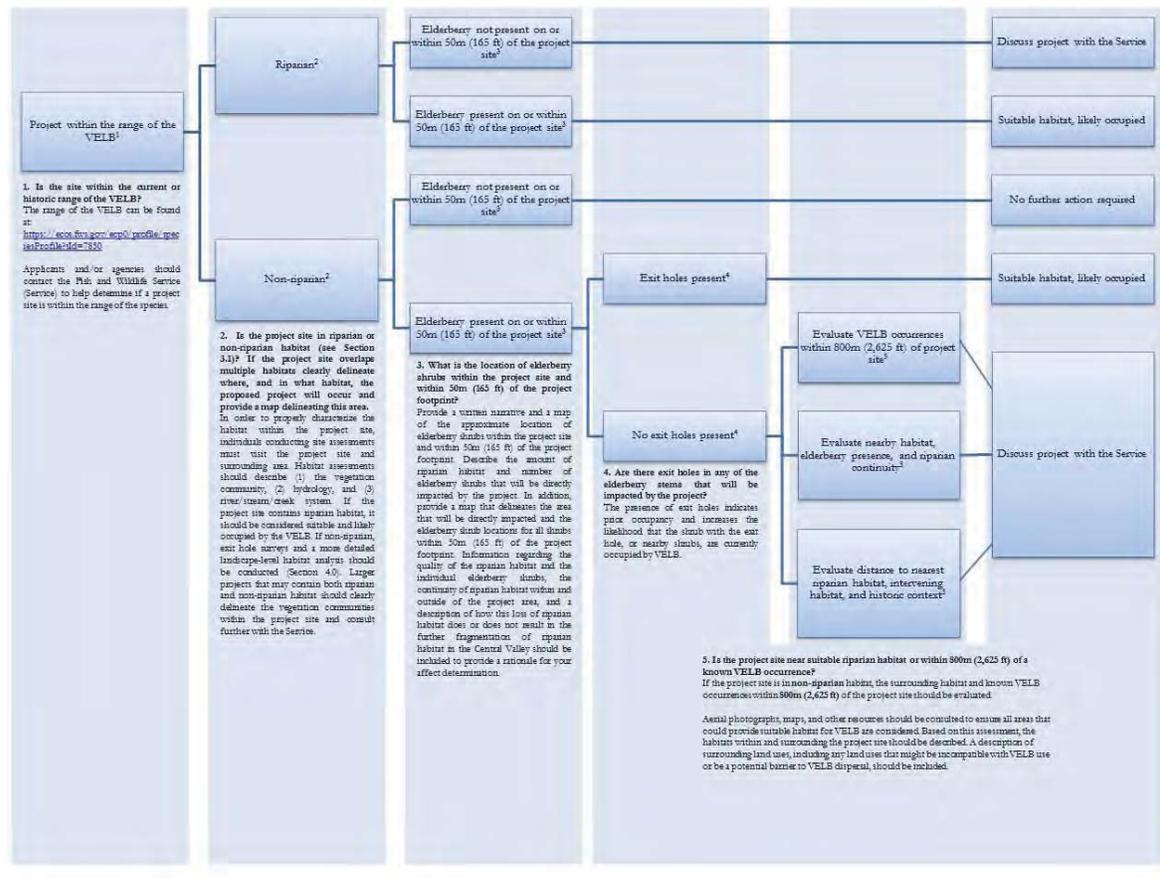


Figure 2. Decision tree to determine the likelihood of a particular elderberry shrub being occupied by valley elderberry longhorn beetle.

5.0 Conservation Measures

We encourage the development of proposed project designs that avoid riparian habitat and/or elderberry shrubs whenever possible. If elderberry shrubs occur on or within 50 meters (165 feet) of the project area, adverse effects to VELB may occur as a result of project implementation. If the project may affect VELB or its habitat, appropriate avoidance and minimization measures are recommended.

5.1 Avoidance and Minimization Measures

The following measures are recommended for incorporation into a proposed project to avoid and minimize effects to VELB and/or its habitat. Not all measures may be appropriate for every project, and agencies/applicants should coordinate with the Service to determine which measures may be needed. The text in this section and Section 5.2 is intended to provide language that may be used by agencies/applicants to describe avoidance and minimization measures for their proposed project.

Fencing. All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible.

Avoidance area. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least 6 meters (20 feet) from the drip-line, depending on the type of activity.

Worker education. A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for non-compliance.

Construction monitoring. A qualified biologist will monitor the work area at project-appropriate intervals to assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the project specifics and should be discussed with the Service biologist.

Timing. As much as feasible, all activities that could occur within 50 meters (165 feet) of an elderberry shrub, will be conducted outside of the flight season of the VELB (March - July).

Trimming (See 5.3). Trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to VELB when trimming, trimming will occur between November and February and will avoid the removal of any branches or stems that are ≥ 1 inch in diameter. Measures to address regular and/or large scale maintenance (trimming) should be established in consultation with the Service.

Chemical Usage. Herbicides will not be used within the drip-line of the shrub. Insecticides will not be used within 30 meters (98 feet) of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method.

Mowing. Mechanical weed removal within the drip-line of the shrub will be limited to the season when adults are not active (August - February) and will avoid damaging the elderberry.

Erosion Control and Re-vegetation. Erosion control will be implemented and the affected area will be re-vegetated with appropriate native plants.

5.2 Transplanting

In order to protect VELB larvae to the greatest extent possible, we recommend that all elderberry shrubs with stems greater than 1 inch in diameter be transplanted under the following conditions:

1. If the elderberry shrub cannot be avoided.
2. If indirect effects will result in the death of stems or the entire shrub.

Removal of entire elderberry plants without disturbance to the surrounding habitat is uncommon, but may occur on certain projects. The removal may either include the roots or just the removal of the aboveground portion of the plant. We encourage project applicants to attempt to remove the entire root ball and transplant the shrub, if possible. In order to minimize the fragmentation of VELB habitat, the Service encourages applicants to relocate elderberry shrubs as close as possible to their original location. Elderberry shrubs may be relocated adjacent to the project footprint if: 1) the planting location is suitable for elderberry growth and reproduction; and 2) the project proponent is able to protect the shrub and ensure that the shrub becomes reestablished. If these criteria cannot be met, the shrub may be transplanted to an appropriate Service-approved mitigation site. Any elderberry shrub that is unlikely to survive transplanting because of poor condition or location, or a shrub that would be extremely difficult to move because of access problems, may not be appropriate for transplanting. The following transplanting guidelines may be used by agencies/applicants in developing their VELB conservation measures:

Monitor. A qualified biologist will be on-site for the duration of transplanting activities to assure compliance with avoidance and minimization measures and other conservation measures.

Exit Holes. Exit-hole surveys will be completed immediately before transplanting. The number of exit holes found, GPS location of the plant to be relocated, and the GPS location of where the plant is transplanted will be reported to the Service and to the California Natural Diversity Database (CNDDDB).

Timing. Elderberry shrubs will be transplanted when the shrubs are dormant (November through the first two weeks in February) and after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the shrub and increase transplantation success.

Transplanting Procedure. Transplanting will follow the most current version of the ANSI A300 (Part 6) guidelines for transplanting (<http://www.tcia.org/>).

Trimming Procedure. Trimming will occur between November and February and should minimize the removal of branches or stems that exceed 1 inch in diameter.

5.3 Impacts to Individual Shrubs

In certain instances, impacts to elderberry shrubs, but not the surrounding habitat may occur. This could take the form of trimming or complete removal of the plant. Trimming elderberry shrubs may result in injury or death of eggs, larva, or adults depending on the timing and extent of the trimming. Since the larva feed on the elderberry pith while they are developing, any trimming that could affect the health of the plant and cause the loss of stems may kill any larva in those stems. No adverse impacts to the VELB will occur if trimming does not remove stems/branches that are ≥ 1 inch in diameter and is conducted between November and February. Trimming that occurs outside of this window or removes branches ≥ 1 inch in diameter may result in adverse effects to VELB. In order to assess the risk of take from trimming activities, we recommend the following be evaluated:

1. Conduct an exit hole survey on the plant
2. Evaluate the surrounding habitat (riparian vs. non-riparian).
3. Evaluate the potential suitability of the plant to provide VELB habitat.
 - a. Riparian plants are much more likely to be occupied or colonized by VELB.
 - b. Plants in non-riparian locations should be evaluated using the criteria in Figure 2.

6.0 Compensatory Mitigation

For all unavoidable adverse impacts to VELB or its habitat, we recommend that lead agencies and project applicants coordinate with the Service to determine the appropriate type and amount of compensatory mitigation. For plants in riparian areas, compensation may be appropriate for any impacts to VELB habitat. In non-riparian areas, compensation is typically appropriate for occupied shrubs (Figure 2). Appropriate compensatory mitigation can include purchasing credits at a Service-approved conservation bank, providing on-site mitigation, or establishing and/or protecting habitat for VELB.

It is recommended that the permanent loss of VELB habitat be replaced with habitat that is commensurate with the type (riparian or non-riparian) and amount of habitat lost. Suitable riparian habitat may be replaced, at a minimum of 3:1 for all acres that will be permanently impacted by the project (Table 1). Suitable non-riparian habitat may be replaced, at a minimum of 1:1 for all acres that will be permanently impacted by the project (Table 1). We typically recommend that any shrub that will be adversely impacted by the project be transplanted to a Service-approved location.

We encourage agencies and/or applicants to propose appropriate compensation for all individual shrubs that will be impacted by the project. Strong compensation proposals consider the location of the plant (riparian or non-riparian) and the potential for the plant to be occupied by VELB (exit

holes present, likely occupied). Projects that only directly affect individual shrubs may consider replacing habitat based on the amount of effects that occur, the location of the shrub (riparian or non-riparian), and the presence of exit holes (non-riparian only) (Table 2). Impacts to individual shrubs in riparian areas may be replaced by the purchase of 2 credits at a Service-approved bank for each shrub that will be trimmed regardless of the presence of exit holes. If the shrub will be completely removed by the activity, the entire shrub may be transplanted to a Service-approved location in addition to the credit purchase. We recommend impacts to individual shrubs in non-riparian areas be replaced through a purchase of 1 credit at a Service-approved bank for each shrub that will be trimmed if exit holes have been found in any shrub on or within 50 meters (165 feet) of the project area. If the shrub will be completely removed by the activity, we suggest that the entire shrub be transplanted to a Service-approved location in addition to a credit purchase.

Table 1. Potential Valley Elderberry Longhorn Beetle Habitat-Level Compensation Examples

Habitat	Compensation Ratio ¹	Total Acres of Disturbance	Acres of Credits	Total Credit Purchase ²
Riparian	3:1	1.2 acres	3.6 acres	87.8
Non-riparian	1:1	0.5 acre	0.5 acre	12.1

¹ acre(s) of credits: acre(s) of disturbance

² One credit (unit) = 1,800 sq. ft.

Table 2. Valley Elderberry Longhorn Beetle Shrub-Level Impact Compensation

Habitat	Compensation Ratio ¹	If the entire shrub will be removed
Riparian	2:1	Transplant the shrub + 2:1 compensation
Non-riparian (exit holes present)	1:1	Transplant the shrub + 1:1 compensation

¹ number of credits: number of shrubs trimmed

² One credit (unit) = 1,800 sq. ft. or 0.041 acre

The compensation scenarios in Table 1 are examples of the amount of habitat (riparian or non-riparian) that may be appropriate to compensate for a project’s adverse impacts. Additional examples can be found in Appendix B. The amount of compensation deemed appropriate to offset effects to VELB will take into consideration the effects of the project and desired conservation outcome. The compensation examples in this Framework are for illustrative purposes only. Alternative methods for determining compensation should be coordinated with the Service. Currently, compensation at Service-approved VELB banks is partitioned into 1,800 sq. ft. basins.

Under this scheme, a single credit equals 1,800 sq. ft. or 0.041 acres. In order to calculate the total compensation credits needed for impacts to VELB, the total amount of disturbance in square feet should be calculated, the appropriate ratio applied, and the total number divided by 1,800.

We recommend that any project that occurs in suitable habitat (riparian or non-riparian) compensate for that loss in proportion to the total amount of habitat that will be disturbed as a result of project implementation. The acreage of habitat lost can be assessed based on all permanent surface disturbance including access routes and staging areas.

6.1 Compensatory Mitigation Proposals

If the lead agency or applicant is not purchasing credits at a Service-approved bank, they may compensate for habitat loss through on- or off-site mitigation. The Service has issued interim standards for the long-term management and protection of mitigation sites (https://www.fws.gov/endangered/improving_easa/). Those proposing on-site compensation, off-site habitat creation/enhancement, or those proposing to create a Service-approved conservation bank should work closely with the Service during the planning and development process. It is recommended that all plans adhere to the following criteria that are specific to VELB:

Site Selection and Development. Proposals using a strategic approach to ecosystem protection and restoration that will promote VELB metapopulation dynamics are preferred. Criteria for a suitable mitigation site may include abiotic factors such as soils, water availability, and prior land use as well as the proximity of the site to existing riparian habitat and known VELB records. Appropriate site selection is critical for achieving conservation success. A site that has incompatible soils or hydrology may not be able to meet the success criteria. Proposals that protect or enhance existing riparian habitat are preferred and the proposal should detail what, if any, measures will be needed to restore the site to ensure that it is suitable for elderberry survival.

Planting Plan. We recommend all proposals be designed to meet the desired distribution and density for elderberry shrubs and native associates that will be planted at the mitigation site in accordance with 1-3 below. The planting plan should be specific to the site and factors that will influence the success of the elderberry and native associate plantings. The plan should seek to establish a diverse natural riparian community with a complex vegetation structure. Native associates should include a mix of woody trees, shrubs, and other natives appropriate for the site. Stock of either seedlings or cuttings should be obtained from local sources. The number of elderberry and native associate plantings should be based on the desired distribution and density outcome proposed in the planting plan. The Service encourages planting plans that promote spatial and structural diversity within the mitigation site. We recommend planting plans be designed to meet the following goals:

1. Maximize the number of stems between 2 (0.8 inches) and 12 centimeters (4.7 inches). Talley et al. (2007) found stems within this size range had the largest proportion of VELB exit holes.
2. Minimize competition for sunlight and water. Native associates, particularly trees, can influence the long-term success of the mitigation site. Native associates should be planted at a ratio of 1 native associate for every 3 elderberry plants to avoid competition for sunlight and water with the elderberry plantings.
3. Achieve an average elderberry stem density of 240 stems/acre. This was the average stem density Vaghti et al. (2009) found for elderberry shrubs along the major river systems within the VELB range. The Service and lead agency or applicant should assess this goal after 5 years.

Buffer. A buffer area may be needed between the mitigation site and adjacent lands, depending on adjacent land-use. An appropriate buffer distance can be developed in coordination with the Service when proposing compensation. Although the buffer would be considered part of the mitigation site, the acreage of the buffer may not be considered compensation.

Success Standards. We recommend that the site management plan and/or planting plan specify timelines for achievement of the success standards for the site, as stated below. These timelines should reflect the impacts that the site is intended to compensate for, the specific abiotic factors at the site that could influence establishment, or any credit release criteria that need to be met. Standards for VELB mitigation banks can be found in Appendix C. These standards were developed specifically for mitigation banks, but can be broadly applied to all compensatory mitigation for VELB. Some of the timelines described in the standards may not be applicable in all situations, but agencies and applicants should work with the Service to develop success standards that best meet the goals of their individual compensatory mitigation proposal. We suggest that all compensatory mitigation meet the following:

1. A minimum of 60% of the initial elderberry and native associate plantings must survive over the first 5 years after the site is established. As much as feasible, shrubs should be well distributed throughout the site; however, in some instances underlying geologic or hydrologic issues might preclude elderberry establishment over some portion of the site. If significant die back occurs within the first 3 years, replanting may be used to meet the 60% survival criteria. However, replanting efforts should be concentrated to areas containing surviving elderberry plants. In some instances overplanting may be used to offset the selection of a less suitable site.
2. After 5 years, the site must show signs of recruitment. A successful site should have evidence of new growth on existing plantings as well as natural recruitment of elderberry. New growth is characterized as stems < 3 cm (1.2 inches) in diameter. If

no signs of recruitment are observed, the agency or applicant should discuss possible remedies with the Service.

Monitoring. Specific monitoring protocols and reporting timelines for the mitigation site should be developed in coordination with the Service. The population of VELB, the general condition of the mitigation site, and the condition of the elderberry and associated native plantings in the mitigation site should be monitored at appropriate intervals. In any survey year, a minimum of two site visits between February 14 and June 30 of each year must be conducted by a Service-approved biologist. Surveys must include:

1. A search for VELB exit holes in elderberry stems, noting the precise locations and estimated ages of the exit holes. The location of shrubs with exit holes should be mapped with a GPS. Because adult VELB are rarely encountered, targeted surveys for adults are not required. However, surveyors should record all adult VELB seen. Record photographs should be taken for all observations of adult VELB and their location mapped with a GPS. All exit hole or adult VELB observations should be reported to CNDDDB.
2. An evaluation of the success standards outlined above.
3. An evaluation of the adequacy of the site protection (fencing, signage, etc.) and weed control efforts in the mitigation site. Dense weeds and grasses such as Bermuda grass (*Cynodon dactylon*) are known to depress elderberry recruitment and their presence should be controlled to the greatest extent practicable.
4. An assessment of any real or potential threats to VELB and its host plant, such as erosion, fire, excessive grazing, off-road vehicle use, vandalism, and excessive weed growth.
5. A minimum of 10 permanent photographic monitoring locations should be established to document conditions present at the mitigation site. Photographs should be included in each report.

Reports. A reporting timeline should also be developed during the development of monitoring protocols for the mitigation site. Reports submitted to the Service should present and analyze the data collected from the monitoring surveys. Copies of original field notes, raw data, photographs, and a vicinity map of the site (including any adult VELB sightings and/or exit hole observations) of the mitigation site must be included with the report. Copies of the report (including any applicable Service file number) must be submitted within 6 months of the survey to the Service (Field Supervisor) at the following address:

U.S. Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, CA 95825.

7.0 Other Activities

The Framework may not be applicable for restoration, floodway maintenance, and other large scale habitat modification activities. These activities and the potential effects to VELB and its habitat should be considered on a project-by-project basis and discussed with the Service. We recommend that project proponents consider the effects to the species on a landscape level and ultimately seek to protect, preserve, and restore the continuity of VELB habitat. These and similar activities that may adversely impact the VELB and its habitat at landscape scales should consider avoidance, minimization, and compensation strategies that are appropriate for the specific project.

Compensation may not be appropriate for those projects that impact only individual elderberry shrubs or result in a net benefit to VELB. Some possible conservation measures to consider for these large scale projects include:

1. Transplanting all affected elderberries to a similar on-site location.
2. Maintaining patches of appropriate habitat in areas where large-scale removal of elderberry shrubs will occur.
3. Scale trimming, removal, and other activities that allow VELB to persist within the area.

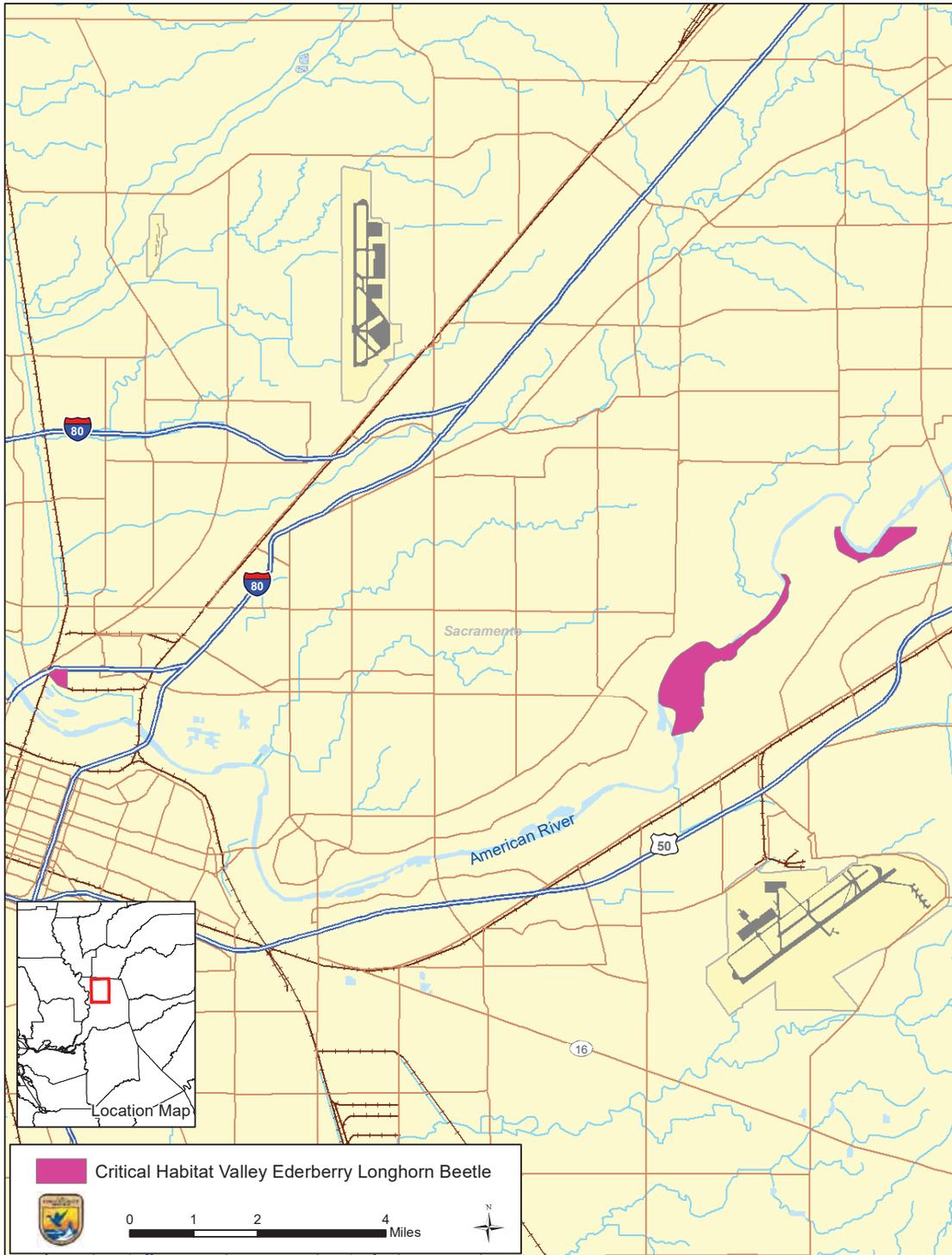
Literature Cited

- Arnold, R.A. 1984. Letter to Carolyn Slobe, North Sacramento Land Company, Sacramento, California. Dated June 24, 1984.
- Arnold, R. A. and J. Woollett. 2004. Report on the Threatened Valley Elderberry Longhorn Beetle and its Elderberry Food Plant at the Lawrence Livermore National Laboratory—Site 300. U.S. Department of Energy, Lawrence Livermore National Laboratory; Livermore, California. 34pp.
- Barr, C.B. 1991. The Distribution, Habitat, and Status of the Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* Fisher (Insecta: Coleoptera: Cerambycidae). U.S. Fish and Wildlife Service; Sacramento, California. 134 pp.
- Bell, C.D. 2016. *Sambucus*, in Jepson Flora Project (eds.). *Jepson eFlora*. Available: http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=10321. Accessed on August 25, 2016.
- Breining, D.R., M.A. Burgman, H.R. Akçakaya, and M.A. O'Connell. 2002. Use of metapopulation models in conservation planning. Pp. 405–427 in *Applying Landscape Ecology in Biological Conservation* [K.J. Gutzwiller (ed.)]. Springer-Verlag; New York, New York.
- Burke, H.E. 1921. Biological notes on *Desmocerus*, a genus of roundhead borers, the species of which infest various elders. *Journal of Economic Entomology* 14:450–452.
- Chemsak, J.A. 2005. Subfamily Lepturinae Latreille, Tribe Desmocerini Thomson. Pp. 1–14 in *Illustrated Revision of the Cerambycidae of North America (Vol II. Lepturinae)*. Wolfsgarden Books; Chino, California. 446 pp. + plates.
- Collinge, S.K., M. Holyoak, C.B. Barr, and T.J. Marty. 2001. Riparian habitat fragmentation and population persistence of the threatened valley elderberry longhorn beetle in central California. *Biological Conservation* 100:103–113.
- Fremier, A.K. and T.S. Talley. 2009. Scaling riparian conservation with river hydrology: lessons from blue elderberry along four California Rivers. *WETLANDS* 29:150–162.
- Gilbart, M. 2009. The health of blue elderberry (*Sambucus mexicana*) and colonization by the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) in restored riparian habitat. A thesis presented to the faculty of the California State University, Chico. Summer 2009.

- Greenberg, A. 2009. A model of the longterm persistence of the valley elderberry longhorn beetle. A thesis presented to the faculty of Humboldt State University, in partial fulfillment of the requirements for the degree Master of Science in Environmental Systems, Mathematical Modeling. 76 pp.
- Halstead, J.A. and J.A. Oldham. 1990. Special studies report: revision of the Nearctic *Desmocerus Audinet-Serville* with emphasis on the federally threatened valley elderberry longhorn beetle. (Coleoptera: Cerambycidae). Kings River Conservation District Research Report No. 90-002. 47 pp. + Figures.
- Holyoak, M. 2010. Monitoring Plan Development for the Valley Elderberry Longhorn Beetle (VELB) for the Sacramento River. Report to The Nature Conservancy; Chico, California. 9 pp.
- Katibah, E.F. 1984. A brief history of riparian forests in the Central Valley of California. Pp. 23–29 *in* California Riparian Systems: Ecology, Conservation, and Productive Management [R.E. Warner and K.M. Hendrix (eds.)]. University of California Press; Berkeley and Los Angeles, California.
- Mayer, K.E. and W. F. Laudenslayer (Eds.). 1988. A Guide to Wildlife Habitats of California. State of California, Resources Agency, Department of Fish and Game, Sacramento, CA. 166 pp.
- Nagelkerke, Kees (C.J.), J. Verboom, F. van den Bosch, and K.van de Wolfshaar. 2002. Time lags in metapopulation responses to landscape change. Pp. 330–354 *in* Applying Landscape Ecology in Biological Conservation [K.J. Gutzwiller (ed.)]. Springer-Verlag; New York, Inc.
- Talley, T.S. 2005. Spatial ecology and conservation of the valley elderberry longhorn beetle. Dissertation submitted in partial satisfaction of the requirements for the degree of Doctor of Philosophy in Ecology. University of California; Davis, California. 105 pp.
- Talley, T.S., D. Wright, and M. Holyoak. 2006. Assistance with the 5-year review of the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Report to the U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California. 74 pp. + appendix.
- Talley, T.S., E. Fleishman, M. Holyoak, D.D. Murphy, and A. Ballard. 2007. Rethinking a rare-species conservation strategy in an urban landscape: The case of the valley elderberry longhorn beetle. *Biological Conservation* 135:21–32.

- Thompson K. 1961. Riparian Forests of the Sacramento Valley, California. *Annals of the Association of American Geographers* 51(3):294–315.
- U.S. Fish and Wildlife Service (Service). 1984. Recovery Plan for the Valley Elderberry Longhorn Beetle. Dated June 28, 1984. U.S. Fish and Wildlife Service; Portland, Oregon.
- Vaghti, M.G. and S.E. Greco. 2007. Riparian vegetation of the Great Valley. Pp. 425-455 *in* Terrestrial vegetation of California, 3rd edition. University of California Press, Berkeley, California.
- Vaghti, M.G., M. Holyoak, A. Williams, T.S. Talley, A.K. Fremier, and S.E. Greco. 2009. Understanding the ecology of blue elderberry to inform landscape restoration in semiarid river corridors. *Environmental Management* 43:28–37.
- Washington State Department of Natural Resources. 2016. Forest Practices Rule Book. Rules WAC 222.

Appendix A. Valley Elderberry Longhorn Beetle Critical Habitat



Appendix B. Compensation Examples

#1. An applicant is proposing to repair a bridge over Putah Creek. The project will require excavation within the channel and a re-contour of approaches to the new bridge. Pre-construction surveys noted that 3 elderberry shrubs in riparian habitat were within the project area, 2 of these shrubs will be directly impacted by the excavation work. The third shrub will be avoided using the appropriate avoidance and minimization measures. During the project, 0.5 acre of riparian habitat will need to be removed. The applicant has proposed to transplant the 2 directly affected elderberry shrubs to a Service-approved conservation bank and purchase 1.5 acres of credits at the conservation bank.

Conclusion: The project contains 3 elderberry shrubs on or within 50m of the project area. The project will result in the fragmentation of riparian habitat through the loss of 0.5 acres of riparian habitat. The compensation of 3:1 is appropriate for this project because it will be removing riparian habitat. The transplanting of the shrubs is appropriate because they would be directly impacted by the project.

#2. A new bike path will be constructed through an oak woodland/elderberry savanna. Pre-construction surveys identified one elderberry shrub within 0.10 acre of oak woodland/elderberry savanna that will be adversely affected by the proposed action. Exit holes were found on the elderberry shrub. The applicant also identified a conservation area that is suitable for oak woodland/elderberry savanna. Associated natives adjacent to the conservation area are blue oak (*Q. douglasii*), interior live oak, sycamore, poison oak, and wild grape. The applicant and the Service have agreed that transplanting the elderberry shrub into the conservation area and planting the conservation area with non-riparian habitat at a 1:1 ratio is appropriate to off-set the impacts to the VELB from the construction of this project.

Conclusion: The project contains 1 elderberry shrub on or within 50m of the project area. The project will result in the loss of 0.10 acre of non-riparian, elderberry savanna habitat. The proposed compensation of planting the identified conservation area at a 1:1 ratio using the species listed above is appropriate for the project since it will be removing non-riparian habitat. The transplanting of the one shrub into the conservation area is appropriate because it will be directly impacted by the project and the presence of exit holes suggests it was recently occupied by VELB.

The total area required for the conservation plantings are a minimum of 1,800 sq. ft. for one to five elderberry seedlings and up to 5 associated natives. A total of 0.10 acre ($1 \times 0.10 = 0.10$ acre = 4,356 square feet) will be required for the plantings. The conservation area will be seeded and planted with native grasses and forbs, and closely monitored and maintained throughout the monitoring period (see Section 5).

#3. Construction of a cell tower will require the removal of two isolated elderberry shrubs and the temporary loss of a minimal amount of grassland habitat. The project location is 3 miles east of the Feather River. The project site is not near a water course or any other shrubs within 800m. The shrubs were surveyed and do not exhibit exit holes.

Conclusion: The project area contains two non-riparian shrubs on or within 50m of the project area. Since both shrubs lack exit holes, other factors need to be considered to determine the likeliness of occupancy. A review of occurrence data reveals there are no known VELB occurrences within 800m of the project site and historical imagery shows the project site has never been a part of, or connected to, riparian habitat. Based on the specifics of this scenario, the two elderberry shrubs within the project area are not likely to be occupied..

Appendix C. VELB Mitigation Bank Standards

The following was prepared by Sacramento Fish and Wildlife Office conservation banking staff as part of an effort to standardize and make transparent the process for establishing Valley Elderberry Longhorn Beetle (VELB) conservation banks. The credit release schedule and performance standards are intended to be practical, while promoting the success of the plantings. This document is not a comprehensive review of VELB literature, and is subject to revision.

Credit Release Schedule

The credit release schedule and performance standards are designed to ensure that the VELB conservation bank plantings will be self-sustaining after the irrigation is turned-off (before the start of year 5), so the credit release schedule is longer than it would be without irrigation, and credits will not be released prior to the year indicated. Credits will be released per the following schedule, slightly modified from the May 2008 Statewide Banking Template:

Table 1. Credit release schedule.

Credit Release	Action	Credits to be Released
1	Bank Establishment	15%
2	Service Acceptance of As-builts*	25%
3	Meet Year 2 Performance Standards, and endowment funded 15%	15%
4	Meet Year 3 Performance Standards, and endowment funded 40%	15%
5	Meet Year 5 Performance Standards, and endowment funded 70%	15%
6	Meet Year 7 Performance Standards, and endowment funded 100%	15%

*Review to be accomplished within 60 days of receipt of complete as-built drawings.

Note: endowment can be funded on an accelerated schedule, if the bank sponsor so desires.

Performance Standards

Performance standards apply to the credit releases upon the third release. If the elderberry population is too large for direct census, then sampling methods may be used, and they must be thoroughly described in the proposed bank's development and management plans, and will be subject to Service approval. Sample size must be adequate to assess the health of the population, as determined by a qualified plant ecologist¹. Qualifications should be submitted with proposal.

Performance standards are based on survival without re-planting, and on baseline conditions of health and vigor of the elderberry plantings. If performance standards are not met, then the bank sponsor will meet with the Service to determine a course of action.

Table 2. Performance Standards.

Credit Release #	Monitoring Year	Performance Standards
3	Year 2	<ul style="list-style-type: none"> • 60% survival of original planted elderberries without re-planting², and all survivors categorized as “normal”³ to “exceptionally vigorous”³ • 60% survival of associates without re-planting² • Irrigation ok
4	Year 3	<ul style="list-style-type: none"> • Maintain 60% survival of original planted elderberries without re-planting², and all survivors categorized as “normal”³ to “exceptionally vigorous”³ • Maintain 60% survival of associates without re-planting² • Irrigation ok
5	Year 5	<ul style="list-style-type: none"> • Maintain 60% survival of original planted elderberries without re-planting² • Maintain 60% survival of associates without re-planting² • No more than 10% decline in overall health of <i>Sambucus</i> from baseline conditions⁴ • No irrigation⁵ • Fertilizer application prohibited
6	Year 7	<ul style="list-style-type: none"> • Maintain 60% survival of original planted elderberries without re-planting² • Maintain 60% survival of associates without re-planting² • No more than 10% decline in overall health of <i>Sambucus</i> from baseline conditions⁴ • No irrigation⁵ • Fertilizer application prohibited

¹Qualified plant ecologist is defined as a person who:

- a) holds a bachelor’s degree or higher in botany, plant ecology or related plant science, or demonstrates experience equivalent to such education, and
- b) shows demonstrated expertise in ecological sampling/experimental design beyond obtaining an academic degree, and
- c) has 2+ years experience in collecting and analyzing botanical field data beyond obtaining an academic degree

²If re-planting, then time-clock begins again, with no additional credit releases until performance standards for the monitoring year in which the re-planting occurred has been met. Re-planting must be approved by the Service in advance.

³See Vigor and Vitality, below.

⁴Years 2, 3 and 4 are used to establish the baseline condition. See Baseline Conditions, below.

⁵If irrigation continues beyond the end of monitoring year 4, credit release #'s 5 and 6 will be delayed beyond the years indicated in Table 2.

Vigor and Vitality

Observations made by a qualified plant ecologist during the late spring/early summer will be used to determine the vigor and vitality of surviving shrubs for the year 2 and 3 performance standards, and photographs should clearly document this. The following scale will be used (from Mueller-Dombois and Ellenberg, 1974):

- Very feeble, never flowering/fruited
- Feeble
- Normal
- Exceptionally vigorous

Baseline Conditions

Observations made by a qualified plant ecologist during late spring/early summer will be used to determine the baseline conditions of the planted elderberries. Sampling is allowable where the population of planted elderberries is extensive, and must be thoroughly described in the bank's development and management plans. The following measurements will be used to determine baseline conditions (Elzinga, et. al., 1998):

- Height
- # of inflorescences per shrub
- # of stems per shrub
- # of stems over 1" diameter per shrub
- Volume of plant (height x cover)

These measurements will be averaged for surviving shrubs over years 2, 3 and 4. Condition of the planted elderberries in years 5 and 7 will be compared to the baseline. Photographs should clearly document the baseline condition.

Monitoring Reports

Monitoring reports will be required during the establishment period for years 2-7, and should clearly document the progress of the plantings. All surveys must be thoroughly described, and copies of any field notes or data sheets from the current year included. Photographic documentation of elderberry and associate condition during the field surveys is required, and should clearly show the condition of all shrubs sampled. If sampling, describe sampling design. Each report should be comprehensive, and include data summaries and other pertinent information from previous monitoring years.

Requirements for long-term monitoring and reporting, including due dates, should be discussed in the bank's development and management plans.

References for Appendix C

- Elzinga, Caryl L., D. W. Salzer, and J. W. Willoughby. 1998. Measuring and Monitoring Plant Populations. BLM Technical Reference 1730-1.
- Gilbart, Meghan. 2009. The health of blue elderberry (*Sambucus mexicana*) and colonization by the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) in restored riparian habitat. Master's Thesis, California State University, Chico.
- Mueller-Dombois, Dieter and H. Ellenberg. 1974. Aims and methods of vegetation ecology. John Wiley and Sons, Inc.

EXHIBIT F

Permits & Ordinances - City of Sacramento

When is a TREE Permit Needed?

A permit is required to perform regulated work on “City Trees” or “Private Protected Trees” (which includes trees formerly referred to as “*Heritage Trees*”). City trees are characterized as trees partially or completely located in a City park, on City owned property, or on a public right-of-way, including any street, road, sidewalk, park strip, mow strip or alley. Private protected trees are defined as trees designated to have special historical value, special environmental value, or significant community benefit, and is located on private property. Private protected trees are:

- All native trees at 12 inch DSH*. Native trees include: Coast, Interior, Valley and Blue Oaks, CA Sycamore and Buckeye.
- All trees at 32 inch DSH with an existing single family or duplex dwelling.
- All trees at 24 inch DSH on undeveloped land or any other type of property such as commercial, industrial, and apartments.

* DSH = *Diameter Standard Height*. [Learn how to measure a tree's DSH](#).

Approved permits are required before work can be performed. If you plan to perform work on a City or private protected tree, download the [Tree Permit Application \(pdf\)](#). Once received by the Urban Forestry office, permit applications are generally processed within ten (10) business days. This time frame can vary based on the nature of the request and volume of requests received at any given time.

Selecting a Tree Care Professional

The City performs regulated work on City trees only. Tree maintenance for private trees should be provided by trained tree care professionals. When choosing a tree care professional, the following should be considered:

- Membership with a professional organization such as the International Society of Arboriculture (ISA), the Tree Care Industry Association (TCIA), or the Society of Consulting Arborists (ASCA)
- Certification through the ISA's Certified Arborist or Tree Worker programs
- Competitive pricing (three bids)
- Proof of Insurance
- List of references

Sacramento City Ordinances

- [SCC 12.56 – Trees Generally **](#)
- [Water Conserving Landscape Ordinance \(pdf\)](#)

**Sacramento City Code 12.56 was amended and adopted by Sacramento City Council on August 4, 2016. The new tree ordinance amends section 2.62.030 & 8.04.100, and

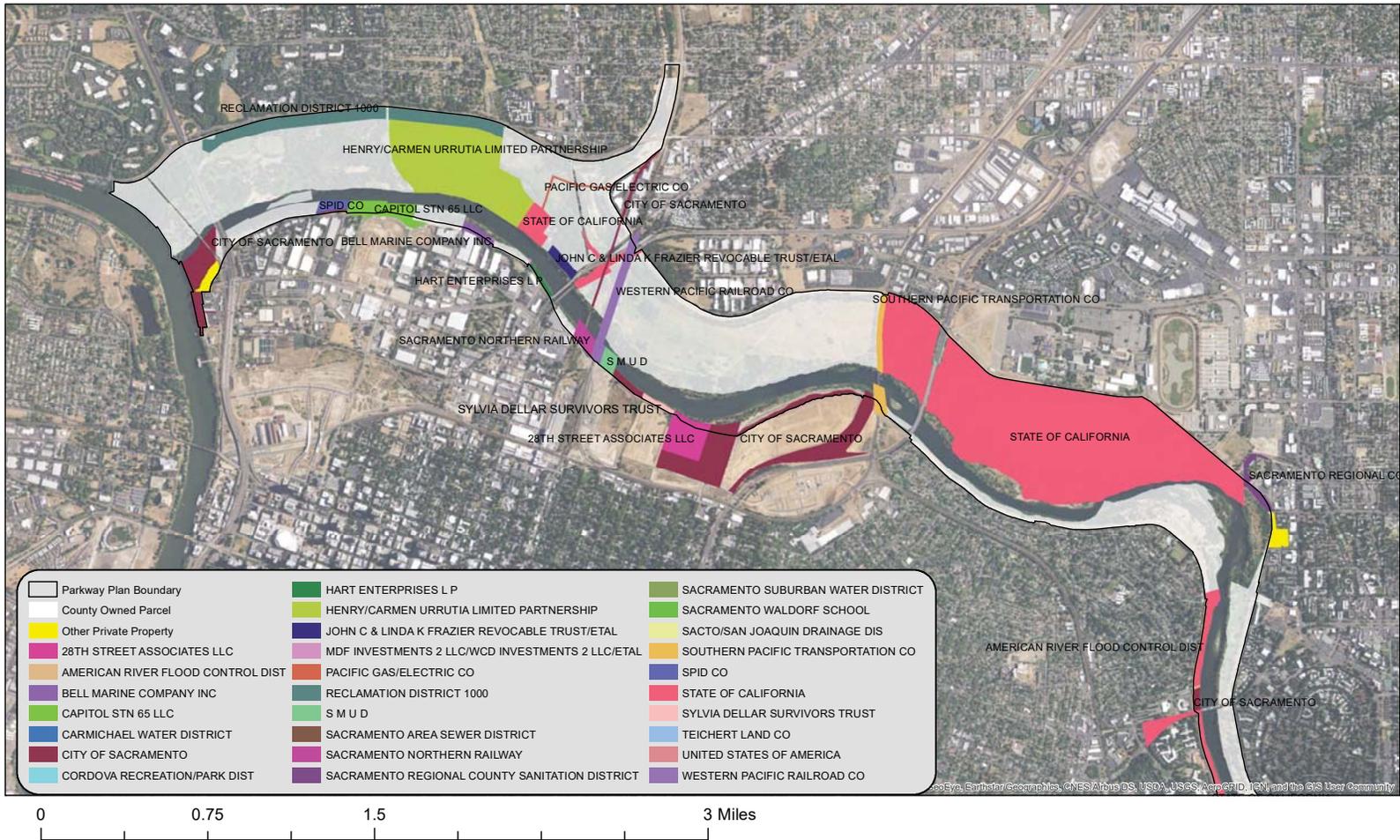
deletes chapter 12.60 & 12.64 of the Sacramento City Code, related to trees.

PARKING LOT SHADE DESIGN GUIDELINES

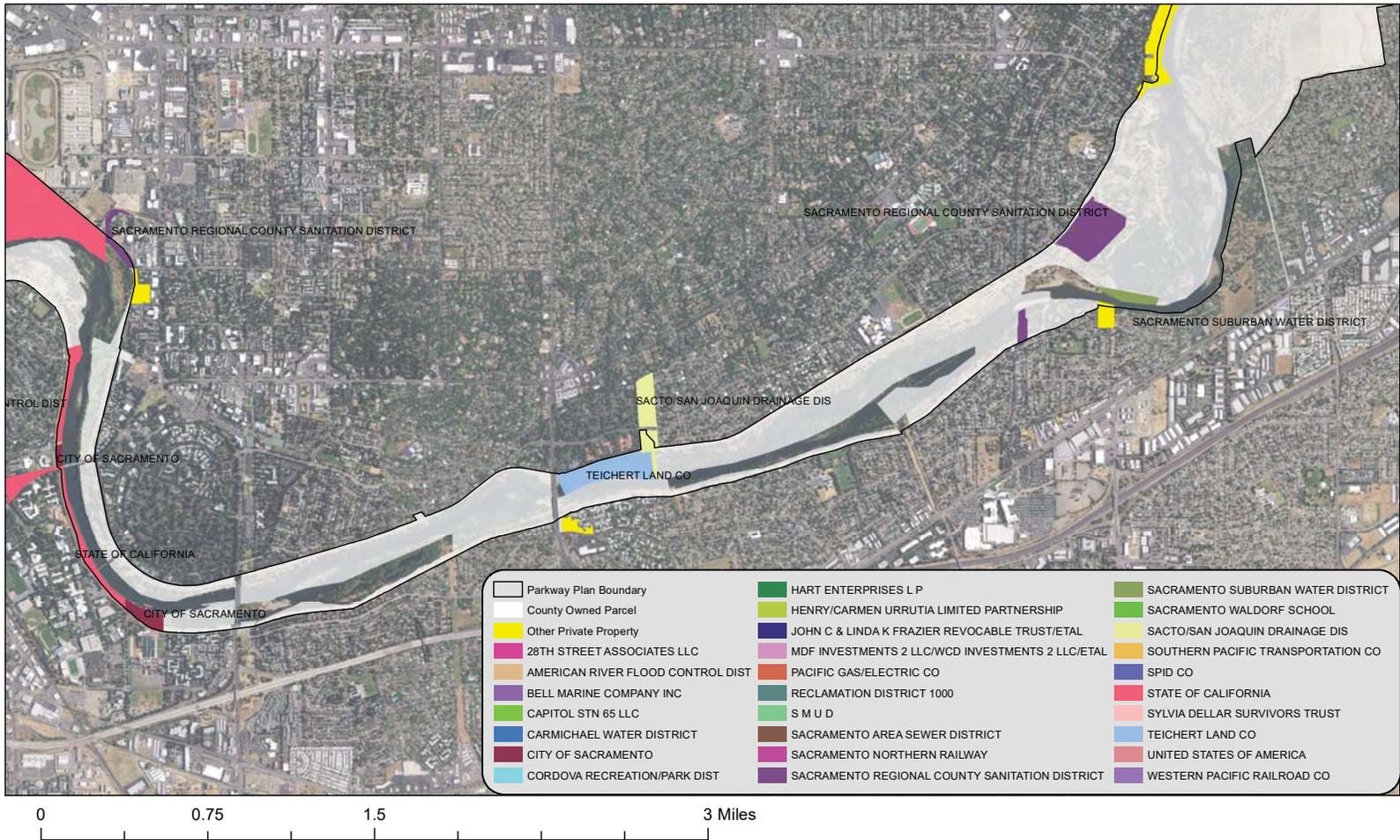
With a few exceptions, chapter 17.612.040 requires that trees be planted and maintained in order to provide a minimum of 50% shade over a parking lot. Planting, soil volumes and maintenance must comply with the [City's Parking Lot Shading Design and Maintenance Guidelines \(pdf\)](#).

EXHIBIT G

American River Parkway County Parcels and Inholdings (11/3/2017)



American River Parkway County Parcels and Inholdings (11/3/2017)



American River Parkway County Parcels and Inholdings (11/3/2017)

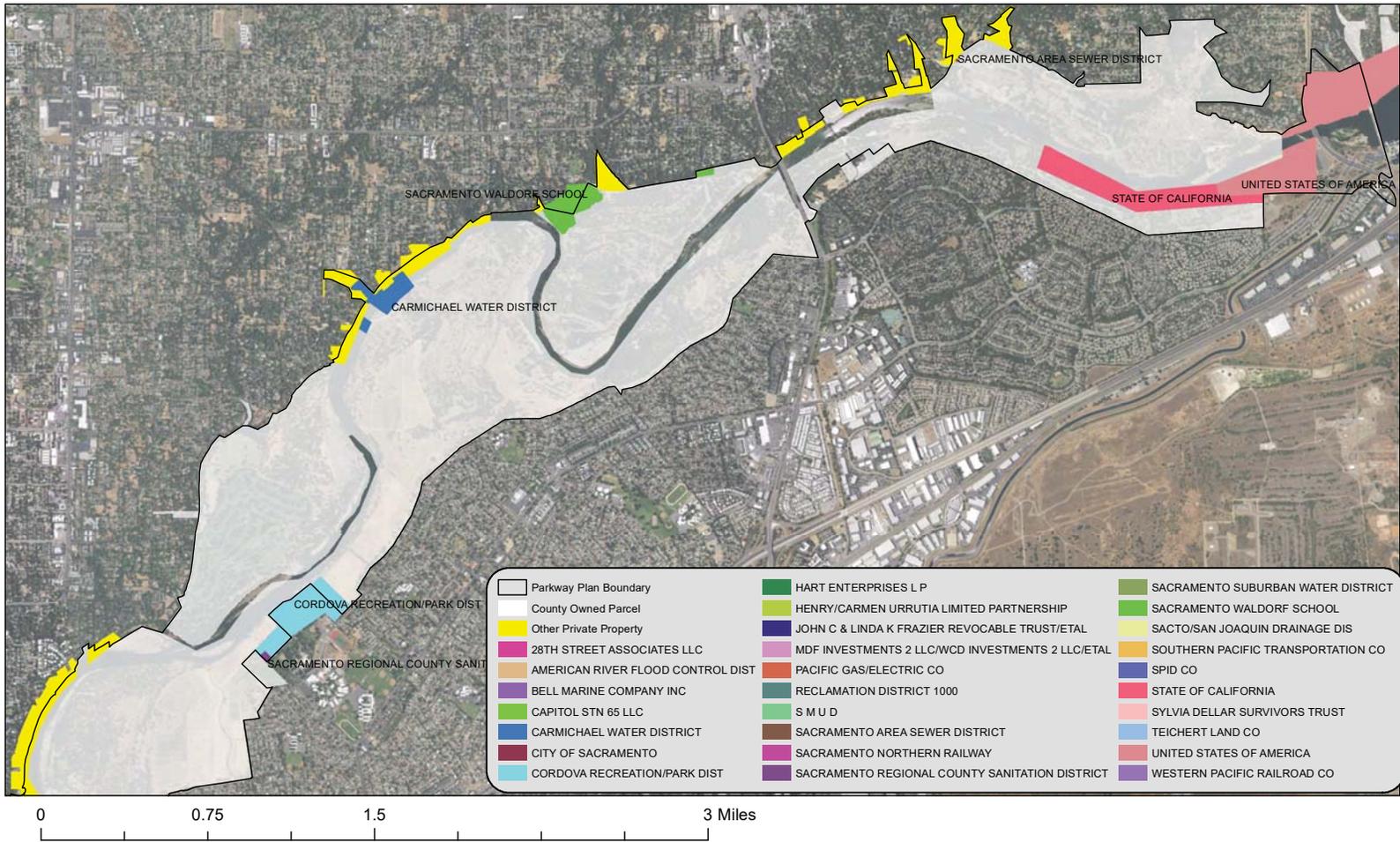


EXHIBIT H



REPORT TO COUNCIL

City of Sacramento

5

915 I Street, Sacramento, CA 95814-2604
www.CityofSacramento.org

CONSENT
January 9, 2007

Honorable Mayor and
Members of the City Council

Title: Change Order #1: Two Rivers Trail Phase I, CIP HB66

Location/Council District: American River Parkway's South Levee / Council District 1

Recommendation: Adopt a **Resolution:** 1) approving Change Order #1 for Two Rivers Trail Phase I, CIP HB66, in the amount of \$365,415.31; and 2) authorizing the City Manager to execute Change Order #1 for Two Rivers Trail Phase I, CIP HB66, in the amount of \$365,415.31.

Contact: J.P. Tindell, Interim Planning and Development Manager, 808-1955

Presenters: Not applicable

Department: Parks and Recreation

Division: Park Planning, Design & Development

Organization No: 4727

Description/Analysis

Issue: To complete construction for the Two Rivers Trail Phase I development, a change order must be approved as a result of an increase in the contract amount. However, Change Order #1, for \$365,415.31, exceeds 10% of the original contract price of \$653,329.00 (CO2006-236) and the City Manager's approval authority set forth in Sacramento City Code Section 3.60.210(B).

A summary of the project history is included as Attachment 1 (page 4) and a location map as Attachment 2 (page 5).

Policy Considerations: A change order must be approved as a result of an increase in contract price. However, Change Order #1 is in excess of the parameters set forth in Sacramento City Code Section 3.60.210 (B) and lies outside the City Manager's approval authority.

Providing parks and recreation facilities is also consistent with the City's strategic plan to enhance liveability in Sacramento's neighborhoods.

Committee/Commission Action: Not applicable. The Parks and Recreation Commission is periodically updated as to the status of construction projects.

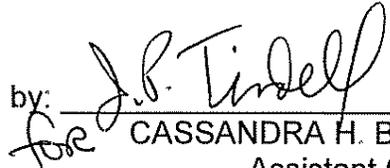
Environmental Considerations: The California Environmental Quality Act (CEQA) documentation, right-of-way engineering, and the survey work on Phase I is complete. On November 8, 2005, the Department Director approved the Negative Declaration for the development of Two Rivers Trail. The Environmental Services Manager determined that the action of approval of the paving construction for Phase I did not require further environmental evaluation, as it fell within the scope of the Negative Declaration. Mandatory mitigation measures, as specified in the Mitigation Monitoring Plan, were incorporated into the project plans to avoid identified impacts or to mitigate such impacts to a point where clearly no significant impacts could occur.

Rationale for Recommendation: Change Order #1 for the Two Rivers Trail Phase I project (Attachment 3, page 6) is necessary primarily to address the requirements from other agencies. The Geotechnical Engineer's report found that the existing soil used to construct the original levee did not meet the current Department of Water Resources or the American River Flood Control District's new specifications for levee fill material; the unsuitable soil needed to be disposed of off site and new material brought in to replace it. Staff recommends authorizing the City Manager to execute Change Order #1 in order to complete the Two Rivers Trail Phase I project.

Financial Considerations: Change Order #1 for Two Rivers Trail Phase I, CIP HB66, is in the amount of \$365,415.31. There are adequate funds in CIP HB66 to fund this change order.

Funding for this park was provided from a 2002 State of California grant (via Fund 248), General Funds (Fund 101), Railyards/Richards/ Downtown Impact Funds (Fund 782), and Transportation Development Funds (Fund 235).

Emerging Small Business Development (ESBD): The selection of Landscape Architect consultants and contractors for this project followed City established guidelines for inclusion of ESBD firms.

Respectfully Submitted by: 
for CASSANDRA H. B. JENNINGS
Assistant City Manager

Recommendation Approved:

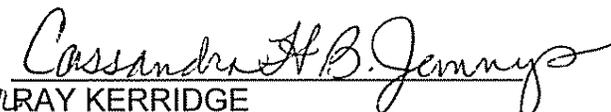

RAY KERRIDGE
City Manager

Table of Contents:

	Pg	1	Report
Attachments			
1	Pg	4	Background Information
2	Pg	5	Signage and On/Off Street Connections Two Rivers Trail Aerial Map
3	Pg	6	Change Order #1
4	Pg	7	Resolution

Attachment 1

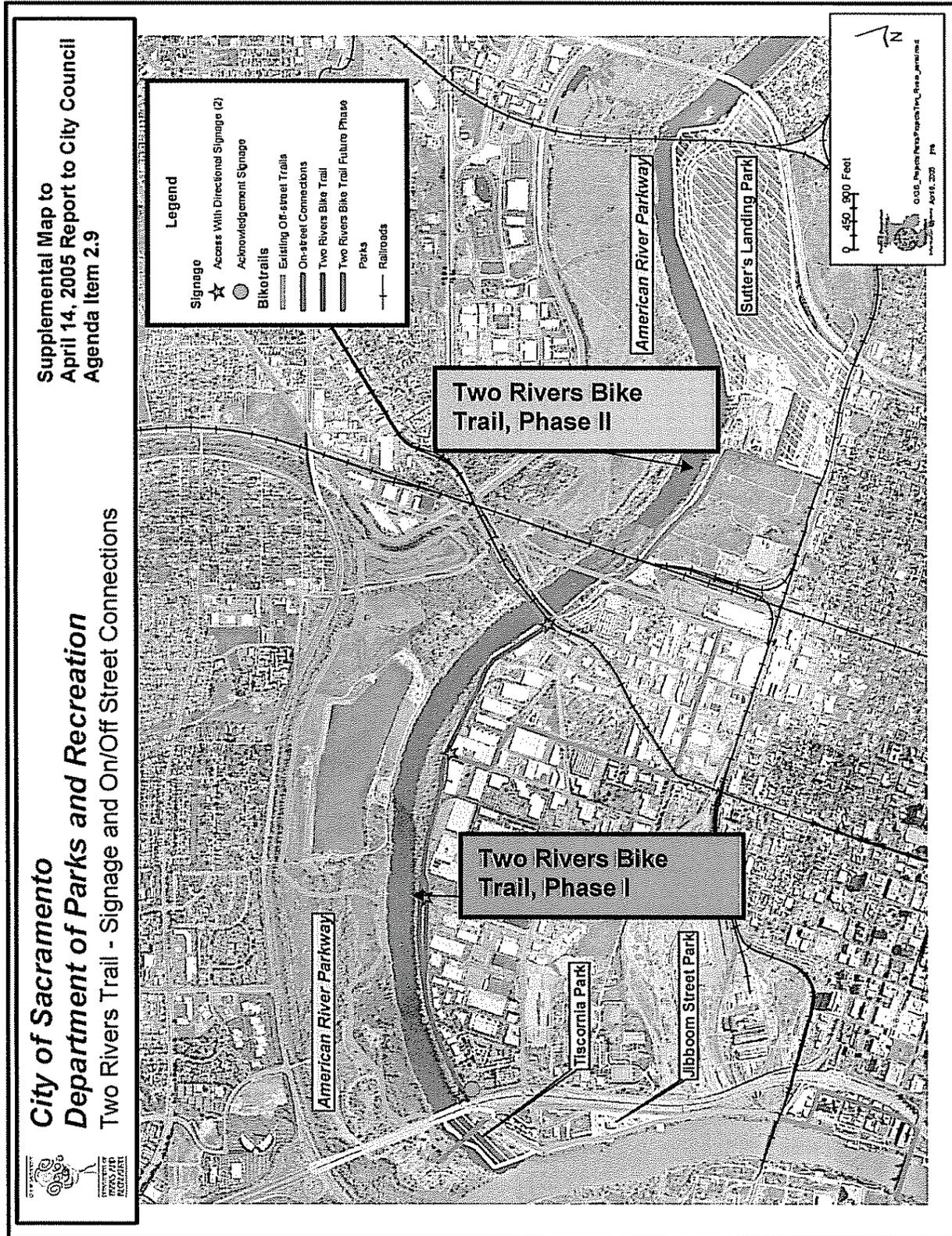
Background Information

The Two Rivers Trail project consists of two trail segments on the American River Parkway's South Levee that offer a connection from Tiscornia Park to Sutter's Landing Regional Park. This is planned as a Class I bike trail approximately 2.5 miles in length and located primarily on the crown of the American River's southern levee. Phase I of the trail is approximately 1.75 miles and runs from Tiscornia Park to Highway 160.

This trail is an important element of the redevelopment in the River District area and will also connect the Sacramento River Parkway to the American River Parkway, increasing alternative transportation access to downtown employment and economic centers.

The County of Sacramento owns parcels in-fee and recreation easements along much of the alignment of Phase I of the Two Rivers Trail; the County of Sacramento has agreed to let the City of Sacramento use its real estate interests through a use agreement and a lease agreement. The agreements with the County of Sacramento will allow the trail and parkway to continue development.

All property interests necessary for completion of the Two Rivers Trail were acquired.



Attachment 3

**TWO RIVERS BICYCLE / PEDESTRIAN TRAIL
HB66**

11/20/06

Description	Amount
Change Order #1	
PCO# 1.0 One Thousand Nine Hundred Sixty Point Two (1,960.2) CY of Export Material	61,746.30
Four Thousand Six Hundred and Ninety Point Four (4,690.4) CY of Import Fill	234,520.00
Installation of One Hundred Sixty-Seven Point Forty Seven (167.47) TN of Three Fourth (3/4) IN Asphalt Concrete	15,072.30
Installation of Six Hundred and Twenty Nine (629) TN of Three Fourth (3/4) IN Aggregated Base	49,062.00
Installation of Five Hundred Fifteen Point Sixty-Five (515.65) LF of Thermoplastic Stripe	448.62
Installation of Sixty-Seven (67) LF of Retaining Wall	15,276.00
Regrade for Fifteen (15) FT Clearance Under the I-5 Overpass on West and East Sides of Overpass	2,120.16
Removal of Vertical Shoulder on NW Corner of Entrance on Jibboom Street & I-5 and Regrade Shoulder and Replace with Cobble Stone	5,279.25
Installation of Cobble Stones on Shoulder of Trail and Access Road.	1,086.40
Demolition and Removal of Existing Asphalt and Concrete. Sub-Grade at the Point of Connection from Ramp to North 10 th Street.	1,288.78
PCO# 2.0 Deletion of Line Items on Base Bid as	
a. #7 – Ninety-Seven (97) SF of Three Point Five (3.5) IN Concrete Flatwork and Driveway to Place	(-3,637.50)
b. #10 – Seven (7) EA of Bollards to Place	(-2,149.00)
c. #11 – Two (2) LF of Chain Link Fence Six (6) FT High to Install	(-110.00)
d. #14 – Fourteen (14) EA of Install Signs Furnished by the City	(-3,500.00)
e. #16 – Nine (9) LF of Curb and Gutter	(-297.00)
f. #17 – Five Hundred and Twenty-Nine (529) SY of Chipseal to Place	(-4,761.00)
g. #20 – Forty Point Forty –Seven (40.47) TN Rubber Asphalt Concrete Top Course (Type A, One Half (1/2) IN Max. Med.)	(-6,030.00)
Total Change Order #1	\$365,415.31

RESOLUTION NO. 2007-

Adopted by the Sacramento City Council

January 9, 2007

APPROVING CHANGE ORDER #1: TWO RIVERS TRAIL PHASE I, CIP HB66

BACKGROUND

- A. The Two Rivers Trail is an important part of a regional trail system that offers both recreation and commuter opportunities. Two Rivers Trail runs primarily on the crown of the American River's southern levee from Tiscornia Park to the Sutter's Landing Regional Park; Phase I runs from Tiscornia Park to Highway 160.
- B. On July 18, 2006, a construction contract in the amount of \$653,329.00 was awarded to Biondi Paving for the construction of the Two Rivers Trail.
- C. To complete construction of Two Rivers Trail, a change order must be approved as a result of an increase in the contract amount by \$365,415.31. However, the change order is in excess of the parameters set forth in City Code Section 3.60.210 (B) and lies outside the City Manager's approval authority.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

- Section 1. Change Order #1 for Two Rivers Trail Phase I, CIP HB66, in the amount of \$365,415.31 is approved.
- Section 2. The City Manager is authorized to execute Change Order #1 for Two Rivers Trail Phase I, CIP HB66, in the amount of \$365,415.31.

EXHIBIT I



Bank Protection Working Group

LAR Task Force Update

March 13, 2018





Presentation Outline

- **BPWG Status**
- **3 Tiered Approach to Site Designations**
 - Associated Parkway Resource Analysis
- **Paradise Bend to Howe Avenue Preliminary Results**
- **Next Steps**



BPWG Update

- **The Technical Advisory Committee continues to meet regularly, nearing segment recommendations for Paradise Bend to Howe Avenue Reach**
- **BPWG continues to meet bi-monthly (April 17 next)**
- **Technical analysis of Howe Avenue to Watt Avenue Reach is underway**
- **Upstream of Watt Avenue Reach and downstream of Paradise Bend Reach will follow**



Tiered Bank Protection Site Assessment: Risk and Resources

■ 3 Tiered Approach:

- Tier 1: Need to fix now – immediate threat of failure with 160,000 cfs flows
- Tier 2: Future fix needed – significant erosion loss is expected in the future
- Tier 3: Protection not warranted due to very wide berm or lack of erosion risk



Expansion of Tier 2 Assessment

- Tier 2a: significant erosion loss is expected in the future, berm/resources **should be protected**
- Tier 2b: erosion loss is expected in the future, **protection not warranted**





Key Questions for Consideration

- What types of resources are at risk from erosion?
- What types of resources could be **impacted by** bank protection projects?
- What types of resources could be **protected by** bank protection projects?





Parkway Resource Analysis

- **Infrastructure**

- Roads, bridges, electric transmission towers, sewer lines, etc...

- **Natural Resources**

- Riparian vegetation, instream woody material, natural bank, etc

- **Recreational**

- Bicycle trails, equestrian trails, access points, boat launches, golf courses, etc...

- **Considering Existing and Potential**



Parkway Resource Analysis Process

- **Compiling existing data**
- **Collecting new data**
- **Also planning fish monitoring**
 - Intended to observe and record actual fish use
 - May include:
 - Habitat assessments
 - Snorkel surveys
 - Video surveys



Paradise Bend to Howe Avenue Reach – Preliminary Results

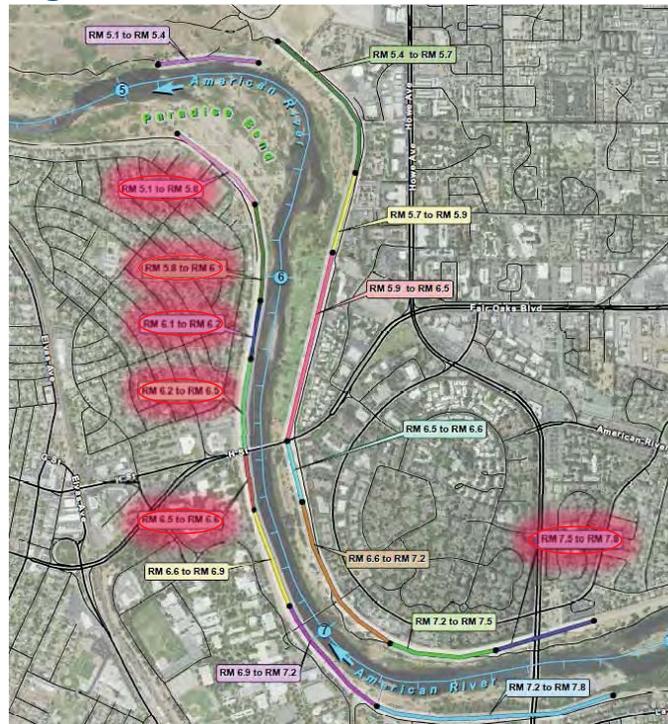


Preliminary Results – Paradise Bend to Howe Avenue

- **TAC evaluation process is still underway**
- **Preliminary results indicate 6 potential Tier 1 segments**
- **TAC is expected to finalize their recommendation and discuss conceptual level designs at their meeting later this month**



Preliminary Tier 1 Segments – Paradise Bend to Howe Avenue



Next Steps

- **TAC to finalize Paradise Bend – Howe Avenue Reach recommendation to BPWG**
- **TAC to work on remaining reaches, beginning with Howe to Watt Avenues**
- **TAC/BPWG to incorporate Parkway resource analysis into Tiered Assessment**
- **Results of Tiered Assessments to come back to Task Force throughout 2018**



EXHIBIT J

Microbes and Urban Watersheds: Concentrations, Sources, & Pathways

Microbes are problematic. They are small and include hundreds of groups, species, biotypes and strains. They are ubiquitous in the environment, found on nearly every surface of the earth. They exist within us, on us, on plants, soils and in surface waters. They grow rapidly, die off, survive or multiply depending on a changing set of environmental conditions. Some microbes are beneficial to humans, while others exert no impact at all. Other microbes cause illness or disease, and a few can even kill you.

The presence of some types of microbes indicates a potential risk for water contamination, while other microbes are pathogens themselves (i.e., they are known to cause disease). Microbes are nearly always present in high concentrations in stormwater, but are notoriously variable. They are produced from a variety of watershed sources, such as sewer lines, septic systems, livestock, wildlife, waterfowl, pets, soils and plants, and even the urban stormdrain system itself.

It is little wonder that many watershed managers are thoroughly confused by the microbial world. This article seeks to provide enough background to help a watershed manager assess bacteria problems. It contains a national review and analysis of microbial concentrations, sources, and pathways in urban watersheds. The major focus is on fecal coliform bacteria, for which the most urban watershed data is available, but reference is also made to protozoa, such as *Cryptosporidium* and *Giardia*.

The article begins with a field guide to the bacteria found in urban waters. It compares the frequency of detection, origin, indicator status and measurement units of different microbes. The next section presents a national assessment of bacteria levels in urban stormwater. The last section profiles the many different human and nonhuman bacteria sources that can potentially occur in an urban watershed.

Field Guide to the Microbes

The complex microbial world is confusing to most; therefore, it is worth a moment to understand some of the terminology used to describe it. The term *microbes* refers to a wide range of living organisms that are too small to see with the naked eye. *Bacteria* are very simple single celled organisms that can rapidly reproduce by binary fission. Of particular interest are *coliform*

bacteria, typically found within the digestive systems of warm-blooded animals. The coliform family of bacteria includes total coliforms, fecal coliforms and the group *Escherichia coli* (*E. coli*). Each of these can indicate the presence of fecal wastes in surface waters, and thus the possibility that other harmful bacteria, viruses and protozoa may be present. Fecal streptococci (a.k.a., *Enterococci*) are another bacteria group found in feces which, under the right conditions, can be used to determine if a waste is of human or nonhuman origin. As such, all coliform bacteria are only an *indicator* of a potential public health risk, and not an actual cause of disease.

A *pathogen* is a microbial species that is actually known to cause disease under the right conditions. Examples of bacterial pathogens frequently found in stormwater runoff include *Shigella spp.* (dysentery), *Salmonella spp.* (gastrointestinal illness) and *Pseudomonas auerognosa* (swimmer's itch). Some subspecies can cause cholera, typhoid fever and "staph" infections. The actual risk of contracting a disease from a pathogen depends on a host of factors, such as the method of exposure or transmission, pathogen concentration, incubation period and the age and health status of the infected party.

Protozoa are single-celled organisms that are motile. Two protozoans that are common pathogens in surface waters are *Giardia* and *Cryptosporidium*. To infect new hosts, these protozoans create hard casings known as cysts (*Giardia*) or oocysts (*Cryptosporidium*) that are shed in feces, and travel through surface waters in search of a new host. The cysts or oocysts are very durable and can remain viable for many months. The protozoan emerges from its hard casing if and when a suitable host is found.

Table 1 provides a general comparison of the many microbes found in urban stormwater runoff, in terms of their frequency of detection, origin, indicator status, measurement units and information use.

Public health authorities have traditionally used fecal coliform bacteria to indicate potential microbial risk, and to set water quality standards for drinking water, shellfish consumption or water contact recreation. Some typical fecal coliform standards are provided in Table 2. Fecal coliforms are an imperfect indicator and regulators continually debate whether other bacterial species or groups are better indicators

Microbial Indicator	Found in Urban Runoff?	Fecal Origin?	Non-Human Sources?	Indicator or Pathogen	Units of Measurement ^a	Information Use ^b
Total coliforms	All samples	Most	Animals, plants, soil	Neither	Counts per 100 ml	Historical, seldom used
Fecal coliforms	All samples	Most	Animals, plants, soil	Indicator	Counts per 100 ml	Water contact, shellfish, drinking water
Fecal streptococci	All samples	Yes	Warm-blooded animals	Indicator	Counts per 100 ml	Sometimes used to ID waste source ^c
<i>Escherichia coli</i>	Nearly all samples	Yes	Mammals, some found in soils	Indicator, some are pathogen	Counts per 100 ml	Water contact, shellfish, drinking water
<i>Salmonella spp.</i>	About half	Yes	Mammals (esp. dogs)	Pathogen	Counts per 10 ml	Food safety
<i>Pseudomonas aeruginosa</i>	All samples	Yes	Mammals	Pathogen	Counts per 100 ml	Drinking water
<i>Cryptosporidium spp.</i>	Less than half	Yes	Mammals (esp. livestock)	Pathogen	Oocysts per liter	Drinking water
<i>Giardia spp.</i>	Less than half	Yes	Mammals (esp. dogs and wildlife)	Pathogen	Cysts per liter	Drinking water

^a Research use many different terms and sampling methods to describe their bacterial counts, including MPN (most probable number), colony forming units (CFU), colonies, or organisms.

^b See Table 2 for a more thorough discussion on bacteria and protozoan standards.

^c It is important to note that fecal strep is a poor method for urban stormwater

of potential health problems and how low indicator levels must be to ensure “safe” water. The debate, however, remains largely academic, as over 90% of the states still rely of fecal coliform in whole or in part as their recreational water quality standards (USEPA, 1998).

Fecal Coliform Levels in Urban Stormwater Runoff

Coliforms are ubiquitous—about 20% of all water quality samples at U.S. Geological Survey’s main sampling stations across the country exceeded the 200 MPN/100 ml fecal coliform standard in the 1980s (Smith *et al.*, 1992) *Note: Most samples were conducted in dry weather conditions and in larger watersheds.* The highest fecal coliform levels were routinely collected in agricultural and urban watersheds. For-

ested and pastured watersheds had much lower fecal coliform levels (about 50 to 100 MPN per 100 ml).

The vast majority of urban stormwater monitoring efforts utilize fecal coliform as the primary microbial indicator. A small handful of researchers have measured other coliforms or other specific pathogens (e.g., *Salmonella*, *Pseudomonas*, etc.). Some caution should be exercised when evaluating storm concentrations of fecal coliforms, as most represent a “grab” sample rather than a true flow-composite sample. This, along with differences in how samples are counted and averaged, produces the notorious variability that is associated with stormwater fecal coliform data.

Pitt (1998) reports a mean fecal coliform concentration in stormwater runoff of about 20,000 colonies per 100 ml based on 1,600 storm runoff samples

Table 2: Typical Coliform Standards for Different Water Uses

Water use	Microbial Indicator	Typical Water standards
Water contact recreation	Fecal coliform	<200 MPN per 100 ml
Shellfish bed	Fecal coliform	<14 MPN per 100 ml
Drinking water supply	Fecal coliform	<20 MPN per 100 ml
Treated drinking water	Total coliform	No more than 1% coliform positive samples per month
Freshwater swimming	<i>E. coli</i>	<126 MPN per 100 ml
Marine swimming	<i>E. coli</i>	<35 MPN per 100 ml

Important Note: Individual state standards may employ different sampling methods, indicators, averaging periods, averaging methods, instantaneous maximums and seasonal limits. MPN=most probable number. Higher or lower limits may be prescribed for different water use classes. Please consult your state water quality agency or USEPA (1998) to determine bacteria standards used in your community.

largely collected during the Nationwide Urban Runoff Program (NURP) in the early 1980s. He also reports a nearly identical mean fecal coliform concentration of about 22,000 colonies per 100 ml that was derived from a second database containing 25 additional stormwater monitoring studies conducted since NURP.

The Center for Watershed Protection has recently developed a third database containing 34 more recent urban stormwater monitoring studies. An analysis of the Center database indicates a slightly lower mean concentration of fecal coliform in urban stormwater of about 15,000 per 100 ml. The Center fecal coliform database is profiled in Figure 1. Nearly every individual stormwater runoff sample in the database exceeded bacteria standards, usually by a factor of 75 to 100. Some indication of the enormous storm to storm variability in fecal coliform bacteria can be seen in Figure 1, with concentrations often spanning five orders of magnitude at the same sampling location. Other data for fecal streptococci and *E. coli* are provided in Figures 2 and 3.

Arid and semi-arid regions of the country often experience higher fecal coliform levels. For example, Chang (1999) computed a flow-weighted mean fecal coliform concentration of 77,970 MPN/100 ml in 21 small urban watersheds in Austin, Texas.

It should be noted that the most extreme bacteria concentrations in stormwater runoff from larger catchments (10^5 - 10^6) are usually associated with an inappropriate human discharge (e.g., failing septic system, sanitary sewer overflows or illicit connections) (Pitt, 1998).

Fecal coliform levels are generally much lower in stream baseflow than during storms, unless an inappropriate sewage discharge is present upstream (Gannon and Busse, 1989; USEPA, 1983). This is most evident at runoff monitoring stations at recently developed suburban watersheds that have few suspected sewage discharges. For example, Varner (1995) sampled fecal coliform samples at 11 stations in suburban catchments in the City of Bellevue, WA. Overall, the mean stormflow concentration of fecal coliforms (4,500 MPN/100 ml) was about nine times greater than mean baseflow concentrations (600 MPN/100 ml) for all stations.

Watershed managers should systematically assess dry weather flows from stormwater outfall pipes, however, before they conclude that dry weather bacteria concentrations are not a concern. In some communities, as many of 10% of all pipe outfalls have dry weather flow. Even if only a few of these flows contain sewage, they can produce very high bacteria concentrations during baseflow conditions.

Fecal coliform levels are about 90% lower in runoff that occurs in winter than during the summer months, although bacteria levels can increase sharply during snowmelt events (USEPA, 1983 and Figure 4). Researchers have occasionally correlated bacteria levels with factors such as rainfall, rainfall intensity, antecedent rainfall, turbidity and suspended solids within individual urban watersheds. Few of these relationships, however, appear to be transferable from one watershed to another. Other watershed variables that may better predict bacteria levels include population density (Glenn, 1984), age of development and percent residential development (Chang, 1999).

Unlike many pollutants, fecal coliforms do not appear to be directly related to subwatershed impervious cover. For example, Hydroqual (1996) evaluated fecal coliform concentrations for seven small subwatersheds of different impervious cover in the Kensico watershed, a small drinking water reservoir for New York City. Undeveloped subwatersheds with 4% impervious cover had fecal coliform concentrations well below the 200 MPN standard, whereas watersheds ranging from 20 to 65% imperviousness exceeded the standard handily (Figure 5). While developed watersheds nearly always had greater fecal coliform concentrations than undeveloped watersheds, more impervious cover in a developed watershed was not observed to increase fecal coliform concentrations.

Protozoan Levels in Urban Runoff

Until recently, the major sources of protozoa in surface waters were generally thought to be human sewage, dairy runoff and wildlife sources. The only study to date that has measured *Cryptosporidium* or *Giardia* in stormwater runoff found high levels of both protozoans (Stern *et al.*, 1996). David Stern and his colleagues monitored a series of agricultural and urban watersheds within the New York City water supply reservoir system, and found urban subwatersheds had slightly higher rates of *Giardia* and *Cryptosporidium* detection than agricultural subwatersheds, and a higher rate of confirmed viability (Table 3 and Stern *et al.*, 1996).

States *et al.* (1997) also found very high levels of *Cryptosporidium* and *Giardia* in storm samples collected from combined sewers in the Pittsburgh region (geometric means of 28,881 cysts/100 ml for *Giardia* and 2,013 oocysts/100 ml for *Cryptosporidium*) The protozoa were detected in virtually every sample collected from the combined sewer overflows. Sampling of protozoa is complicated by durability of their cysts and oocysts in the environment (i.e., some *Cryptosporidium* and *Giardia* cysts and oocysts persist, but are no longer viable of infecting another host). Much more sampling is needed in other regions to determine if stormwater and combined sewer runoff are major sources of *Cryptosporidium* and *Giardia*.

Bacteria Sources in Urban Watersheds

The high concentrations of bacteria in stormwater are derived from many possible human and non-human sources. Consequently, watershed managers must investigate many different sources and source areas in order to develop an effective strategy for bacteria control. Some of the more likely bacteria sources are described in Table 4.

Human Sources of Bacteria

The major source of bacteria in most urban waters was human sewage until the advent of modern waste-

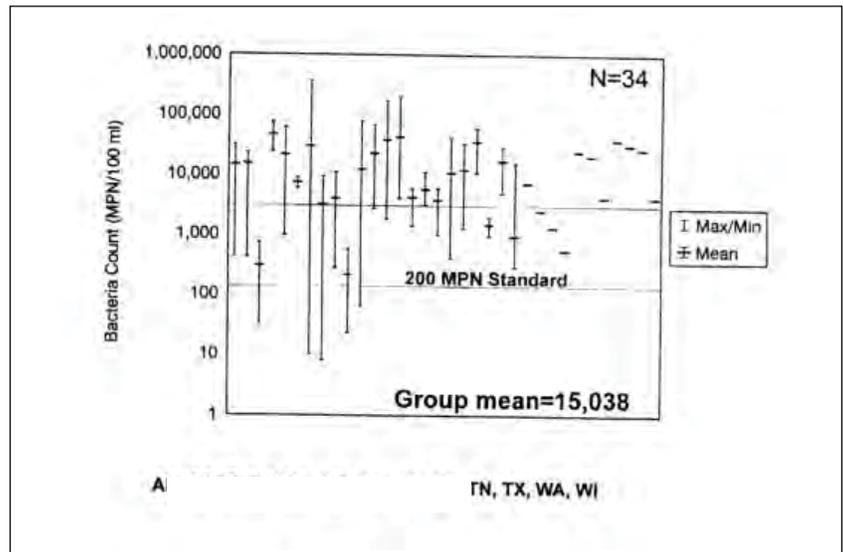


Figure 1: Fecal Coliforms in Urban Stormwater Runoff

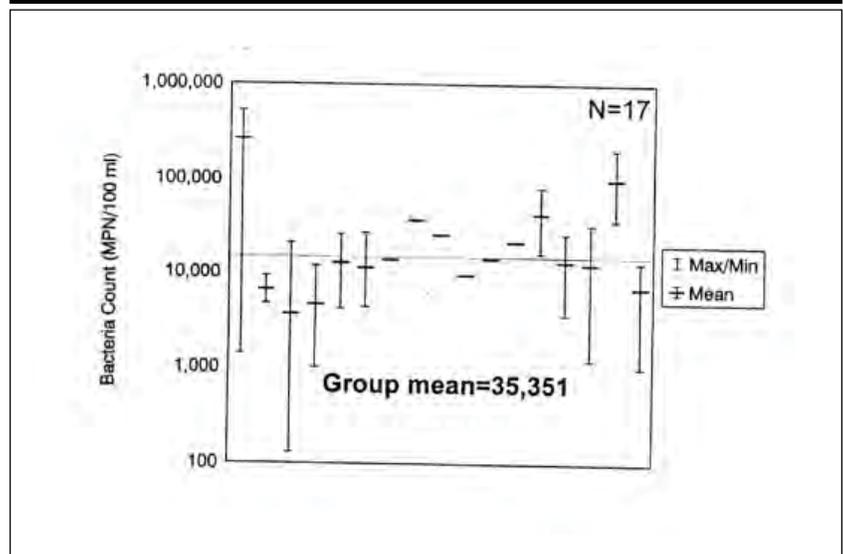


Figure 2: Fecal Streptococci in Urban Stormwater Runoff

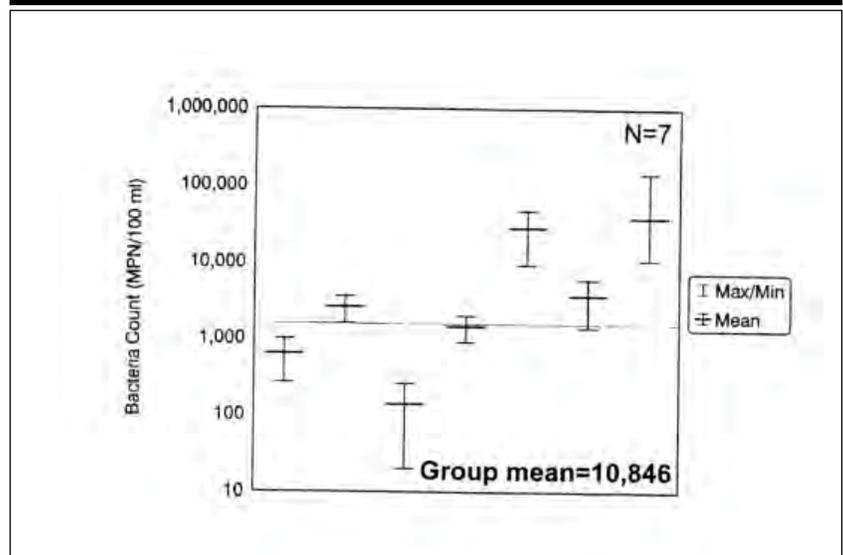


Figure 3: *E. coli* in Urban Stormwater Runoff

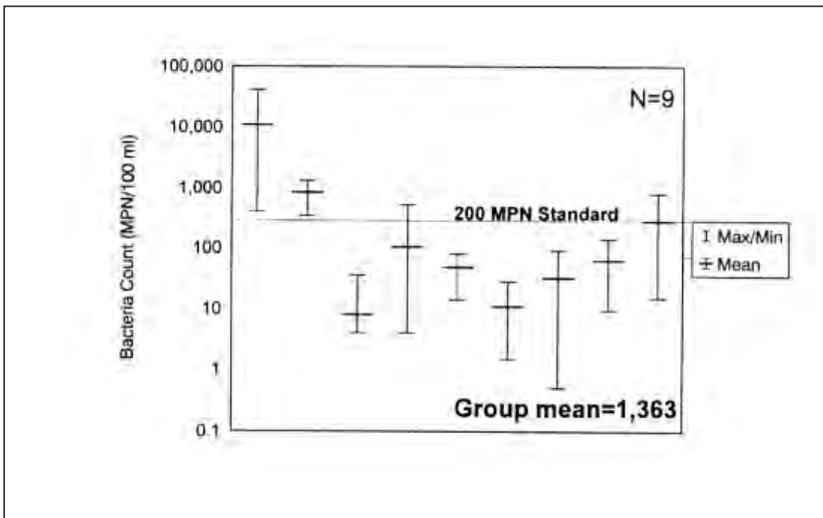


Figure 4: Fecal Coliforms in Winter Runoff

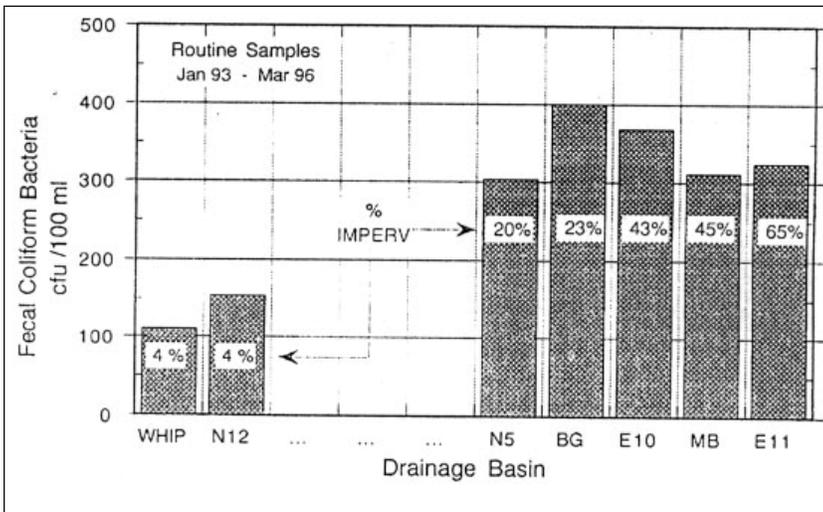


Figure 5: Fecal Coliform Levels in Watersheds of Different Impervious Cover (Hydroqual, 1996)

water treatment. Wastewater is now generally collected in a central sewer pipe and sent to a municipal plant for treatment in most urban watersheds. Ideally, wastewater treatment provides more efficient collection, conveyance, and treatment of wastewater than septic systems or package plants. In reality, many sewer systems are still an episodic or chronic source of bacteria. Potential pathways of human sewage to surface waters include combined sewer overflows, sanitary sewer overflows, illegal sanitary connections to storm drains, transient dumping of wastewater into storm drains and failing septic systems.

The potential significance of sewage as a bacteria source can be quickly grasped from Table 5, which compares typical coliform levels from several waste streams, including raw sewage, combined sewer overflows, failed septic systems, stormwater and forest runoff. Raw sewage typically is about two to three orders of magnitude “stronger” than stormwater runoff in terms of coliform production, and is four to five orders of magnitude “stronger” than forest runoff that is influenced only by wildlife sources. As a general rule, human sources of sewage should be suspected when fecal coliform concentrations are consistently above 10^5 (Pitt, 1998).

- *Combined sewer overflows (CSOs)*

Many older cities have a sewer system that carries both wastewater and stormwater. During some storms, the capacity of the treatment system is exceeded, and diluted wastewater is discharged directly into the surface waters without treatment. As seen in Table 5, CSOs have extremely high bacteria levels and deserve immediate attention as a bacteria source when they are found in any watershed.

- *Sanitary sewer overflows (SSOs)*

Human sewage can be introduced into surface waters even when storm and sanitary sewers are separated. Leaks and overflows are common in

Table 3: Percent Detection of *Giardia* Cysts and *Cryptosporidium* oocysts in Subwatersheds and Wastewater Treatment Plant Effluent in the New York City Water Supply Watersheds (Stern *et al.*, 1996)

Source water sampled (No. of sources/No. of samples)	Percent Detection			
	Total <i>Giardia</i>	Confirmed <i>Giardia</i>	Total <i>Cryptosporidium</i>	Confirmed <i>Cryptosporidium</i>
Wastewater effluent (8/147)	41.5	12.9	15.7	5.4
Urban subwatershed (5/78)	41.0	6.4	37.2	3.9
Agricultural subwatershed (5/56)	30.4	3.6	32.1	3.6
Undisturbed subwatershed (5/73)	26.0	0.0	9.6	1.4

many older sanitary sewers where capacity is exceeded, high rates of infiltration and inflow occur (i.e., outside waters gets into pipes, reducing capacity), frequent blockages occur, or are simply falling apart due to poor joints or pipe materials. Power failures at pumping stations are also a common cause of SSOs. The greatest risk of a SSO occurs during storm events; however, little comprehensive data is available to quantify SSO frequency and bacteria loads in most watersheds. The Association of Metropolitan Sewage Agencies (AMSA, 1994) estimates that about 140 overflows occur per one thousand miles of sanitary sewer lines each year (1,000 miles of sewer serves a population of about 250,000). The AMSA survey also found that 15 to 35% of all sewer lines were over capacity and could potentially overflow during storms.

• *Illicit connections to storm sewers*

Sewage can be introduced into storm sewers by accident or design. The hundreds of miles of storm and sanitary sewer pipes in a community creates a confusing underground spaghetti of utilities, so it should not be surprising that improper connections are made to the wrong sewer. For example, Johnson (1998) reported that just under 10% of all businesses in Wayne County, MI had illicit connections, with an average of 2.6 illicit connections found at each detected business. While most illicit connections did not contain raw sewage (e.g., floor drains, sinks), 11% of the Wayne County illicit connections included toilet discharges. Schmidt and Spencer (1986) found a 38% rate of illicit connections in Washtenaw County, MI, primarily among automobile-related and manufacturing businesses. It is not clear how many of these illicit connections involved sewage, as compared to wash water. Pitt and McClean (1986) detected illicit connections in about 12% of storm sewers in Toronto, and Pitt

(1998) found that 18% of storm outfalls surveyed that had dry weather flow were contaminated by human sewage in a small Alabama subwatershed.

• *Illegal dumping into storm drain system*

There is quite a bit of anecdotal evidence of illegal transient dumping of raw sewage into storm drain

Table 4: Potential Sources of Coliform Bacteria in an Urban Watershed

Human Sources

Sewered watershed

- Combined sewer overflows
- Sanitary sewer overflows
- Illegal sanitary connections to storm drains
- Illegal disposal to storm drains

Non-sewered watershed

- Failing septic systems
- Poorly operated package plant
- Landfills
- Marinas and pumpout facilities

Non-human Sources

Domestic animals and urban wildlife

- Dogs, cats
- Rats, raccoons
- Pigeons, gulls, ducks, geese

Livestock and rural wildlife

- Cattle, horse, poultry
- Beaver, muskrats, deer, waterfowl
- Hobby farms

Table 5: Comparison of Bacterial Densities in Different Waste Streams (MPN/100 ml) (Pitt, 1998; Lim and Oliveri, 1982; Smith *et al.*, 1992, Horsely & Witten, Inc., 1995)

Waste stream	Total coliform	Fecal coliform	Fecal streptococci
Raw sewage	2.3×10^7	6.4×10^6	1.2×10^6
Combined sewer overflow	$10^4 - 10^7$	$10^4 - 10^6$	10^5
Failed septic systems	$10^4 - 10^7$	$10^4 - 10^6$	10^5
Urban stormwater runoff	$10^4 - 10^5$	2.0×10^4	$10^4 - 10^5$
Forest runoff	$10^2 - 10^3$	$10^1 - 10^2$	$10^2 - 10^3$

from septage vac trucks (i.e, honey wagons), recreational vehicles and portable toilets (Johnson, 1998). In addition, there may be inadvertent dumping from moving vehicles, such as live-stock carriers and recreational vehicles. The overall significance of illegal or inadvertent dumping as a watershed bacteria source, however, is hard to quantify.

- *Failing septic systems*

About one-fourth of all American households rely on on-site septic systems to dispose of their wastewater, which translates to about 20 million individual systems (Wilhelm *et al.*, 1994). After solids are trapped in a septic tank, wastewater is distributed through a subsurface drain field and allowed to percolate through the soil. Bacteria are effectively removed by filtering and straining water through the soil profile, if the septic system is properly located, installed and maintained. A large number of septic systems fail, however, when wastewater breaks out or passes through the soil profile without adequate treatment. The regional rate of septic system failure is reported to range from five to nearly 40%, with an average of about 10% (Table 6).

The causes of septic system failure are numerous: inadequate soils, poor design, siting, testing or inspection, hydraulic overloading, tree growth in the drain field, old age, and failure to clean out. When investigating whether septic systems are likely to be a major bacteria source in a watershed, managers should consider the following risk factors: septic systems that are older than 20 years, situated on smaller lots, service second homes or provide seasonal treatment, are adjacent to shorelines or ditches, are located on thin or excessively permeable soils, or are close to bedrock or the water table. The design life of

most septic systems is 15 to 30 years, at which point major rehabilitation or replacement is needed.

Tuthill *et al.* (1998) detected coliforms in 30 to 60% of shallow wells in Frederick County, MD, with the highest concentration found on lots of a half acre or less served by septic systems. Glasoe and Tompkins (1996) reported a much higher failure rate for septic systems situated near waterfront as compared to more upland areas. Duda and Cromartie (1982) reported a very strong relationship between the density of septic systems and shellfish bed closure in the flat coastal plain of North Carolina.

Non-Human Bacteria Sources

Unless an inappropriate human sewage discharge is present in an urban watershed, most of the bacteria present in storm runoff are generally assumed to be of nonhuman origin. Recent genetic studies by Alderiso *et al.* (1996) and Trial *et al.* (1993) independently concluded that 95% of fecal coliform found in urban stormwater were of nonhuman origin. Recent microbial tracking by Samadpour and Checkowitz (1998) also confirms that nonhuman sources (dogs and livestock from hobby farms) were the primary source of bacterial contamination in a lightly developed Washington watershed, although septage effluent was a secondary source.

Documented nonhuman sources of fecal coliform bacteria in urban watersheds are dogs, cats, raccoons, rats, beaver, gulls, geese, pigeons and even insects. Dogs in particular appear to be a major source of coliform bacteria and other microbes, which is not surprising given their population density, daily defecation rate, and pathogen infection rates. According to van der Wel (1995), a single gram of dog feces contains 23 million fecal coliform bacteria. Dogs have also

Table 6: Failure Rate for Septic Systems

Geographic location	Source	Failure rate (%)
Frederick County, MD	Tuthill, 1998	30+
Detroit, MI	Johnson, 1998	20
Wayne County, MI	Johnson, 1998	21
Oakland County, MI	Johnson, 1998	39
Florida	Hunter, 1998	5
Mason County, WA	Glasoe and Tompkins, 1996	12
Puget Sound, WA	Smayda et al., 1996	10 to 25

been found to be significant hosts for *Giardia* and *Salmonella* (Pitt, 1998). The *Salmonella* infection rate for dogs and cats ranges from two to 20% according to Lim and Oliveri (1982), who also noted that dog feces were the single greatest source contributing fecal coliform and fecal strep bacteria in highly urban Baltimore catchments. Trial *et al.* (1993) reported that cats and dogs were the primary source of fecal coliforms in urban subwatersheds in the Puget Sound region. In addition, Davies and Hubler (1979) found 13% of cats and 25% of dogs were infected with *Giardia*. Pitt (1998) notes that prior studies have indicated that dogs are a significant host of *Pseudomonas aureginosa*.

Urban wildlife can also be a significant bacterial source. In highly urban areas, rats and pigeons can be a major source of bacteria (Lim and Oliveri, 1982). In more suburban watersheds, raccoons have adapted to an underground habitat within storm drain pipes, and use ledges in storm drain inlets on a temporary basis. Blankenship (1996) reported that exceedance of *E. coli* standards in a Virginia coastal area was due to the local raccoon population.

Beaver are gradually recolonizing many urban stream habitats where they had previously been extirpated (Kwon, 1997). Numerous studies have fingered beavers as a key source of *Giardia*. For example, Monzingo and Hibler (1987) detected giardia in an average of 44% of beavers sampled in a Montana lodge, and also documented *Giardia* cysts in beaver ponds, pond sediments and downstream waters. Other researchers have found lower infection rates. For example, Frost *et al.* (1980) found *Giardia* in 10% of the beaver population and 40% of the muskrat population, while Davies and Hubler (1979) reported an 18% *Giardia* infection rate among beavers in Ohio.

Geese, gulls and ducks are speculated to be a major bacterial source in urban areas, particularly at lakes and stormwater ponds where large resident populations become established. Levesque *et al.* (1993) detected an increase in *E. coli* concentrations from flock of gulls roosting near a reservoir, which is not to surprising given that they have very high bacteria excretion rates (Table 7). Relatively little data is available to quantify whether geese and ducks are a major source of fecal coliforms or pathogens. Moorhead *et al.* (1998) did find high *E. coli* concentrations in a series of stormwater impoundments in West Texas that were heavily utilized by waterfowl, and other stormwater researchers often attribute high coliform levels to upstream geese or duck populations (Pitt *et al.*, 1988). Bacteria production from waterfowl are expected to be greatest in small impoundments and concrete water storage reservoirs.

Livestock can still be a major source of fecal coliform in unsewered urban watersheds, particularly those areas of the urban fringe that have horse pastures, "hobby" farms and ranchettes (Samadapour and

Checkowitz, 1998). Although these operations are very small, the stocking density is often very high, and good grazing and riparian management practices are seldom applied.

Bacterial Survival and Growth in the Urban Drainage System

It is commonly assumed that most fecal coliform bacteria rapidly die off in the outside world in a few days. Research, however, has shown that many bacteria merely disappear from the water column and settle to bottom sediments, where they can persist for weeks or months in the warm, dark, moist and organic-rich conditions found there (Burton *et al.*, 1987). Fecal coliform levels in stream and lake sediments are routinely three to four orders of magnitude higher than those in the overlying water column (Van Donsel and Geldrich, 1971).

The same behavior has recently been noted in the bottom sediments of stormwater ponds and urban lakes (Pitt, 1998). Other researchers have documented that fecal coliform bacteria can survive and even multiply in the sediments in urban streams, ditches and drains (Burton *et al.*, 1987; Marino and Gannon, 1991). Some evidence of fecal coliform survival has been observed in catch basins (Butler *et al.*, 1995; Ellis and Yu, 1995) and also within roadway curb sediments (Sartor and Boyd, 1977; Bannerman *et al.*, 1996). Coliform bacteria also have been found to survive and grow in moist soils and leaf piles (Oliveri *et al.*, 1977). This may explain why grass swales and ditches frequently have high bacteria levels.

The strong evidence that fecal coliform bacteria can survive and even multiply in sediments indicates that the drainage network itself can become a major bacterial sink and/or source during storm events if sediments are flushed or resuspended.

Bacterial Source Area Research

Several researchers have sampled small source-areas within the urban landscape to determine where the major nonhuman sources of fecal coliforms are found. The two most recent studies have been conducted in Madison, Wisconsin (Bannerman *et al.*, 1993) and Marquette, Michigan (Steuer *et al.*, 1997). While the bacteria levels were widely different in the two studies, both indicated that residential lawns, driveways and streets were the major source areas for bacteria (Table 8). As might be expected, rooftops and parking lots were usually smaller source areas.

The source area data lend some credence to the "Fido" hypothesis—areas of the urban landscape that are used by dogs and other pets tend to generate higher bacteria levels. In addition, both studies reported end-of-pipe bacteria concentrations that were at least an order of magnitude higher than any source area in the

**Table 7: Bacterial Densities in Warm-Blooded Animals Feces
(Pitt, 1998; Godfrey, 1992; Geldrich *et al.*, 1962)**

Waste stream	Fecal coliform (Density/gm)	Fecal streptococci	Unit discharge (lbs/day)
Human	1.3×10^7	3.0×10^6	0.35
Cats	7.9×10^6	2.7×10^7	0.15
Dogs	2.3×10^7	9.8×10^8	0.32
Rats	1.6×10^5	4.6×10^7	0.08
Cows	2.3×10^5	1.3×10^7	15.4
Ducks	3.3×10^7	5.4×10^7	0.15
Waterfowl	3.3×10^7	-	0.18 - 0.35

contributing watershed, which suggests that the storm drain system was the greatest bacterial source in the watershed, possibly as a result of the resuspension of storm drain sediments or an undetected illicit connection. The tendency for end-of-pipe bacteria levels to exceed contributing source area levels was also documented in stormwater source area monitoring in Toronto conducted by Pitt and McClean (1986).

Priorities for Watershed Research.

Our ability to manage bacteria problems on a watershed basis are handicapped by some major data gaps, particularly with respect to pathogen levels, bacterial source areas and the linkage between indicators and human pathogens. The following priority research areas would help to fill these gaps and be of practical value to watershed managers:

- More epidemiological research on the public health risk associated with limited exposure to urban stormwater (wading, canoeing, tubing, etc.).
- Expanded monitoring for *Giardia* and *Cryptosporidium* in stormwater runoff from sewered and unsewered catchments.
- Development of better, faster and more robust bacteria indicator tests that can reduce analysis time from the current 48 hours to two hours or less. Not only would such tests provide early warning of public health risks, but they would allow researchers to collect automated storm samples which is currently not recommended due to holding times.
- Sampling of *Cryptosporidium*, *Giardia* and *Salmonella* infection rates for different populations of dogs, cats, and other urban wildlife.
- More systematic monitoring of the frequency and volume of sanitary and storm sewer discharges to determine bacteria contributions during sanitary sewer overflows and dry weather flows.

- Development of better, faster and more accurate field methods to determine how frequently septic systems fail, and the potential bacterial load they contribute to a watershed. In addition, a standard protocol for defining septic system “failure” needs to be adopted.
- Systematic sampling of bacteria sources and reservoirs within a network of storm drains and stormwater practices should be done.
- Development of watershed models or statistical tools that can better project and quantify bacteria sources and dynamics.

Summary

This review of bacteria levels and sources leads to four troubling conclusions. The first is that it is exceptionally difficult to maintain beneficial uses of water in the face of even low levels of watershed development, given the almost automatic violation of bacterial water quality standards during wet and dry weather. Thus, if a watershed manager has a beach, shellfish bed or drinking water intake to protect, they can expect that even a modest amount of watershed development is likely to restrict or eliminate that use.

The second troubling conclusion is that bacteria levels in urban stormwater are so high that watershed practices will need to be exceptionally efficient to meet current fecal coliform standards during wet weather conditions. Given stormwater fecal coliform levels equivalent to the national mean of 15,000 per 100 ml, watershed practices may need to achieve nearly a 99% removal rate to meet standards. The inability of current stormwater practices, stream buffers and source controls to attain this daunting performance level is reviewed in article 67.

The third troubling conclusion is that watershed managers will need to perform a lot of detective work to narrow down the lengthy list of potential bacteria suspects. Considerable monitoring resources will need

Table 8: Concentrations (Geometric Mean Colonies per 100 ml) of Fecal Coliforms from Urban Source Areas (Steuer *et al.*, 1997; Bannerman *et al.*, 1993)

Geographic location	Marquette, MI	Madison, WI
No. of storms sampled	12	9
Commercial parking lot	4,200	1,758
High traffic street	1,900	9,627
Medium traffic street	2,400	56,554
Low traffic street	280	92,061
Commercial rooftop	30	1,117
Residential rooftop	2,200	294
Residential driveway	1,900	34,294
Residential lawns	4,700	42,093
Basin outlet	10,200	175,106

to be applied to isolate the unique mix of bacteria sources that cause water quality problems in each specific watershed, and more importantly, identify sources that are most controllable.

Lastly, it is very troubling that we understand so little about the actual relationship between bacterial indicators and the risk to public health in urban watersheds. Fecal coliform remains an imperfect indicator, yet no better alternative has yet to emerge to replace it. A great deal more research is needed to fully indicate the real public health risk of urban stormwater. **See also articles 31, 67 and 125. —TRS**

References

References denoted by an asterisk (*) were used in the Center's bacteria database and are the sources for Figures 1 through 4.

Alderiso, K., D. Wait and M. Sobsey. 1996. "Detection and Characterization of Male-Specific RNA Coliphages in a New York City Reservoir to Distinguish Between Human and Nonhuman Sources of Contamination. In *Proceedings of a Symposium on New York City Water Supply Studies*, ed. McDonnell *et al.* TPS-96-2. American Water Resources Association. Herndon, VA.

AMSA. 1994. *Separate Sanitary Sewer Overflows: What Do We Currently Know?* Association of Metropolitan Sewerage Agencies, Washington, DC.

Bannerman, R., D. Owens, R. Dodds, and N. Hornewer. 1993. "Sources of Pollutants in Wisconsin Stormwater." *Water Science and Technology* 28(3-5):241-259.

Bannerman, R., A. Legg and S. Greb. 1996. *Quality of Wisconsin Stormwater 1989-1994*. USGS Open File Report 96-458. U.S. Geological Survey, Reston, VA.*

Blankenship, K. 1996. "Masked Bandit Uncovered in Water Quality Theft." *Bay Journal*. Vol 6. No. 6. Alliance for the Chesapeake Bay.

Brabets, T. 1987. *Quantity and Quality of Urban Runoff From the Chester Creek Basin, Anchorage, Alaska*. USGS Water Resources Investigations Report 86-5312. U.S. Geological Survey, Reston, VA.*

Burton, A, D. Gunnison and G. Lanza. 1987. "Survival of Pathogenic Bacteria in Various Freshwater Sediments." *Applied and Environmental Microbiology* 53(4) 633-638.

Butler, D., Y. Xiao, S. Karunaratne and S. Thedchanamoorthy. 1995. "The Gully Pot as a Physical, Chemical and Biological Reactor." *Water Science Technology* 31(7): 219-228.

Chang, G. 1999. *Personal communication*. Austin TX Environmental and Conservation Services Dept. City of Austin, TX.

Chang, G., J. Parrish and C. Soeur. 1990. *Removal Efficiencies of Stormwater Control Structures*. Environmental Resources Management Division, Environmental and Conservation Services Department, Austin, Texas.*

Davies, R. and C. Hubler. 1979. "Animal Reservoirs and Cross-Species Transmission of Giardia." In *Waterborne Transmission of Giardia*. W. Jablonski and J. Huff (eds.). U.S. Environmental Protection Agency, Cincinnati, OH. pp. 104-125.

Duda, A. and K. Cromartie. 1982. "Coastal Pollution From Septic Tank Drain Fields." *Journal of the Environmental Engineering Division*. American Society of Civil Engineer. 108 EE6.

Ellis, J. and W. Yu. 1995. "Bacteriology of Urban Runoff: The Combined Sewer as a Bacterial Reactor and Generator." *Water Science Technology* 31(7): 303-310.

Evaldi, R. and B. Moore. 1992. *Stormwater Data for Jefferson County, Kentucky*. USGS Open File Report 92-638.*

Fossum, K and R. Davis. 1996. *Physical, Chemical, Biological and Toxicity Data for the Study of Urban Stormwater and Ephemeral Streams, Maricopa County, AZ, Water Years, 1992-1995*. USGS Open File Report 96-394. U.S. Geological Survey, Reston, VA.*

- Frost, F., B. Plan and B. Liechty. 1980. "Giardia Prevalence in Commercially Trapped Animals." *Journal of Environmental Health*. 42: 245-249.
- Gannon, J. and M. Busse. 1989. "E. coli and Enterococci Levels in Urban Stormwater, River Water and Chlorinated Treatment Plant Effluent." *Water Resources* 23(9): 1167-1176.
- Geldrich, E., R. Borden, C. Huff, H. Clark and P. Kabler. 1962. "Type Distribution of Coliform Bacteria in the Feces of Warm-Blooded Animals." *Journal Water Pollution Control Federation* (34): 295
- Glasoe, S. and J. Tompkins. 1996. "Sanitary Surveys in Mason County." *Puget Sound Notes* 39: 1-5
- Glenne, B. 1984. "Simulation of Water Pollution Generation and Abatement on Suburban Watersheds." *Water Resource Bulletin* 20(2).
- Godfrey, A. 1992. "Sources and Fate of Microbial Contaminants." In *Recreational Water Quality Management Volume 2: Freshwaters*. eds. D. Kay and R. Hanbury. Ellis Horwood, New York NY, pp. 137-154.
- Harms, L., M. Smith and K. Goddard. 1983. *Urban Runoff Control in Rapid City, South Dakota. Final Report*. Nationwide Urban Runoff Program. U.S. Environmental Protection Agency. Washington, DC.*
- Hoos, A. 1990. *Effects of Stormwater Runoff on Local Groundwater Quality, Clarksville, TN*. USGS Water Resources Investigation Report 90-4044. U.S. Geological Survey, Reston, VA.*
- Horsley & Witten, Inc. 1995. *Identification and Evaluation of Nutrient and Bacterial Loadings to Maquoit Bay, Brunswick and Freeport, Maine*. Final Report: Casco Bay Estuary Project, Portland, ME.
- Hunter, R. 1998. *Personal communication*. Septic System Failure Rates in Florida. Florida Dept. of Health.
- Hydroqual, Inc. 1996. *Design Criteria Report: Kensico Watershed Stormwater Best Management Facilities. Appendix C*. Report prepared for City of New York. Dept. of Environmental Protection. 240 pp.
- Johnson, B. 1998. *The Impact of On-site Sewage Systems and Illicit Connections in the Rouge River Basin*. Unpublished manuscript. Rouge River Program Office. Camp Dresser and McKee. Detroit, MI.
- Jones, S. and R. Langan. 1996. *Assessment of the Effectiveness of Permanent Stormwater Control Measures*. Final report to New Hampshire Office of State Planning. University of New Hampshire. Portsmouth, NH 22 pp.
- Kjelstrom, L. 1995. *Data for an Adjusted Regional Regression Models of Volume and Quality of Urban Stormwater Runoff in Boise and Garden City, Idaho: 1993-1994*. USGS Water Resources Investigations Report 95-4228. U.S. Geological Survey, Reston, VA.*
- Kwon, H. 1997. "Return of the Beaver." *Watershed Protection Techniques* 2(3): 455-461.
- Levesque, et al. 1993. "Impact of Ring-billed Gull on the Microbiological Quality of a Reservoir." *Applied Environmental Microbiology* 59(4): 1128-42.
- Lim, S. and V. Olivieri. 1982. *Sources of Microorganisms in Urban Runoff*. Johns Hopkins School of Public Health and Hygiene. Jones Falls Urban Runoff Project. Baltimore, MD 140 pp.*
- Marino, R. and J. Gannon. 1991. "Survival of Fecal Coliforms and Fecal Streptococci in Storm Drain Sediment." *Water Resources* 25(9): 1089-1098.
- Monzingo, D. and C. Hibler. 1987. "Prevalence of Giardia in a Beaver Colony and the Resulting Environmental Contamination." *Journal of Wildlife Disease* 23: 576.
- Moorhead, D., W. Davis and C. Wolff. 1998. "Coliform Densities in Urban Waters of West Texas." *Journal of Environmental Health* 60(7): 14-28.
- Olivieri, V.P., Kruse, C.W., Kawata, K., Smith, J.E., 1977. *Microorganisms in Urban Stormwater*. USEPA Report No. EPA-600/2-77-087 (NTIS No. PB-272245). Environmental Protection Agency, Washington, DC.
- Pitt, R. and J. McLean. 1986. *Toronto Area Watershed Management Study*. Humbar River Pilot Watershed Project. Ontario Ministry of the Environment.
- Pitt, R. 1998. "Epidemiology and Stormwater Management." In *Stormwater Quality Management*. CRC/Lewis Publishers. New York, NY.
- Samadpour, M. and N. Checkowiz. 1998. "Little Soos Creek Microbial Source Tracking." *Washington Water RESOURCE*, Spring, 1998. University of Washington Urban Water Resources Center.
- Schmidt, S. and D. Spencer. 1986. "Magnitude of Improper Waste Discharges in an Urban System." *Journal WPCF* 58(7): 744-758.
- Smayda, T., N. Pollison and A. Law. 1996. "Towards the Standardization of Sanitary Sewer Methods: Fecal Coliform Sampling and Criteria." *Puget Sound Notes* 39:5-10.
- Smith, R., R. Alexander and K. Lanfear. 1992. "Stream Water Quality in the Coterminous United States—Status and Trends of Selected Indicators During the 1980s. National Water Summary" 1990-1991. pp. 11-140 in USGS Water Supply Paper 2400. U.S. Geological Survey, Reston, VA.*
- States, S., K. Stadterman, L. Ammon, P. Vogel, J. Baldizar, D. Wright, L. Conley and J. Sykora. 1997. "Protozoa in River Water: Sources, Occurrence and Treatment." *Journal AWWA* 89(9): 74-83.
- Steuer, J., W. Selbig, N. Hornewer and J. Prey. 1997. *Sources of Contamination in an Urban Basin in Marquette, Michigan and an Analysis of Concentrations, Loads and Data Quality*. USGS Water Resources Investigation Report 97-4242, Middleton, MI. 26 pp.
- Stern, D. 1996. "Initial Investigation of the Sources and Sinks of *Cryptosporidium* and *Giardia* Within the Watersheds of the New York City Water Supply System." In *Proceedings of a Symposium on New York City Water Supply Studies*. Eds. McDonnell et al. TPS-96-2 184 pp. American Water Resources Association. Herndon, VA.
- Tuthill, J., D. Mickle and M. Alavanja. 1998. "Coliform Bacteria and Nitrate Contamination of Wells in Major Soils of Frederick, Maryland." *Journal of Environmental Health* 60(8): 16-21.
- Trial, W. et al. 1993. "Bacterial Source Tracking: Studies in an Urban Seattle Watershed." *Puget Sound Notes*. 30:1-3.
- USEPA, 1983. *Results of the Nationwide Urban Runoff Program*. NTIS PB-84-185552. Office of Water, Environmental Protection Agency, Washington, DC.
- USEPA, 1998. *Bacteria Water Quality Standards for Recreational waters (Freshwater and Marine); Status Report*. EPA-823-R-98-003. Office of Water, Environmental Protection Agency, Washington, DC.
- van der Wel, B. 1995. "Dog Pollution." *The Magazine of the Hydrological Society of South Australia*, 2(1)1.
- Van Donsel, D and E. Geldreich, 1971. "Relationship of Salmonellae to Fecal Coliforms in Bottom Sediments." *Water Resources* 5: 1079-1087.
- Varnier, P. 1995. *Characterization and Source Control of Urban Stormwater Quality*. City of Bellevue Utilities Department. City of Bellevue, Washington.*
- Wilhelm, S., S. Schiff, and J. Cherry. 1994. "Biogeochemical Evolution of Domestic Wastewater in Septic Systems: 1. Conceptual model." *Groundwater* 32: 905-916.

EXHIBIT K

Homelessness in Sacramento County: Results from the 2017 Point-in-Time Count

A report prepared by
California State University, Sacramento
For
Sacramento Steps Forward



INSTITUTE FOR SOCIAL RESEARCH
BETTER RESEARCH
BETTER COMMUNITIES

Institute for Social Research | Division of Social Work-College of Health & Human Services
California State University, Sacramento
6000 J Street | Sacramento, CA 95819-6101 | (916) 278-5737

Acknowledgements

As with any complex and multifaceted research effort, this study's success is due to the combined efforts of several individuals across organizations. The CSUS research team would like to thank all of those who made data collection and interpretation possible for the 2017 Point-in-Time count for Sacramento County.

- o Navigators and Outreach team of Sacramento Steps Forward
- o Sacramento Housing & Redevelopment Agency
- o County of Sacramento
- o City of Sacramento
- o City of Citrus Heights
- o City of Isleton
- o City of Folsom
- o City District Councilmembers and their Chiefs of Staff
- o Del Paso Blvd. Partnership
- o Power Inn Alliance
- o Mack Road Partnership
- o Downtown Sacramento Partnership
- o Sacramento Police Department
- o Sacramento County Sherriff's Department
- o Galt Police Department
- o Citrus Heights Police Department
- o Elk Grove Police Department
- o Folsom Police Department
- o Rancho Cordova Police Department
- o College of Health and Human Services-CSUS
- o College of Social Science and Interdisciplinary Studies-CSUS

We would like to also give a special thanks to the approximate 360 community volunteers who took the time to engage with individuals in our community experiencing homelessness. Lastly, we thank the 28 volunteer students at CSUS who donated their time to the project by inputting thousands of data forms and pieces of information into a database; we cite these students as formal contributors to this report in the Appendix.

Authors

Arturo Baiocchi PhD, Assistant Professor

Keith Hodson, Research Analyst

Jennifer Price-Wolf PhD, Assistant Professor

David C. Barker PhD, Director

Division of Social Work-CSUS

Mathew Foy MA, Research Associate

Institute for Social Research-CSUS

Executive Summary

Every two years, the U.S. Department of Housing and Urban Development (HUD) requires local communities to conduct a census of all individuals experiencing homelessness in their region—called the Point-in-Time (PIT) Count—during one night at the end of January. This extensive countywide effort to estimate the local homeless population provides a snapshot of nearly all individuals and families staying at emergency/transitional shelters in the county, as well as those sleeping outside, in tents or vehicles and under bridges. In addition to fulfilling a HUD funding requirement, the PIT Count is a detailed and timely information source for local stakeholders and the broader community to assess the state of homelessness in their region.

Sacramento Steps Forward (SSF) is the lead agency of the Sacramento Continuum of Care, and has held the responsibility of conducting the PIT Count for the past several years. In December 2016, SSF commissioned researchers at *California State University, Sacramento* (CSUS) to supervise and enhance the methodology of the 2017 PIT, as well as provide a thorough analysis of the data collected. This report summarizes some of the key findings and recommendation from the 2017 PIT Count.

Analyses of the various data collected on January 25th, 2017, point to some general conclusions about the state of homelessness in Sacramento County:

1. The county has experienced an increase in the number of individuals and families who confront homelessness on a nightly basis.
 - Since 2015, we estimate a real growth in nightly homeless of approximately 30% (from 2,822 to 3,665).
 - The majority of homeless (56%) in the county are sleeping outdoors (unsheltered), a dramatic change in proportion from previous PIT counts
 - Indeed, there has been more pronounced growth among homeless who are unsheltered and sleeping outdoors (from 1,111 to 2,052; or 85% increase).
2. Because of the disproportionate increase in unsheltered homeless—individuals who tend to have higher and more immediate needs than those in a shelter or transitional housing—the 2017 PIT also saw sharp rise of particular at-risk groups.
 - Approximately 31% of the homeless in Sacramento County are chronically homeless—have experienced prolonged bouts of housing instability and are disabled—which is a substantial increase from the 18% rate reported in 2015.

- We also found a 50% increase in the number of homeless veterans since 2015 (313 to 469).
 - Notably, these estimates suggest that the majority of homeless veterans are unsheltered (69%).
3. Some populations saw little to no change, or even a decrease, since 2015. However, it is unclear whether these decreases may reflect, in part, undercounting of difficult to engage subpopulations.
- The 2017 PIT indicated a 20% decrease in the number of young adults (transitional aged youth) that experienced homelessness on the night of the count since 2015 (242 vs 303).
 - Transitional age youth often experience episodic periods of homelessness, which is likely to be missed in a single-point design study like the PIT.
 - The number of reported homeless families with children declined by 25% between 2015 and 2017 (186 vs. 227).
 - The vast majority (95%) of homeless families are found in shelters or in transitional housing, where they comprise over a third (36%) of all homeless that use shelters.
4. Because the PIT count methodology incorporates hundreds of surveys with individuals not using the shelter system, this report also offered a unique glimpse into the experiences of people who are homeless and sleeping outdoors. Results from the 2017 survey point to a number of notable findings on subpopulations, a few of which include:
- Individuals who reported continuous homelessness tended to be substantially older and were often encountered in encampments near the American River Parkway, in contrast to younger homeless who were interviewed nearer downtown Sacramento.
 - Older individuals indicated as chronically homeless – between 55 and 64 – were also more likely (a 70% greater chance) to report a military past (veteran status) or suffer from a disabling medical condition.
 - Chronically homeless are more likely to suffer from PTSD than the most unsheltered homeless group (54% compared to 46%), and more likely to have a mental condition of any type (64% compared to 57%).

While the significant increases in homelessness in Sacramento County are concerning, the report discusses four key contextual factors that likely contributed, at least partially, to these larger estimates in the 2017 PIT.

Improved methodology

CSUS refined the sampling strategy by which geographic zones were selected for volunteers to canvas on the night of the 2017 PIT. This resulted in a more representative selection of canvassed zones, and in particular included areas of South Sacramento that were likely under-sampled in previous years. Greater care was also given in 2017 to provide volunteers clear routing directions, to ensure that the entire geographic areas were canvassed. We estimate that the improved methodology contributed to approximately 15% greater efficiency in the 2017 estimates; as such, we estimate that the 2015 count of unsheltered persons experiencing homelessness would have been approximately 6% larger if the same methodologies had been implemented that year.¹

Severe weather and flooding

Between December 2016 and January 2017, Sacramento County, and Northern California in general, experienced torrential rainstorms, which resulted in severe flooding throughout the region. Notably, the American River rose to historic levels and flooded many of the riverbank areas that some groups experiencing homelessness use to camp, particularly in the unincorporated parts of the county. The extreme weather conditions likely contributed to significant migration of some homeless communities from more rural parts of the county to the urban center of Sacramento. This was evident by reports of several volunteers who described densely packed “tent communities” in non-flooded parts of the park, particularly near the Garden Highway. Notably, the number of tents recorded by volunteers in 2017 was almost three times the number reported in 2015 (363 vs. 133). Moreover, geo-spatial analysis of the count data indicated a clear pattern of high concentrations of homeless near unflooded parts of the American River. While it is difficult to estimate how many of these individuals in tents would have likely been undercounted under normal conditions, it is reasonable to assume that a significant number were included in the 2017 PIT due to their weather based migration.

¹ The 2017 PIT included a broader set of sampled zones than in previous years, particularly in southern parts of the city of Sacramento. These zones yielded approximately 14.7% of the total count for unsheltered homeless in 2017. By rough approximation, one could assume that the 2015 estimate of 948 unsheltered homeless, which omitted these zones, effectively represented only 85.3% of the total unsheltered homeless that year. Dividing the 948 total by its effectiveness rate of 85.3% suggests the 2015 total unsheltered population was approximately 1,111 ($\frac{948}{85.3\%} = 1,111$). Readers should note that these omitted zones would have only impacted the unsheltered count, and not the sheltered count, which would have remained the same at 1,714. In total the adjusted 2015 count would have been approximately 2,822 ($1,111+1,711=2,822$) or 6% higher than the 2,659 reported.

Growth in homelessness in the state

The rise in homelessness between 2015 and 2017 in Sacramento County is consistent with similar increases recently reported across the state. At the time of this writing, a number of communities have reported significant increases between their 2015 and 2017 estimates for persons experiencing homelessness on a nightly basis:

- 39% increase reported in Alameda County (5,629 vs. 4,040).
- 76% increase reported in Butte County (1,983 vs. 1,127).
- 23% increase reported in Los Angeles County (57,794 vs. 44,359).

Trends of homelessness in Sacramento County are generally consistent with the broader patterns of homelessness in California. For example:

- The high proportion of homeless found sleeping outside in Sacramento (56%) is consistent with California's overall average of 66% unsheltered homeless.
- Sacramento's rate of chronic homelessness of 31% is close in range to California's rate of 25%.
- The majority of homeless veterans in the county are unsheltered (69%), consistent with the state average of 66%.

These statewide trends reflect a confluence of social and economic factors, and highlight that homelessness is a local community issue, but one that is likely affected by broad dynamic trends.

Housing market conditions

Given the recent sharp increases in rental rates in Sacramento and the low stock of affordable housing units in the area, the growth in the number of persons experiencing homelessness is consistent with trends reported by other communities across the country with tight housing market conditions. Analyses of national PIT data have found that rental housing market factors – particularly housing costs – are the strongest predictors of homelessness across the communities. In particular, the proportion of residents in these communities who spend more than 30% of their total income on housing was strongly predictive of the overall homelessness rate in the region. These findings are telling given recent reports by the Sacramento Housing Alliance that 4 out of 10 residents in Sacramento spend over 50% of their monthly income on housing (SHA, 2016).

The report concludes by suggesting a number of recommendations to improve the methodology and implementation of future PIT studies in the county. Although extensive efforts were undertaken to improve the geographic sampling of the 2017 PIT count, in future years further measures could improve the efficiency and accuracy of the PIT count. These include increased data sharing with local law enforcement agencies, using technology to increase survey response rates, greater engagement with youth populations, and additional training of survey volunteers. In addition, future efforts could seek to discover rates of homelessness among LGBTQ populations as well as to better understand the factors that contribute to homelessness in Sacramento County.

Finally, the report discusses some general conclusions about community needs that the above findings identify. These include the need for more Emergency Shelter beds, Permanent Supportive Housing programs in the county, and affordable housing options for residents. While these recommendations are not in of themselves new, or unknown by most homeless service providers and advocates, the findings of this report likely highlight a new level of severity for these issues in Sacramento County.

Contents

- ACKNOWLEDGEMENTS 2**
- EXECUTIVE SUMMARY 3**
- INTRODUCTION 10**
 - COLLABORATIVE EFFORT 10
 - REPORT ROADMAP 11
- SECTION 1 METHODOLOGY..... 13**
 - ESTIMATING SHELTERED HOMELESS 13
 - ESTIMATING UNSHELTERED HOMELESS..... 13
 - MAPPING & SAMPLING 14
 - CANVASSING AND ENUMERATING 17
 - SURVEY INTERVIEWS 18
 - SURVEY CLEANING AND ANALYSIS 19
 - LIMITATIONS 21
- SECTION 2 GENERAL FINDINGS 23**
 - NIGHTLY ESTIMATES 23
 - CHANGES OVER TIME 24
 - CONTEXT TO CONSIDER..... 25
 - Severe weather and flooding* 25
 - Growth in homelessness in the state*..... 26
 - Housing Market*..... 27
 - DEMOGRAPHICS OF UNSHELTERED HOMELESS 27
- SECTION 3 SUBPOPULATIONS 30**
 - CHRONICALLY HOMELESS..... 30
 - VETERANS 36
 - TRANSITIONAL AGE YOUTH 40
- OTHER RISK FACTORS 42**
 - FORMER FOSTER YOUTH 42
 - VICTIMS OF DOMESTIC VIOLENCE 43
 - FAMILIES WITH CHILDREN 43
- SECTION 4 GEO-SPATIAL ANALYSIS OF THE 2017 PIT 45**
 - ESTIMATES BY CITY 45
 - GIS MAPS 47
 - FIGURE 15: SPATIAL DISTRIBUTION COUNTY MAP 47
 - FIGURE 16: SPATIAL DISTRIBUTION DOWNTOWN SACRAMENTO MAP 48

EXTRAPOLATED VS. SAMPLED ZONES..... 49

SECTION 5 CONCLUSIONS AND RECOMMENDATIONS 50

WORKS CITED 56

APPENDIX 58

HUD DATA TABLES 58

EXTRAPOLATING PROCESS 64

ENUMERATION INSTRUCTIONS 65

SURVEY INSTRUMENT 67

STUDENT CONTRIBUTORS..... 71

approximately 6% larger if the same methodologies had been implemented.¹² Taking into consideration this adjusted-2015 estimate suggests:

- The *real* growth in total homeless in Sacramento County was approximately 30% between 2015 and 2017 (3,665 vs. 2,822).
- The *real* growth in unsheltered homeless in Sacramento County was approximately 85% between 2015 and 2017 (2,052 vs. 1,111).

Context to Consider

The *real numbers* of individuals experiencing homelessness in the county are undoubtedly even higher than the 2017 PIT estimates, particularly given the limitations and narrow definitions of homelessness assumed in the study design.¹³ Nonetheless, the above estimates are useful to consider as a standard barometer of relative change in homelessness; assuming that PIT studies are implemented generally consistently from year to year, their results likely capture relative change in the homeless population over time. It is clear that even considering the adjustments in methodologies in 2017, homelessness has likely increased in Sacramento County by at least a third (30%).

A reported rise in the number of homeless is often met with concern by the public, who may worry about the number of homeless migrating from other communities, the effectiveness of current programs, and public safety in general. While these are important issues to consider, the authors of this report nonetheless believe it is important to consider the rise of homelessness in the context of the following contributing factors:

Severe weather and flooding

Between December 2016 and January 2017, Sacramento County, and Northern California in general, experienced torrential rainstorms, which resulted in severe flooding throughout the region. Notably, the American River rose to historic levels and flooded many of the riverbank areas that some homeless use to camp, particularly in the unincorporated parts of the county. Indeed, in the week prior the 2017 PIT CSUS had to adjust or abandon many of the geographic zones in the American River Park used in prior

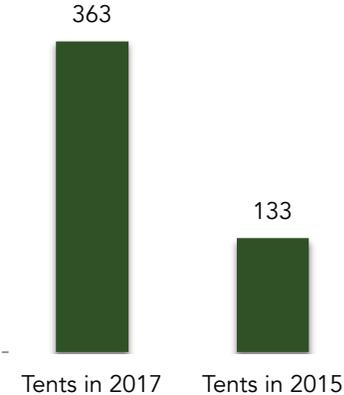
¹² The 2017 PIT included a broader set of sampled zones than in previous years, particularly in southern parts of the city of Sacramento. These zones yielded approximately 14.7% of the total count for unsheltered homeless in 2017. By rough approximation, one could assume that the 2015 estimate of 948 unsheltered homeless, which omitted these zones, effectively represented only 85.3% of the total unsheltered homeless that year. Dividing the 948 total by its effectiveness rate of 85.3% suggests the 2015 total unsheltered population was approximately 1,111 ($\frac{948}{85.3\%} = 1,111$). Readers should note that these omitted zones would have only impacted the unsheltered count, and not the sheltered count, which would have remained the same at 1,714. In total the adjusted 2015 count would have been approximately 2,822 (1,111+1,711) or 6% larger than the reported 2,659.

¹³ In section 4 of this report we consider other data sources and statistical approaches to provide a less-conservative estimate of homelessness within each of the seven incorporated cities in the county. This includes extrapolating estimates from un-sampled regions of the county (estimating the predicted number of homeless that could have been encountered in regions not-canvassed on January 25th) and incorporating data collected beyond the time parameters of the PIT study design.

PIT studies due to severe flooding. The extreme weather conditions likely contributed to significant migration of some homeless communities from more rural parts of the county to the urban center of Sacramento. This was evident by reports of several volunteers who described densely packed “tent communities” in non-flooded parts of the park, particularly near the Garden Highway. Notably,

- The number of tents recorded by volunteers in 2017 was almost three times the number reported in 2015 (363 vs. 133).

Figure 3:Tents Reported



- The additional 230 tents in 2017 represented an additional 460 homeless individuals.
- These additional individuals account for approximately 47% of the total change in homelessness between 2015 and 2017 (470 out of the 941 increase in adjusted unsheltered).

- It is likely that individuals in many of these tents generally reside in areas of the American River that are not typically canvassed in PIT studies. But due to flooding and their subsequent migration, these individuals were more likely to be counted in the 2017 PIT than in previous years. While it is difficult to estimate how many of these individuals would have likely been undercounted under normal conditions, it is reasonable to assume that a significant number were included in the 2017 PIT due to their weather based migration.

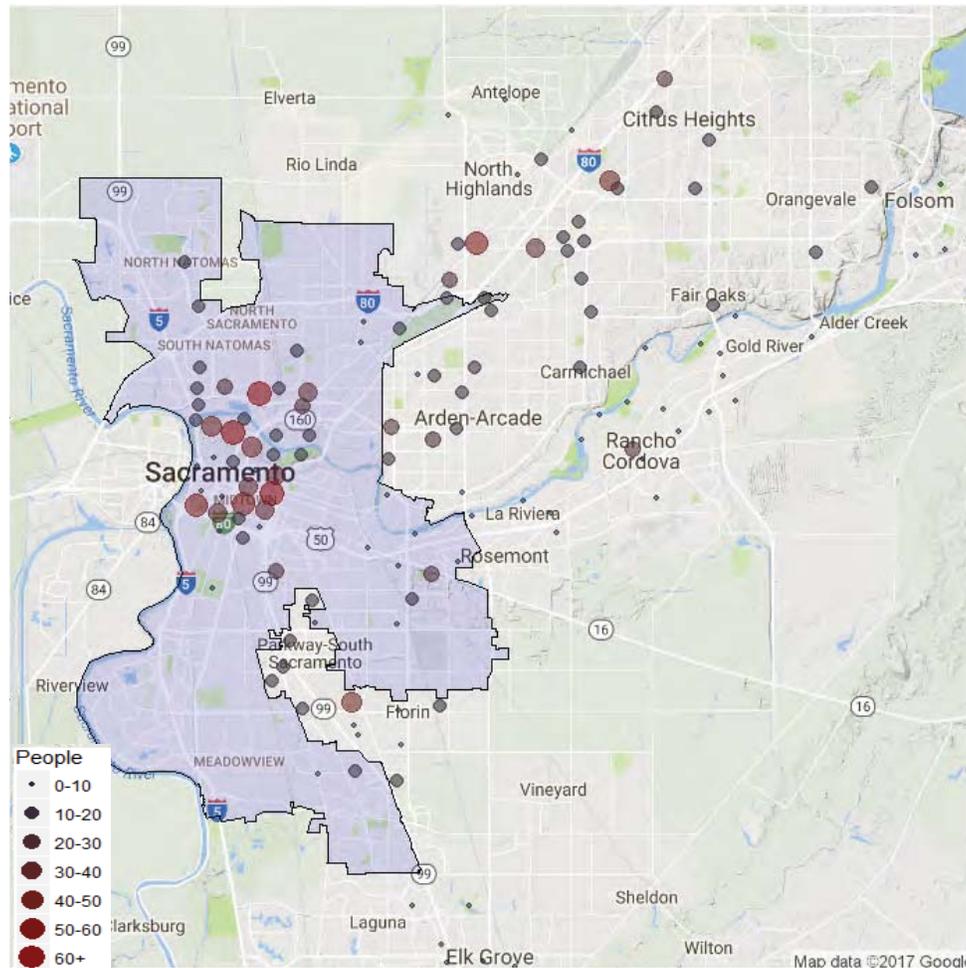
Growth in homelessness in the state

California has the largest homeless population in the US; approximately a quarter of all people experiencing homelessness in the country reside in the state (AHAR, 2015). The state also has the highest proportion of chronically homeless individuals—individuals with a disability who have experienced prolonged periods of housing instability. These statewide trends reflect a confluence of social and economic factors, such as the high cost of living, dearth of affordable housing and a high poverty rate. They also highlight that homelessness is a local community issue, nonetheless affected by broad statewide dynamics. This is important to consider in light of the above reported increases in the 2017 PIT estimates. Indeed, the rise in homelessness between 2015 and 2017 in Sacramento County is consistent with similar increases recently reported across the state. At the time of this writing, a number of communities have reported significant increases between their 2015 and 2017 estimates for nightly homeless:

- 39% increase reported in Alameda County (5,629 vs. 4,040).
- 76% increase reported in Butte County (1,983 vs. 1,127).

GIS Maps

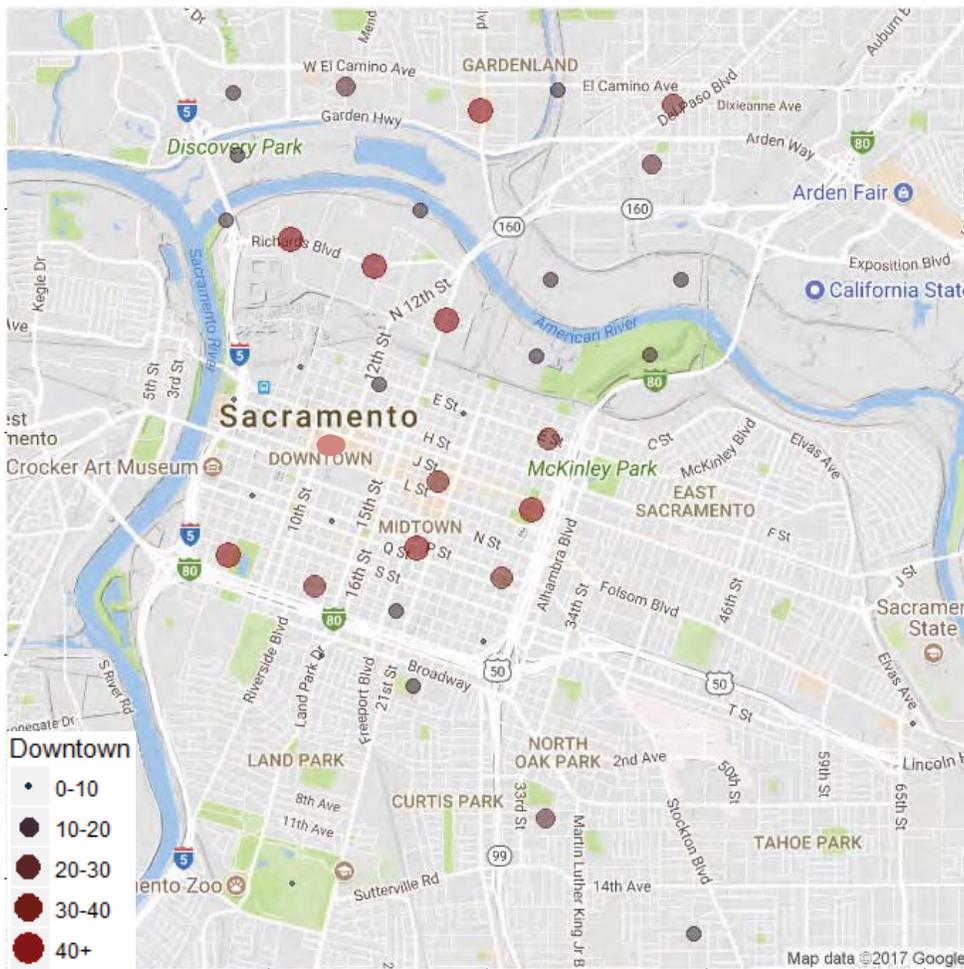
Figure 15:
Spatial Distribution County Map



As with most spatially defined data, one of the best mechanisms for understanding patterns in homeless population density is through GIS mapping. The above map provides a clear picture of many of the trends we have discussed throughout this report. In this image, the light blue outlined space is the Sacramento City boundaries, while the counted (and estimated) populations are represented by a color and size gradation – so that the larger bright red circles represent high-density zones and the smaller grey and black circles represent low-density zones.

As previously mentioned, Sacramento and the surrounding areas saw a record-breaking winter weather system that caused severe flooding – especially around the cresting American River. The map shows that, especially in the length between Rosemont and Folsom, volunteers found very few homeless in most of the areas situated next to the river. Indeed, with the exception of Rancho Cordova, spatial patterns strongly suggest that homeless individuals were pushed north into the less densely populated unincorporated areas of Sacramento County. In future PITs, it is expected that many more homeless individuals will return to areas near the river – a trend that will be particularly interesting to investigate.

Figure 16:
Spatial Distribution Downtown Sacramento Map



Focusing on downtown Sacramento, one can also clearly see concentrations of individuals being pushed further north and south from the river's edge. This is especially true near Discovery Park and the State Fairgrounds – two areas that saw the largest impact from the floods. The areas near Richards Boulevard and El Camino Avenue saw significant numbers of homeless individuals in tents, which further illustrates the impact of the flooding on migrating homeless communities. It is also evident a large portion of the homeless population in Sacramento is found in the midtown corridor, and along the main highways. In the midtown corridor, specifically between K and Capitol and from 23rd to 26th streets, there are four large churches for homeless individuals to find shelter. Between P and R streets from 19th to 23rd there are also large warehouses and structures under which homeless individuals can find shelter – particularly near the Safeway, the Light Rail stop, and the Sacramento Bee offices. As expected, there is a dense population of homeless individuals near the Capitol and Caser Chavez park. Along the main highways, there are a number large parking structures beneath the overpasses as well as sections between X and Broadway that see little regular foot traffic. These areas are ideal spaces for homeless individuals to take shelter during inclement weather.

Works Cited

- Byrne, Thomas, Ellen A. Munley, Jamison D. Fargo, Ann E. Montgomery, and Dennis P. Culhane. 2013. "New perspectives on community-level determinants of homelessness." *Journal of Urban Affairs*, 35 (5): 607-625.
- Hartmann, Douglas and Teresa T. Swartz. 2006. "The new adulthood? The transition to adulthood from the perspective of transitioning young adults." *Advances in Life Course Research*, 11:253-286.
- Henry, Meghan, Azim Shivji, Tanya de Sousa, and Rebecca Cohen. 2015. *The 2015 Annual Homeless Assessment Report (AHAR) to Congress*. Retrieved from the U.S. Department of Housing and Urban Development Website: <https://www.hudexchange.info/resources/documents/2015-AHAR-Part-1.pdf>
- Henry, Meghan, Rian Watt, Lily Rosenthal, and Azim Shivji. 2016. *The 2016 Annual Homeless Assessment Report (AHAR) to Congress*. Retrieved from the U.S. Department of Housing and Urban Development Website: <https://www.hudexchange.info/resources/documents/2016-AHAR-Part-1.pdf>
- Sacramento Housing Alliance (SHA). 2016. *Sacramento Housing Alliance Working Paper on Ending Homelessness*. Retrieved from the SHA Website: <http://www.sachousingalliance.org/wp-content/uploads/2016/04/Sacramento-Housing-Alliance-Working-Paper-on-Ending-Homelessness-final.pdf>
- National Alliance to End Homelessness (NAEA). 2016. *The State of Homelessness in America*. Retrieved from the NAEA Website: <https://www.endhomelessness.org/soh2016>
- National Coalition Against Domestic Violence (NCADV). 2015. *Domestic Violence National Statistics*. Retrieved from the NCADV Website: <http://ncadv.org/images/Domestic%20Violence.pdf>.
- Courtney, Mark E. 2009. The difficult transition to adulthood for foster youth in the US: Implications for the state as corporate parent. *Society for Research in Child Development*, 23(1):1-8.
- Hayward, Mark D. and Bridget K. Gorman. 2004. The long arm of childhood: The influence of early-life social conditions on men's mortality. *Demography*, 41(1):87-107.
- Gray, Diane, Shirley Chau, Tim Huerta, and Jim Frankish. 2011. Urban-rural migration and health and quality of life in homeless people. *Journal of Social Distress and the Homeless*, 20(1-2):75-93.
- Osgood, D. W., E. M. Foster and Mark E. Courtney. 2010. "Vulnerable populations and the transition to adulthood." *The Future of Children*, 20(1): 209-229.
- Parker, David and Shana Dykema. 2013. "The reality of homeless mobility and implications for Improving care." *Journal of Community Health*, 38(4): 685-89.
- Shanahan, Michael J. 2000. "Pathways to adulthood in changing societies: Variability and mechanisms in life course perspective." *Annual Review of Sociology*, 26(1): 667-692

Tsai, J. and R. A. Rosenheck (2015). "Risk factors for homelessness among US Veterans." *Epidemiologic Review* 37(2): 177-195

EXHIBIT L

TWO RIVERS TRAIL PHASE II
INCONSISTENCIES WITH AMERICAN RIVER PARKWAY PLAN

Sacramento County 2008 American River Parkway Plan	Inconsistency
<p>Plan Introduction: <i>“The Parkway’s open spaces and natural resources provide Parkway users with a highly-valued natural setting and feeling of serenity, in the midst of a developed urban area. For purposes of the Parkway Plan, it is important that these values are acknowledged. The following elements are valued aspects of the Parkway experience that should be considered as part of the aesthetic values of the Parkway:</i></p> <ul style="list-style-type: none"> • <i>Feeling of peace and tranquility experienced by the people who visit and use the Parkway, and</i> • <i>Feeling and experience of harmony that prevails between what is natural in the Parkway and the animals that live in it.”</i> 	<p>The “feeling of peace and tranquility” and “feeling and experience of harmony that prevails between what is natural and the animals will live in it” will of course be degraded for the thousands of current users by the addition of a paved bike trail. As compared to its current natural state, the addition of a paved bike trail works against this “peace, tranquility, and harmony with nature” framing of the Plan.</p> <p>There is already a paved bike trail on the north side of the river; the last wild space on the south side of the river should be preserved to maintain the “peace and tranquility” option for trail users.</p>
<p>Chapter 2, Policy 3.2: <i>“Agencies managing the parkway shall protect, enhance and expand the parkway’s native willow, cottonwood, and valley oak-dominated riparian and upland woodlands that provide important shaded riverine aquatic habitat (SRA), seasonal floodplain, and riparian habitats; and the native live oak and blue oak woodlands and grasslands that provide important terrestrial and upland habitats.”</i></p>	<p>The <i>Phase II</i> project plan includes destruction of natural habitat. There is a mitigation plan, but this existing natural habitat will be destroyed forever.</p> <p>There is already a paved bike trail on the north side of the river; why not preserve the last wild space on the south side of the river to maintain this habitat?</p>
<p>Chapter 2, Policy 8.11: <i>“Parkway trail connections to other local, regional and State trails shall be designed and located to support bicycle commuting and recreation with minimal damage to the Parkway’s ecosystem”</i></p>	<p>The project as proposed would result in significant impacts to vegetation, including the removal of numerous trees and elderberry shrubs (home to the threatened valley elderberry longhorn beetle). It has been stated that the City expects that over a million dollars will need to go towards mitigating the environmental impacts of this project. This is not consistent with designing for “minimal damage”.</p>

Sacramento County 2008 American River Parkway Plan	Inconsistency
<p>Chapter 10, Policy 10.26: <i>“Permanent structures and any other physical changes that would attract groups of users should not be introduced to the area.”</i></p> <p><i>“Due to the limited access, annual flooding, and unstable sandy soil, Paradise Beach should remain an informal recreation area. Permanent structures and any other physical changes that would attract groups of users should not be introduced to the area. Acceptable activities include fishing, kayaking, wading, sunbathing, hiking, volleyball, and related beach activities.”</i></p>	<p>A paved bike trail is a “physical change that would attract groups of users.” The project facilitates use by additional individuals. Additionally, the report statement, <i>“The proposed trail will allow more Parkway users to access Paradise Beach”</i> is a direct contradiction to the report’s previous statement that it won’t attract additional groups of users.</p> <p>A paved bike trail would also exacerbate parking issues at Glen Hall Park. As an access point for a paved portion of the Parkway, additional individuals will drive their bikes into the area and park at that location.</p> <p>The narrowness and unstable soil of the area proposed for paving would lead to substantial disruption, including retaining walls and levee cut-and-fill in order to construct the trail.</p>
<p>Chapter 2, Policy 7.8: <i>“Facilities and other improvements in Protected Areas shall be limited to those which are needed for the public enjoyment of the natural environment. Extensive development is not appropriate.”</i></p>	<p>The <i>2008 Parkway Plan</i> says projects should be “limited to those which are needed for the public enjoyment of the natural environment”.</p> <p>The current trail configuration already provides “public enjoyment of the natural environment.”</p> <p>In addition, another paved trail is “needed” because a paved trail already exists on the north side of the river.</p>
<p>Chapter 10: Paradise Beach: From the description of the area: <i>“Paradise Beach is designated as a “Protected Area by the Parkway Plan; This area contains many elderberry bushes and provides excellent habitat for the Valley Elderberry Longhorn Beetle. Due to the limited access, annual flooding, and unstable sandy soil, Paradise Beach should remain an informal recreation area.”</i></p>	<p>The <i>Phase II Plan</i> directly contradicts the statement in the <i>2008 Parkway Plan</i> that this be an “informal” recreation area. A paved bike trail would create a “formal” recreation area and destroy portions of this “Protected Area” in the process.</p> <p>In particular, the elderberry bushes critical to the survival of the Valley Elderberry Longhorn Beetle would be destroyed by trail construction.</p>
<p>Chapter 10: Paradise Beach: From the description of the area: <i>“Beach users funnel through a single access point and fan out to the various use areas”</i></p>	<p>The paved bike trail would create substantial conflict between various types of users of this area coming through the “single access point.”</p>
<p>“Safety and Security” Subchapter: <i>“Illegal camping is especially common in the westerly five mile reach from Discovery Park to Cal Expo...The presence of this population undermines other Parkway visitors’ sense of security and safety.”</i></p>	<p>Illegal camping is concentrated at Sutter’s Landing, where the pavement ends. The pavement would facilitate the travel of illegal campers into this sensitive area.</p>

<p align="center">Sacramento County 2008 American River Parkway Plan</p>	<p align="center">Inconsistency</p>
<p>Chapter 2, Policy 11.5: <i>“New facilities and programs shall not be developed unless the financial resources to operate and maintain them are identified and available”</i></p>	<p>Both the City and the County have stated that no new funding has been identified for maintenance. The paved trail is thus inconsistent with these statements in the <i>2008 Parkway Plan</i>.</p> <p>The Bank Protection Working Group report (March 13, 2018) provides preliminary results of the Paradise Bend to Howe Avenue Reach. Four of the 6 “Tier 1 Segments” (immediate threat of failure with 160K cfs flow) are in the Paradise Beach area. This is too fragile an area to build a paved trail that will likely need periodic repair.</p>
<p>Chapter 2, Policy 8.11: <i>“Parkway trail connections to other local, regional and State trails shall be designed and located to support bicycle commuting and recreation with minimal damage to the Parkway’s ecosystem”</i></p>	<p>The project as proposed would result in significant impacts to vegetation, including the removal of numerous trees and elderberry shrubs (home to the threatened valley elderberry longhorn beetle). Although the environmental review has not yet been completed, the City expects that over a million dollars will need to go towards mitigating the environmental impacts of this project. This is inconsistent with designing for “minimal damage”.</p>



tel: 916.455.7300 · fax: 916.244.7300
510 8th Street · Sacramento, CA 95814

December 4, 2018

SENT VIA EMAIL (tbuford@cityofsacramento.org)

Tom Buford, Principal Planner
Community Development Department
City of Sacramento
300 Richards Boulevard
Sacramento, CA 95811

RE: Errata to Comments on the Initial Study/Mitigated Negative Declaration for the Two Rivers Trail Phase II (K15125000)

Dear Mr. Buford:

Save Don't Pave's comment letter on the Initial Study/Mitigated Negative Declaration for the Two Rivers Trail Phase II (K15125000) was timely submitted via email to your attention on November 30, 2018. However, in reviewing the comment letter, we identified the need for the following corrections:

- Incorrect address on letterhead – The correct address is 510 8th Street, Sacramento, CA 95814
- Page 21, first sentence of the last paragraph, should be corrected to read as follows: “Recent experience ~~provides~~ showcases this shortsighted approach.”
- Page 25, second sentence of the second paragraph, which reads “The area immediately adjacent to the Project area has a perineal homeless population, particularly near Sutter’s Landing Regional Park and along the American River south bank.” The word “perineal” in this sentence should be corrected to “perennial”.
- Page 28, first sentence of the fourth paragraph, should be corrected to read as follows: “Last, the MND fails to acknowledge that ~~an~~ increased use and traffic due to the project would result in a commensurate increase in the amount of trash generated at Glenn Hall Park.”

Tom Buford, Principal Planner
Community Development Department
City of Sacramento
December 4, 2018
Page 2 of 2

Thank you for your attention to this matter. Should you have questions, please do not hesitate to contact our office.

Very truly yours,

SOLURI MESERVE
A Law Corporation

By: 
Osha R. Meserve

ORM/mre

cc (via email): Save Don't Pave